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"Obstacles and Variables of Northeast Asian FTA(s): Economic Obstacles"

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Abstract

The Northeast Asian FTA is a crucial gap to be filled for the whole East Asia. In addition to political and emotional obstacles, we still have a number of issues to be discussed among economists. This paper discusses three symbolic obstacles to negotiating over FTAs: agriculture in Japan, the manufacturing sector in Korea, and business environment in China.

Agricultural protection in Japan is one of the most notorious examples of trade protection in the world. There are three tiers in Japanese agricultural protection: sectors under "structural protectionism," sectors under "local protectionism," and "sectors being liberalized." Market access is improved to some extent through FTAs already concluded by Japan, particularly in "sectors being liberalized." However, the complexity on tariff system still remains. In fact, the shares of agriculture-related imports in the total bilateral imports with Korea and China are only 6% and 9% in 2005, which indicates that the conclusion of FTA seems to be barely impossible. The most fundamental problem of Japan is its extremely pragmatic approach to FTAs without advocating "philosophy."

A number of businessmen, politicians, and even academicians in Korea often express concerns about Korea's competitiveness in some major industries, particularly against Japan. They typically claim that Korea and Japan have a similar pattern of comparative advantage while Korea still has technological disadvantage against Japan in many fields. However, some observation suggests that widely covered trade protection in Korea seems to be redundant and it is rather better for Korea to strengthen vertical linkages with Japan.

The recent development of China is truly remarkable. There however still exist a massive number of problems and issues related to investment climate to be solved. The current class of "high-level" FTAs in the world places the emphasis on a wide range of policy modes in addition to simple tariff removal. Whether China can step into this realm is crucial for a successful Northeast Asian integration.

1. Evolving international environment and Northeast Asian FTA(s)

Until quite recently, East Asia was a lagged-behind region in the worldwide boom of regionalism, but such a criticism is not at all relevant now. Table 1 presents the networks of bilateral FTAs in East Asia and other neighboring regions as of October 2006. A double circle represents an FTA signed and/or entered into force, a single circle or a square denotes an FTA under negotiation or agreed to negotiate, and a triangle means an FTA under consideration or for which feasible study has been initiated. ASEAN+3, a painted area in the table, is almost filled with concluded FTAs, and FTAs in ASEAN+3+3, a larger square, also seem to be within reach in the short run. AFTA has become a hub of FTAs in East Asia. We also observe a growing number of trans-Pacific FTAs, which stimulates discussion on competing architectural ideas of plurilateral FTAs. Backed up by active intra-regional and inter-regional transactions with sophisticated fragmentation of production/distribution activities, East Asia is now a leading region for promoting trade and investment in the world.

Table 1

In Table 1, we observe a big anomaly; i.e., the absence of FTAs among the Northeast Asian countries, namely, Japan, Korea, and China. Why can't we conclude FTAs? To resolve this entangle situation, we should once put all the emotional things aside and nurture our mutual understanding on what we can logically make straight.

There are certainly a lot of issues that we can discuss in the context of economics and political economy. However, this small paper concentrates on three symbolic obstacles to negotiating over FTAs in Northeast Asia: agriculture in Japan, the manufacturing sector in Korea, and business environment in China. The authors believe that these three issues are particularly prone to stepping into an emotional muddle and thus require calm discussion among professionals.

2. Obstacles in Japan: agriculture[1]

Agricultural protection in Japan is one of the most notorious examples of trade

[1] The detailed analysis on the Korean and Japanese agricultural protection in the context of pursuing the Korea-Japan FTA is found in Song (2005) and Honma (2005). Kimura (2005) discusses Japan's policy inconsistency for East Asian countries.

protection in the world. Japan, as a whole, thinks much of the value of free trade because its post-WWII economic growth has heavily depended on imports of food and natural resources and free access to foreign markets for manufactured products. Japan is also one of the largest beneficiaries of international production/distribution networks developed in East Asia since the 1990s, which has been backed up by extensive trade/FDI liberalization and facilitation. However, agricultural protection has made the reputation of Japanese trade policies seriously degraded.

The cost of trade protection has been well analyzed by economists. In the partial equilibrium approach to the standard welfare analysis, trade protection causes a loss in domestic consumer surplus and a loss for foreign exporters' welfare while it generates a gain in domestic producer surplus, ending up with an overall loss in efficiency. The hierarchy of various types of policies has also been well established. Border measures including trade policies are in general less efficient than direct producer subsidies. Quantitative restrictions and other non-tariff measures are quite often more distortive than simple ad-valorem tariffs. Based on a shaky argument on market failure, agricultural lobby in Japan frequently claims the logic of "food security" and "multi-functionalism," but such an argument can barely be convincing so as to justify extremely high border barriers.

Agriculture is not a quantitatively important industrial sector in Japan anymore. The share of agriculture, forestry, and fishery sector in Japan's total GDP has steadily declined and has reached as low as 1.3% by 2003.[2] Nevertheless, agricultural protection remains because of the robust structure of political economy; agricultural lobby is strong in Nagata-cho (politicians' quarter in Tokyo) and Kasumigaseki (where most of the ministries are located), and general public and mass media are quite often tolerant for declining industries, which is typically observed in developed countries but shows up in Japan in an extreme manner. A rough quantification suggests that one Japanese consumer bears about US$200 for rice protection and about US$500 for overall agricultural protection, which are heavy but not a non-tolerable level of cost bearing.

