
Reforms of Korea's Trade Adjustment Assistance Program for Its Bilateral Free Trade Agreements with the European Union and the United States*

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Abstract

The Korean government introduced the trade adjustment assistance (TAA) program to facilitate structural adjustment under the implementation of its free trade agreements (FTAs). One big problem with the TAA program is that its criterion for eligibility for TAA support requires a 25 percent decrease in sales volume, and this does not reflect firms' business realities. The TAA program should be reformed to reflect that the TAA is a quid pro quo for the implementation of FTAs with large economies such as the United States and the EU.

1. Introduction

In the course of Korea's pursuit of a free trade agreement (FTA) with the United States, there have been heated debates on the pros and cons of the FTA. The opposition has highlighted that the Korea-U.S. FTA (KORUS FTA) had been promoted without measures to facilitate structural adjustment and to compensate the harmed workers and firms. To deal with this problem, the Korean government accelerated the enactment of the trade adjustment assistance (TAA) program proposed by industry and the academic community.

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When the United States adopted its TAA program in 1962, it was first such program in the world. Since then the U.S. TAA program has been revised to keep it in line with the changing environment of politics, international trade, and economy. Although similar industry assistance programs can also be found in the European Union (EU), Japan, Mexico, and Australia, Korea has benchmarked its TAA program with the U.S. TAA in its initial stage of legislation. However, the Korean TAA program deviates from the U.S. TAA program in crucial areas such as the eligibility criteria, coverage, and contents of TAA.

Korea's TAA program has two purposes. The first is to direct the industrial restructuring caused by trade liberalization toward contributing to Korea's industrial development. The second is to build "social infrastructure" to persuade anti-FTA groups to change their stand. Our analysis of the outcome of the implementation of TAA for 2.5 years showed that the objective of industrial restructuring seemed not to have been given much consideration. There has not been a single case in which the restructuring duty was imposed on TAA-assisted firms. Six firms have applied for TAA support since 2007. Five were designated TAA firms and have been receiving such support. This number is far smaller than was originally expected because the criteria for receiving TAA support are too strictly defined (e.g., a firm must have experienced a 25 percent decrease in the volume of sales or production for a period of six months).

In this paper, the details of support for TAA-designated firms will be analyzed in depth, the FTA policy and the TAA program will be evaluated, and the problems with them will be identified. To underline the problems with current TAA, this paper tries to estimate the demand for TAA support under the EU–Korea FTA. Finally, to prepare for the implementation of the FTAs with large economies such as the United States and the EU, reforms of the TAA program in Korea will be suggested.

2. The logic of TAA and the U.S. TAA program

Theoretically, the gains from international trade are based on the theory of comparative advantage. Free trade expands the sectors that produce goods with higher efficiency and contracts the sectors that produce with less efficiency in their home country, hence raising the productivity of the country. Additional gains can be obtained from scale economies and the enhancement of competition, learning, and innovations. Consumers can purchase goods at cheaper prices and are allowed to choose a wider variety of goods, resulting in higher welfare gains.

However, in reality, the story could be quite a painful one because the gains from international trade are derived from the reallocation of resources which involves firm closings and firing of workers. Rosen (2006) argues that the ability of the U.S. economy to create jobs with trade liberalization is not enough for workers who lose their jobs. He mentions three points to underline the necessity of TAA in the United States: First, job creation does not always take place at the same location where the jobs are lost. Second, the new jobs are in different industries than the jobs lost. Third, the burden of adjustment does not end when the worker gets a new job, because the jobs lost due to trade pay higher wages and provide better benefits than the new jobs being created.¹

However, there are voices against the idea of TAA. Unemployment insurance provides benefits for unexpected job losers and extra benefits with TAA tend to discourage job search and extend the period of unemployment. Markheim and Sherk (2007, 3) explain why TAA is unnecessary in the United States, pointing out that "economy-wide, the estimated net number of jobs displaced each year by international trade is a relatively small 3 percent of the workforce. Far more important to the changing composition of America's workforce have been improvements in technology and shifts in consumer preferences." They note that

the combined impact of innovation and reduced barriers to trade has served to help the economy, not harm it. . . . Freer trade enables more goods and services to reach American consumers at lower prices, giving families more income to save or spend on other goods and services. . . . Any negative impact that freer trade may have on job numbers is mitigated by the benefits that trade brings to the economy as a whole.