The other side of the coin of agricultural protection is massive imports of

[2] According to the web page of Statistics Bureau, Director-General for Policy Planning, the Government of Japan (http://www.stat.go.jp/).

agriculture-related products by Japan.[3] Japan is actually one of the largest, most active importers of various agricultural products in the world. Agricultural protection in Japan thus necessarily has a complicated structure across products. There are three tiers in Japanese agricultural protection. The first tier includes products under "structural protectionism." For those products, the number of domestic producers as well as production locations is relatively large and scattered so that protection is designed to be highly complicated and resilient. Rice is a typical product in this category; animal meat including beef, pork, and chicken has some elements of this type. The second tier consists of products under "local protectionism." The number of producers as well as the geographical extension of production is narrowly limited, and a spike of protection is often accompanied with a specific powerful politician. Products in this category include sugar, molasses, barley, konnyaku, pineapples, bananas (on behalf of protecting apples), and others. The third tier contains "sectors being liberalized." In the past GATT round negotiations, particularly in the Uruguay Round, a wide range of trade liberalization was realized, which covers various kinds of vegetables and fruits, forestry products, seafood, and others, including asparagus, pepper, melon, avocado, mango, coffee, plywood, tunas, salmon, and shrimps/prawns. On these products, some low tariffs are still left, but preferential arrangements for less developed countries (GSP) are often applied.[4] These three tiers have different types of protection in different politico-economic background and thus should be dealt with in distinctive ways.

FTA negotiations may not entirely be powerless in liberalizing agricultural sector. In fact, market access is improved to some extent through FTAs already concluded by Japan, particularly in "sectors being liberalized." However, the complexity on tariff system still remains in FTAs such as price-differential tariffs, specific tariffs, and tariff quotas. In addition, some sensitive sectors are simply excluded from the list of tariff removal under FTAs or are to be renegotiated; state trading products such as rice, wheat, barley and designated dairy products, beef, pork, starches, fishery products under import

[3] See Ando and Kimura (2006) for the detailed discussion on Japanese FTA/EPA strategies and agricultural protection.

[4] Kimura (2001) discusses the issue of Japan's provisional safeguards in 2001 on welsh onions, fresh shiitake mushrooms, tatami-omote. These products fall into the category of "sectors being liberalized" though the safeguards were motivated by "local protectionism."

quota and so on are treated as such.

In cases of FTAs among the Northeast Asian countries, however, we must calmly look at the situation. The Japanese agricultural lobby always plays up difficulties in removing trade protection and claims huge adjustment costs and a possible total collapse of Japanese agricultural sector. Is such a claim really warranted? Tables 2 and 3 tabulate major agricultural imports from Korea and China with tariff rates attached.

Table 2

Table 3

From these tables, we find a number of important facts. First, the shares of agriculture-related imports, both with and without tariffs, in the total bilateral imports with Korea and China are only 6% and 9% in 2005. Actually, these figures are substantially decreasing from 2000 due to a substantial expansion of manufactured goods trade.[5] Thus, it would be easier to simply meet the 90 percent rule, if we apply the rule in terms of imported values, provided that all sectors other than agriculture-related sectors are liberalized. Second, most of the imported agriculture-related products from Korea and China belong to "sectors with local protectionism" or "sectors being liberalized" for which tariff rates are not very high anymore. Some difficulty may come in negotiations because imported products are widely diversified, but substantial removal of trade protection does not seem to be impossible. Therefore, if Korea and China just stick to their own interest directly coming from Japanese tariff cuts, FTA negotiations may not be extremely difficult.

A more serious problem of Japan would reside in its extremely pragmatic approach to FTAs. Although Japan was one of the most loyal advocators of nondiscriminatory trade liberalization until the 1990s, it started working on FTAs, clearly admitting them as a dirty work. Japan barely has presented a "philosophy" saying that it concludes FTAs in order to promote worldwide trade liberalization or to accelerate domestic reform. Rather, domestic political economy tends to be upfront from the

[5] See Kimura and Ando (2002) for corresponding tables for agriculture-related imports in 2000.

beginning. Typically, FTAs are expected to benefit the manufacturing sector. Then, sectors that are supposed to bear the "cost," namely agriculture, cooperate up to the minimal level. With this logic, Japan does not show any intension to remove trade barriers for a wide range of agricultural products even if they are not imported from the partner country to negotiate. A direct reason why the negotiation between Japan and Korea was being stalled was Japanese unwillingness to come into the negotiation with strong commitment to "high-standard" FTA without excluding any commodity a priori. The final bottom line might be the same, but the starting point reflects differences in the basic philosophy.

In a more fundamental context, substantial policy reform for agriculture is obviously called for. The Ministry of Agriculture, Forestry, and Fishery announced a massive reform plan of switching policy measures from border measures to direct domestic subsidy as a second-best choice, but it has barely been implemented so far. Economists have for long analyzed the cost of agricultural protection in the context of welfare analysis. We, however, should not neglect the cost of protection in economic diplomacy. Particularly in the era of regionalism with stalled multilateral liberalization effort, agricultural protection may critically constrain the degree of freedom in strategic moves. Japan has to be serious in agricultural sector reform not only for trading partners but also on behalf of itself.

3. Obstacles in Korea: the manufacturing sector

In the context of discussing the possibility of Northeast Asian FTA(s), a number of businessmen, politicians, and even academicians in Korea often express concerns about Korea's competitiveness in some major industries, particularly against Japan. They typically claim that Korea and Japan have a similar pattern of comparative advantage while Korea still has technological disadvantage against Japan in many fields, and are thus afraid that tariff removal in the process of forming free trade area may degrade competitiveness of Korean industries, particularly in machinery industries. On the other side of the coin, there also exits an unproved optimism expecting a natural development of European-type horizontal intra-industry trade between Japan and Korea. Discussions on competitiveness issue are often emotional without rigorous objective analysis.

The issue is certainly complicated and requires extensive investigation from the

viewpoint of economics and political economy. There are, however, several points to be made.[6]

First, Korea still keeps trade protection for a wide range of the manufacturing sector compared with usual developed countries. Trade liberalization effort in Korea has somewhat been stalled since the end of 1980s while international competitiveness of Korean manufacturing sector has substantially been strengthened. Table 4 summarizes the ad-valorem tariff structure in Japan, Korea, and China in 1999/2000 at the HS 2-digit level. The most notable is the existence of tariffs widely covered machineries (HS84-92), which is at the center of current international division of labor in East Asia.

Table 4

Second, tariffs of 8% or so do not seem to provide effective protection in any case. Why don't Japanese products such as domestic electric appliances and automobiles rush into the Korean market? This may be due to tastes of consumers, the existence of large sunk cost to set up distribution channels, and a sort of national sentiment against imported products. Whatever the interpretation is, it is true that some Japanese companies intentionally refrain from flooding into Korea even after the notorious import-origin diversification code of Korea was abolished in 1999. Japanese mega firms continue not to surprise Korean people by suddenly rushing into the Korean market.

Third, we observe strong vertical linkages between Japan and Korea in important industries. The international input-output table allows us to quantify the embodied Japanese inputs in Korean-made manufactured goods. Table 5 presents input coefficients available from the International I-O Table for 1995,[7] which indicate the proportion of direct inputs imported from Japan as intermediate inputs in Korea/China's production (total output), based on the 24-sector matrix. Direct intermediate inputs from Japan amount to as high as 7.3% in one unit of machinery goods produced in Korea, 5.0% in one unit of chemical products, 4.4% in one unit of transport equipments, and 3.5% in

[6] Kimura and Ando (2003) conduct solid analysis on the patterns of intra-regional trade between China, Japan, and Korea in the major industries.

[7] The international I-O table for 1995 is obtained from Institute of Developing Economies (IDE) (2000) *Asian International Input-Output Table*. The data are to be updated with the international I-O table for 2000 if we have a chance to revise this paper.

one unit of other manufacturing products, which are even twice as large as the corresponding figures for China.[8]

Table 5

The table also shows the proportion of the Japanese direct intermediate inputs in total intermediate inputs as well as the proportion in total intermediate inputs from abroad. Surprisingly, they are, for instance, as high as 11.3% (in total intermediate inputs) and 35.8% (in total intermediate inputs from abroad) for machinery goods, 7.2% and 22.8% for chemical products, 6.5% and 35.8% for transport equipments, and 5.4% and 30.1% in other manufacturing products, which are indeed large numbers.[9]

The figures discussed above clearly indicate how significant the intermediate inputs from Japan are for the Korean manufacturing sector, particularly in machinery, chemical products, and transport equipments. Because substantial amounts of imported inputs would be embodied in intermediate goods produced in Korea, the total (direct and indirect) Japanese contents in the products of Korea in these sectors would be even higher. Considering that Korea still maintains significant tariffs on these imported intermediate goods, tariff cuts in the scheme of FTA would be expected to enhance cost competitiveness of the Korean manufacturing sector.

From these observations, there does not seem to have a convincing argument supporting the continuation of trade barriers against Japan in the manufacturing sector. Rather, it is better for Korea to remove redundant tariffs and promote trade/FDI facilitation so as to make vertical and technological linkages with Japan even tighter.

4. Obstacles in China: business environment

The recent development of China is truly remarkable, and China is now the most powerful production site for various kinds of industries and at the same time the

[8] Direct intermediate inputs from Japan amount to 3.9% in one unit of machinery goods produced in China and 3.2% in one unit of transport equipments produced in China.

[9] The corresponding figures for China are 5.3% (in total intermediate inputs) and 7.7% (in total intermediate inputs from abroad) for machinery, 2.1% and 2.7% for chemical products, 4.4% and 6.1% for transport equipments, and 2.4% and 2.7% in other manufacturing products.

most charming market in the world. We must also highly appreciate tremendous effort in economic reform on the unilateral basis as well as on the WTO commitment basis. There however still exist a massive number of problems and issues related to business environment to be solved.

The current class of "high-level" FTAs in the world places great emphasis on a wide range of policy modes in addition to simple tariff removal. It is now clearly realized that the expansion of the scope of WTO policy discipline is extremely difficult. FTAs thus naturally become an important channel to pursue policy objectives in the international setting. In fact, WTO is not imposing substantial discipline on FTAs except GATT Article 24; GATS Article 5 is not a big deal, and MFN/NT in other policy modes such as intellectual property rights do not also seem to be very effective. As far as negotiating parties agree, almost anything can be concluded in FTAs. In many policy fronts, developing countries are somewhat behind compared with developed countries, and thus developing countries typically require more substantial policy reform than developed countries. Even so, when developing countries would be provided enough incentive, they would start negotiating.

The types of FTAs are of variety though. FTAs with the US, for instance, include a complete range of requests from a wide scope of industries, backed up by a massive amount of lawyers. FTAs with the US include very specific requests, particularly in service sector reform, investment rule, and intellectual property rights. The USTR and industrial lobbyists are certainly capable of compiling all the requests from industries in the form of a long list for negotiation. FTAs with the US are also rule-oriented. Legal and institutional building is emphasized, and legal commitments with dispute settlement mechanism are incorporated.

FTAs between Japan and ASEAN countries have quite different characteristics from those with US; they take a pragmatic approach rather than a legal/rule-making approach. Japan requests a series of small improvements of investment climate, which includes (i) trade/FDI facilitation, (ii) institutional building on investment rule, intellectual property rights, and others, (iii) the establishments of channels for trouble-shooting between private companies and governments, and (iv) the development of active interfaces among policy modes such as connection with international cooperation policy and international financial policy. The intension is to further activate international production/distribution networks extended in East Asia.

Unlike FTAs with US and those between Japan and ASEAN countries, Chinese FTAs present a limited scope so far. ASEAN-China FTA has been implemented solely on tariff removal, and its extension to services does not seem to have a large impact. To make a solid commitment to domestic reform in the framework of FTAs, we must certainly have a strong enough incentive. In cases of FTAs between the US and developing countries, market access to the US market provided a strong incentive for developing countries to initiate domestic reform. In cases of FTAs between Japan and ASEAN countries, the commitment to improving business environment on the ASEAN side is matched with economic/technical cooperation and FDI from Japan. Can we really prepare such strong incentives for China? China has already attracted massive FDI. The recent discussion in China is sometimes on a eventual removal of "super-national" treatment granted to foreign companies vis-à-vis domestic companies, the re-evaluation of FDI from the viewpoint of technology transfer, and other sorts of possible shift to selective acceptance of FDI. China has always been an extremely aggressive country in domestic reform, but FTAs may not be a preferable channel to promote it.

Recent good news is the announcement to initiate a negotiation over the Japan-Korea-China investment treaty. This is going to be a great kick-off for the forthcoming trilateral FTA. FTA negotiation between China and Australia is also at the focus that may present a new China. We would like China to present a "model" for LDCs in the rest of the world.

5. Concluding remarks

The Northeast Asian FTA is a crucial gap to be filled for the whole East Asia. In addition to political and emotional obstacles, we still have a number of issues to be discussed among economists. The Northeast Asian FTA is possible and should be realized in the near future.

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Table 1 Matrix of FTAs involving countries in the Asia-Pacific region (as of October 2006)

Source: Lee, Kimura, Huh, and Kuno (2006).

	Russia	Chinese Taipei	Hong Kong	Japan	Korea	China	Philippines	Indonesia	Malaysia	Thailand	Singapore	Brunei	Vietnam	Laos	Cambodia	Myanmar	India	Australia	New Zealand	Papua New Guinea	United States	Canada	Mexico	Peru	Chile
Russia	■																								
Chinese Taipei		■									큅										큅				
Hong Kong			■			툼													투						
Japan				■	투	큅	투	투	툼	투	툼	투	투	흑	흑	흑	큅	큅				큅	툼		투
Korea				투	■	큅	툼	툼	툼	투	툼	툼	툼	툼	툼	툼	투		큅		투	투	투		툼
China			툼	큅	큅	■	툼	툼	툼	툼	툼	툼	툼	툼	툼	툼	큅	투	투						툼
Philippines				투	툼	툼	■	툼	툼	툼	툼	툼	툼	툼	툼	툼	툼	흑	흑						
Indonesia				투	툼	툼	툼	■	툼	툼	툼	툼	툼	툼	툼	툼	툼	흑	흑						
Malaysia				툼	툼	툼	툼	툼	■	툼	툼	툼	툼	툼	툼	툼	툼	투	투		투				
Thailand				투	투	툼	툼	툼	툼	■	툼	툼	툼	툼	툼	툼	툼	툼	툼		투			툼	큅
Singapore		큅		툼	툼	툼	툼	툼	툼	툼	■	툼	툼	툼	툼	툼	툼	툼	툼		툼	투	투	투	툼
Brunei				투	툼	툼	툼	툼	툼	툼	툼	■	툼	툼	툼	툼	툼	흑	툼						툼
Vietnam				투	툼	툼	툼	툼	툼	툼	툼	툼	■	툼	툼	툼	툼	흑	흑						
Laos				흑	툼	툼	툼	툼	툼	툼	툼	툼	툼	■	툼	툼	툼	흑	흑						
Cambodia				흑	툼	툼	툼	툼	툼	툼	툼	툼	툼	툼	■	툼	툼	흑	흑						
Myanmar				흑	툼	툼	툼	툼	툼	툼	툼	툼	툼	툼	툼	■	툼	흑	흑						
India				큅	투	큅	툼	툼	툼	툼	툼	툼	툼	툼	툼	툼	■								툼
Australia				큅		투	흑	흑	투	툼	툼	흑	흑	흑	흑	흑		■	툼	툼	툼				
New Zealand			투		큅	투	흑	흑	투	툼	툼	툼	흑	흑	흑	흑		툼	■	툼					툼
Papua New Guinea																		툼	툼	■					
United States		큅			투				투	투	툼							툼			■	툼	툼	툼	툼
Canada				큅	투						투										툼	■	툼	투	툼
Mexico				툼	투						투										툼	툼	■	투	툼
Peru										툼	투										툼	투	투	■	툼
Chile				투	툼	툼				큅	툼	툼					툼		툼		툼	툼	툼	툼	■
툼	0	0	1	3	10	12	12	12	13	14	17	14	12	12	12	12	11	5	6	2	6	3	4	3	10
투흑	0	0	1	10	6	2	3	3	3	3	3	2	3	3	3	3	1	9	9	0	3	3	3	3	1
큅	0	2	0	4	2	3	0	0	0	1	1	0	0	0	0	0	2	1	1	0	1	1	0	0	0
Total	0	2	2	17	18	17	15	15	16	18	21	16	15	15	15	15	14	15	16	2	10	7	7	6	11

Note: 툼: Entered into force/signed

투:Under negotiation/agreed to negotiate (bilateral)

흑:Under negotiation/agreed to negotiate (plurilateral)

큅:Under consideration (GG base)/feasible study initiated

Table 2 Imports of agriculture-related products and the tariff rates in Japan: imports from Korea in 2005

Total imports: 2695.29 billion yen
Agriculture related imports: 157.61 billion yen (share in total imports:5.85%)
Agriculture related imports (incl. wood) : 160.85 billion yen (share in total imports:5.97%)

Major imported commodities: import share and tariff rate

Commodity	Import share (%)			Tariffs			
	in agri.	in agri. (wood)	(in total)	General	WTO	Preferential	Temporary
Tuna	**16.39**	**16.06**	**(0.96)**	5%	3.5%		
Alcoholic beverages	**8.65**	**8.47**	**(0.51)**				
Distilling alcohol (excl. used for making alcoholic beverage	7.07	6.93	(0.41)	17.9%	16%	25.2yen/l/*Free	
Sake (seishu and dakushu)	0.15	0.15	(0.01)	70.4yen/l	(70.4yen/l)		
Mixtures of fermented beverages (excl. sake)	0.01	0.01	(0.00)	30.8yen/l	27yen/l		
Sparkling beverages made, in part, from malt	0.87	0.85	(0.05)	6.4yen/l	42.4yen/l		Free
Other fermented beverages	0.10	0.10	(0.01)	43.1yen/l	42.4yen/l		
Vodka	0.38	0.37	(0.02)	17.9%	16%		Free
Liqueurs and cordials	0.07	0.06	(0.00)	141.1yen/l	126yen/l		Free
Fish other than ornamental fish (other-other)	**8.28**	**8.11**	**(0.48)**	5%	3.5%		
Prepared or preserved vegetables (other-not in airtight containers)	**6.07**	**5.94**	**(0.35)**	9.6%	9%		
Aquatic invertebrates and molluscs	**5.71**	**5.59**	**(0.33)**				
Akagai and sea urchins	1.25	1.22	(0.07)	10%	7%	Free	
Abalone, baby clam, fresh water clam, and molluscs (other)	4.46	4.37	(0.26)	10%	7%		
Edible seaweeds	**4.07**	**3.98**	**(0.24)**				
Hijiki	1.64	1.61	(0.10)	15%	10.5%	8%/*Free	
Wakame	1.86	1.82	(0.11)	15%	10.5%		
Formed into rectangular papery sheets	0.57	0.56	(0.03)	1.5yen/piece			
Sweet peppers (incl.other)	**4.03**	**3.95**	**(0.24)**	5%	3%		
Prepared and preserved crab (incl. molluscs (other)) (not in airtight containers)	**3.69**	**3.62**	**(0.22)**	9.6%	9.6%	7.2%/*Free	
Prepared and preserved hard roes of Tara (not in airtight containers)	**2.94**	**2.89**	**(0.17)**	12.8%	9.0%		
Oyster	**2.11**	**2.07**	**(0.12)**	10%	7%		
Chestnuts	**2.09**	**2.05**	**(0.12)**	16%	9.6%		
Vegetable saps and extracts (other)	**1.55**	**1.52**	**(0.09)**	Free			
Preparation of wheat flour	**1.29**	**1.27**	**(0.08)**	28%	23.8%		
Spanish mackerel	**1.15**	**1.13**	**(0.07)**	5%	3.5%		
Food preparations not elsewhere specified (others-others)	**1.12**	**1.10**	**(0.07)**	30%	29.8%		
Matsutake	**1.06**	**1.04**	**(0.06)**	5%	3%	0%	
Agar-agar	**1.01**	**0.99**	**(0.06)**	160yen/kg	112yen/kg	*Free	

Note: " *Free" denotes free for only those originated in the LDCs.

Source: Ando and Kimura (2006).

Table 3 Imports of agriculture-related products and the tariff rates in Japan: imports from China in 2005

Total imports: 11975.45 billion yen
Agriculture-related imports: 940.73 billion yen (share in total imports:7.86%)
Agriculture-related imports (incl. wood) : 1095.13 billion yen (share in total imports: 9.14%)

Major imported commodities: import share and tariff rate

Commodity	Import share (%)			Tariffs		
	in agri.	in agri. (wood)	(in total)	General	WTO	Preferential Temporary
Prepared or preserved chicken (other)	**6.93**	**5.96**	**(0.54)**	8%	6%	*Free
Eel	**6.72**	**5.77**	**(0.53)**			
Live	1.81	1.56	(0.14)	5%	3.5%	
Prepared or preserved	4.91	4.22	(0.39)	10%	(9.6%)	7.2%/*Free
Nishin and Tara	**4.25**	**3.56**	**(0.33)**			
Fresh, chilled, frozen, or frozen fillets	2.35	2.02	(0.18)	10%		
Fillets excl. frozen	0.00	0.00	(0.00)	10%	6%	
Hard roes of nishin	0.21	0.18	(0.02)	12%	8.4%	
Hard roes of tara	0.26	0.23	(0.02)	15%	8%	
Prepared or preserved Nishin (whole or in pieces, but not in mince	0.10	0.10	(0.01)	9.6%	(9.6%)	7.2%/*Free
Prepared or preserved Nishin, not in airtight containers	0.02	0.02	(0.00)	12.8%	11%	
Prepared or preserved Tara, not in airtight containers	1.30	1.11	(0.10)	12.8%	9%	
Prepared or preserved fish (excl. nishin and tara)	**4.04**	**3.47**	**(0.32)**	9.6%	(9.6%)	7.2%/*Free
Prepared and preserved crab (incl. molluscs (other)) (not in airtight containers)	**3.60**	**3.09**	**(0.28)**	10%	10%	7.2%/*Free
Frozen vegetables	**3.05**	**2.62**	**(0.24)**			
Green soya beans, spinach, broccoli, and other	2.50	2.15	(0.20)	10%	6%	
Potatoes, peas, beans, and other	0.45	0.39	(0.04)	10%	8.5%	
Sweet corn	0.08	0.07	(0.01)	20%	12%	
Burdock	0.01	0.01	(0.00)	12.5%	10.6%	
Shrimps and prawns	**2.98**	**2.56**	**(0.23)**			
Frozen, not frozen	1.97	1.69	(0.15)	4%	1%	*Free
Not frozen (other)	0.00	0.00	(0.00)	6%	5%	4%/*Free
Prepared or preserved (smoked, simply boiled in water or in brine)	0.21	0.18	(0.02)	4.8%	4.8%	3.2%/*Free
Prepared or preserved (other)	0.80	0.69	(0.06)	6%	5%	*Free
Soya beans (seeds and oil-cake and other solid residues)	**2.98**	**2.56**	**(0.23)**	Free		
Prepared or preserved vegetables (other)	**2.56**	**2.20**	**(0.20)**	9.6%	9%	
Ika	**1.83**	**1.58**	**(0.14)**			
Prepared or preserved, smoked	0.05	0.05	(0.00)	9.6%	6.7%	
Prepared or preserved, other than smoked	1.78	1.53	(0.14)	15%	10.5%	
Prepared or preserved pork (excl. Ham, Bacon, Press Ham)	**1.71**	**1.47**	**(0.13)**	25%	20%	
Bamboo shoots	**1.36**	**1.17**	**(0.11)**	16%	13.6%	
Shiitake	**1.23**	**1.06**	**(0.10)**			
Fresh or chilled	0.57	0.49	(0.04)	5%	4.3%	
Dried	0.67	0.57	(0.05)	15%	13%	
Waribashi		**1.40**	**(0.13)**	5.6%	4.7%	2.82%/*Free
Other articles of wood (other)		**3.29**	**(0.30)**	5.8%	2.9%	

Note: " *Free" denotes free for only those originated in the LDCs.

Source: Ando and Kimura (2006).

Table 4 Ad-valorem tariff structure in Japan, Korea, and China

(%)

HS	Japan WTO tariff rates (2000) Average	Japan WTO tariff rates (2000) Standard deviation	Korea MFN tariffs (1999) Average	Korea MFN tariffs (1999) Standard deviation	China Tariffs (1999) Average	China Tariffs (1999) Standard deviation
01	1.0	2.8	9.0	5.7	5.6	3.4
02	10.4	15.7	21.1	8.6	24.6	8.0
03	4.5	2.4	16.2	4.9	21.1	6.8
04	25.4	7.6	33.4	9.7	36.8	13.6
05	0.2	0.5	7.1	6.8	13.6	6.3
06	0.8	1.4	10.8	6.6	13.3	9.2
07	5.4	2.9	30.2	8.8	11.6	3.5
08	7.0	5.2	38.6	9.3	30.4	6.6
09	4.1	4.7	13.8	13.1	18.3	8.8
10	3.5	8.8	4.4	3.7	54.4	53.0
11	20.0	4.8	7.4	6.1	44.6	36.0
12	1.4	3.1	9.9	12.5	15.2	19.5
13	1.6	2.3	8.8	7.1	12.0	6.6
14	1.7	3.0	4.6	2.4	12.4	3.8
15	3.7	5.2	10.1	9.0	40.6	31.5
16	10.6	5.1	24.5	5.0	24.9	0.3
17	23.6	19.8	13.7	15.1	27.9	10.2
18	11.9	9.9	7.6	3.9	13.9	7.6
19	17.5	5.3	11.1	7.3	25.3	3.3
20	16.8	5.8	36.7	12.2	29.0	4.1
21	13.1	6.5	12.6	10.0	39.8	9.7
22	15.4	8.6	16.3	6.8	56.8	15.4
23	0.1	0.4	5.1	1.1	6.0	5.0
24	4.7	7.3	33.3	10.0	56.7	12.5
25	0.2	0.6	3.4	1.1	4.3	1.6
26	0.0	0.0	1.3	0.5	2.0	3.1
27	0.8	1.4	4.6	1.9	6.3	2.0
28	2.6	1.6	7.4	1.8	8.7	1.5
29	2.9	2.1	7.4	1.2	9.2	1.7
30	0.0	0.0	6.6	2.7	9.8	3.0
31	0.0	0.0	7.1	2.1	5.1	0.3
32	3.2	1.2	8.0	0.0	10.8	3.5
33	1.4	1.9	7.2	1.9	26.3	6.6
34	0.7	1.5	8.0	0.0	18.3	6.4
35	6.4	5.3	9.6	4.2	13.1	6.0
36	4.8	1.4	8.0	0.0	9.6	2.8
37	0.0	0.0	7.4	1.8	16.1	15.0
38	2.5	2.8	7.7	0.8	10.9	2.4
39	3.8	0.8	7.9	0.4	16.5	1.7
40	0.3	0.7	7.2	1.9	14.4	7.1
41	7.2	9.4	3.9	1.6	10.7	3.4
42	9.9	3.9	9.1	2.1	26.4	4.7
43	8.4	7.7	5.4	4.1	21.8	3.1
44	3.2	2.3	6.2	2.3	11.4	6.7
45	0.0	0.0	8.0	0.0	8.6	2.1
46	3.8	1.3	8.0	0.0	10.0	0.0
47	0.7	0.4	2.0	0.0	1.0	0.0
48	1.6	0.8	8.0	0.1	18.6	7.0
49	0.3	0.6	2.4	3.6	5.3	6.8
50	6.9	4.4	7.7	4.5	15.3	8.4
51	3.2	3.3	6.4	5.3	20.0	7.5
52	5.1	1.5	8.9	1.8	16.7	5.0
53	4.3	5.7	4.9	3.0	10.9	6.1
54	7.3	1.4	8.0	0.0	27.3	9.0
55	7.8	1.6	9.1	1.4	28.2	8.0
56	4.5	2.0	8.6	0.9	25.6	4.0
57	9.3	1.4	10.0	0.0	31.4	1.1
58	7.8	3.7	10.2	2.5	28.8	3.2
59	4.8	0.8	8.0	0.0	21.1	5.1
60	9.9	1.9	10.0	0.0	28.5	2.9
61	11.1	1.8	12.8	1.0	33.1	2.6
62	11.7	1.8	12.5	1.5	33.7	2.3
63	7.1	2.7	11.8	1.9	29.1	3.5
64	18.1	9.8	11.6	2.3	25.0	0.0
65	4.5	0.9	8.0	0.0	25.0	0.0
66	4.1	0.5	12.3	1.9	15.0	0.0
67	1.8	2.6	8.0	0.0	28.1	2.6
68	1.0	1.3	8.0	0.0	15.0	6.5
69	1.3	1.2	8.0	0.0	24.5	11.1
70	1.1	1.9	7.9	0.5	18.4	5.2
71	1.0	2.0	4.6	2.6	13.7	16.7
72	1.7	0.9	6.4	2.2	8.7	4.8
73	1.1	1.1	8.0	0.0	13.1	5.1
74	1.7	1.4	6.9	1.9	8.4	4.6
75	1.9	1.3	5.0	2.5	6.2	2.5
76	3.7	2.9	7.5	1.6	14.2	5.0
78	2.4	1.0	6.3	2.5	7.2	3.0
79	1.8	1.5	6.4	2.4	7.0	2.4
80	2.0	1.3	5.9	3.0	9.1	3.4
81	1.4	1.4	5.4	1.9	7.3	3.1
82	0.8	1.6	8.0	0.0	11.8	3.8
83	2.0	1.4	8.0	0.0	15.8	3.0
84	0.0	0.0	7.4	1.5	14.4	5.9
85	0.1	0.7	7.4	1.6	17.1	8.5
86	0.0	0.0	3.3	2.6	5.4	2.5
87	0.1	1.0	7.9	1.4	35.0	23.8
88	0.0	0.0	0.9	1.7	3.5	1.5
89	0.0	0.0	3.8	3.3	8.7	3.1
90	0.2	0.8	7.7	0.8	12.9	5.2
91	0.4	1.6	7.7	0.9	20.5	2.9
92	0.0	0.0	8.0	0.0	23.1	4.0
93	6.6	1.3	3.8	3.9	15.0	0.0
94	0.7	1.4	7.4	0.9	21.7	2.6
95	1.6	1.5	8.0	0.0	19.1	4.9
96	3.2	2.0	8.0	0.0	23.1	3.2
97	0.0	0.0	0.0	0.0	9.6	6.7

Source: Kimura and Ando (2003).

Table 5 Japanese Direct Import Contents in Manufacturing Production of Korea and China

	Food, beverage, and tobacco	Textile and leather	Timber and wooden products	Pulp, paper, and printing	Chemical products	Petroleum and petro products	Rubber products	Non-metallic mineral products	Metal products	Machinery	Transport equipment	Other manufacturing products
Japanese direct import contents in Korean production												
Agriculture, forestry, fishery, and minin	0.0003	0.0000	0.0002	0.000	0.0005	0.0004	0.0000	0.0009	0.0000	0.0000	0.0000	0.0001
Food, beverage and tobacco	0.0007	0.0001	0.0000	0.000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Textile and leather	0.0000	0.0101	0.0001	0.001	0.0001	0.0000	0.0040	0.0000	0.0000	0.0000	0.0001	0.0007
Timber and wooden products	0.0000	0.0000	0.0010	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pulp, paper and printing	0.0002	0.0001	0.0003	0.004	0.0001	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0003
Chemical products	0.0009	0.0063	0.0006	0.002	0.0418	0.0009	0.0180	0.0028	0.0009	0.0038	0.0006	0.0146
Petroleum and petro products	0.0001	0.0003	0.0002	0.000	0.0011	0.0027	0.0003	0.0008	0.0004	0.0001	0.0002	0.0002
Rubber products	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0023	0.0000	0.0000	0.0002	0.0008	0.0001
Non-metallic mineral products	0.0001	0.0000	0.0002	0.000	0.0003	0.0000	0.0001	0.0074	0.0004	0.0015	0.0004	0.0010
Metal products	0.0004	0.0001	0.0005	0.000	0.0003	0.0001	0.0040	0.0002	0.0168	0.0056	0.0102	0.0008
Machinery	0.0001	0.0009	0.0003	0.002	0.0011	0.0013	0.0022	0.0013	0.0020	0.0542	0.0133	0.0075
Transport equipment	0.0000	0.0000	0.0000	0.000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0137	0.0000
Other manufacturing products	0.0001	0.0003	0.0011	0.001	0.0004	0.0001	0.0002	0.0003	0.0002	0.0014	0.0009	0.0065
Trade and transport	0.0005	0.0027	0.0007	0.002	0.0044	0.0007	0.0036	0.0023	0.0023	0.0058	0.0040	0.0035
Others	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0036	0.0208	0.0052	0.012	0.0501	0.0063	0.0347	0.0161	0.0231	0.0729	0.0442	0.0353
Japanese direct import contentes												
(a) in total output (%)	*0.4*	*2.1*	*0.5*	*1.2*	***5.0***	*0.6*	*3.5*	*1.6*	*2.3*	***7.3***	***4.4***	***3.5***
(b) in total intermediate input (%)	*0.5*	*3.0*	*0.7*	*1.8*	***7.2***	*1.0*	***5.2***	*2.6*	*3.1*	***11.3***	***6.5***	***5.4***
(c) in total intermediate inputs from abroad (%)	*3.4*	***10.9***	*2.7*	*7.8*	***22.8***	*1.2*	***16.8***	***21.6***	***14.0***	***35.8***	***35.8***	***30.1***
Japanese direct import contents in Chinese production												
Agriculture, forestry, fishery, and minin	0.0002	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000
Food, beverage and tobacco	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Textile and leather	0.0000	0.0077	0.0000	0.0000	0.0004	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0019
Timber and wooden products	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pulp, paper and printing	0.0001	0.0000	0.0000	0.0076	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Chemical products	0.0010	0.0042	0.0003	0.0011	0.0106	0.0002	0.0036	0.0000	0.0001	0.0003	0.0001	0.0080
Petroleum and petro products	0.0000	0.0002	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0001	0.0002	0.0000
Rubber products	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0030	0.0000	0.0000	0.0000	0.0001	0.0000
Non-metallic mineral products	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0008	0.0000	0.0000
Metal products	0.0001	0.0001	0.0010	0.0008	0.0012	0.0000	0.0000	0.0003	0.0084	0.0042	0.0067	0.0008
Machinery	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0305	0.0105	0.0023
Transport equipment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0000
Other manufacturing products	0.0002	0.0003	0.0000	0.0001	0.0002	0.0000	0.0003	0.0001	0.0000	0.0001	0.0012	0.0020
Trade and transport	0.0003	0.0018	0.0002	0.0017	0.0013	0.0000	0.0008	0.0001	0.0001	0.0030	0.0028	0.0017
Others	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0010	0.0000	0.0000	0.0000
Total	0.0024	0.0144	0.0018	0.0114	0.0139	0.0004	0.0081	0.0007	0.0097	0.0391	0.0317	0.0168
Japanese direct import contentes												
(a) in total output (%)	*0.2*	*1.4*	*0.2*	*1.1*	*1.4*	*0.0*	*0.8*	*0.1*	*1.0*	*3.9*	*3.2*	*1.7*
(b) in total intermediate input (%)	*0.3*	*2.0*	*0.3*	*1.6*	*2.1*	*0.1*	*1.4*	*0.1*	*1.3*	***5.3***	*4.4*	*2.4*
(c) in total intermediate inputs from abroad (%)	*3.4*	*12.5*	*2.9*	*9.4*	*15.2*	*0.4*	*11.1*	*6.8*	*12.8*	***31.3***	***26.0***	***17.0***

Note: input coefficients in Table 6 are based on the 24-sector matrix. Sectors in columns, however, show only manufacturing. Sectors in rows include all sectors though 7 sectors in agriculture, forestry, fishery and mining (paddy, other agricultural products, livestock, forestry, fishery, crude petroleum and natural gas, and other mining) and 4 sectors in electricity, gas, and water supply, construction, public administration, and services are summed up into one sector, respectively. Input coefficients with more than 20% of the total of the sector are highlighted.

Source: Kimura and Ando (2003).