The first TAA program was introduced by the Kennedy Administration in the Trade Expansion Act of 1962, to compensate workers for tariff cuts under the Kennedy Round of multilateral negotiations and other liberalizations. However, few workers were able to receive the benefits of TAA because the eligibility criteria were very hard to meet. The Trade Act of 1974 loosened the criteria, and 62,000 workers were covered by TAA at a cost of US\$ 79 million in 1976. The TAA program was more generous in cash assistance than unemployment insurance by paying 5 percent more. However, when the Reagan Administration tightened the eligibility criteria, the number of workers receiving TAA aid dropped to 30,000 workers in 1982.

¹ Kletzer (2001) reports that the average worker who lost his/her job from an import-competing industry experienced a 13-percent decline in average weekly earnings, and 25 percent of workers laid off from import-competing industries experienced earnings losses of 30 percent or more.

Fundamental changes were made for the U.S. TAA program in 1993, in that Congress introduced the North American Free Trade Agreement–Transitional Adjustment Assistance (NAFTA-TAA) program as a part of countermeasures for the implementation of NAFTA. Workers, firms, and communities could choose coverage from either traditional TAA or NAFTA-TAA. In 2001, a separate TAA program was legislated for farmers, which treated farmers as businessmen rather than as workers. TAA was extended to service workers and public sector employees in the Trade Act of 2002. TAA was incorporated into the American Recovery and Reinvestment Act of 2009 to cover workers, farmers, services, firms, and communities through the end of 2010.

The Firm TAA has been managed by the Economic Development Administration (EDA) under the U.S. Department of Commerce since the outset of TAA in 1962. The initial program provided technical assistance for trade-injured firms in addition to financial assistance in terms of loans and loan guarantees, but financial support was removed in the reforms of TAA in 1986. Firms that were damaged by the inflow of imports could apply for TAA in one of 11 TAA centers.

3. Korea's TAA: Enactment and current status

3.1 Overview

In 2004, the Korean government decided to push for the conclusion of FTAs with large economic powers such as the United States and the EU. To cope with the strong objection against those FTAs, Korean industries and international trade scholars began to advocate the adoption of the TAA program. Unlike the United States' TAA program, Korea's TAA program does not require the restructuring obligation of the TAA firms. The U.S. TAA program focuses on the assistance for workers, whereas Korea's TAA program is oriented for firm assistance within the permitted scope of WTO subsidy regulation.

Although Korea's TAA program benchmarked the U.S. system, there are substantial differences between them, and they are summarized in Table 1. Basically, the U.S. TAA program focuses on assistance to the workers, whereas the Korean TAA program aims for support to the firms.² The U.S. TAA for firms provides only technical

² The Korea TAA Law also defines the support for workers and has specific mechanisms, which is managed by the Ministry of Labor. But the issue of overlapping assistance with unemployment insurance was raised, and in the end similar contents of assistance for workers were adopted in the TAA Law. Workers can choose one of two programs, with no incentive favoring TAA, considering the burden for proving trade damage. But the U.S. TAA provides extra benefits for TAA-assisted workers in terms of cash payment and duration of benefits.

Table 1. Summary of TAA in the United States and Korea

	Korea	United States
Year of implementation	2007	1962
Initial law	Law for the TAA with the implementation of FTAs (2006)	The Trade Expansion Act of 1962
Coverage	Manufacturing, Industry related Services	Agriculture, Fishery, Manufacturing, Services
Focus of TAA	Firms >> Workers	Workers > Firms
Agency of administration	Ministry of Knowledge Economy for Firms Ministry of Labor for workers	Economic Development Administration for firms Department of Labor for workers
Managing agency for firms	Small & Medium Business Corporation (HQ, 22 regional center)	11 Trade Adjustment Assistance Centers (regional offices)
Eligibility criteria	25% reduction of sale or production due to increase of imports from the FTA partner country for 6 months	5% reduction of sale or production due to imports during trade liberalization
Contents of TAA	Consulting services Loan	50% of US\$ 75,000 for the excess of US\$ 30,000 with a cap of US\$ 75,000 No financial support since 1986
	80% of costs with a cap of 24 million won (US\$ 21,800) 0.7% discounted interest rates with a cap of 4 billion won (with a cap of 0.5 billion won for operational fund)	

Source: Summary based on the laws of the TAAs of the United States and Korea.

assistance for trade-impacted firms, whereas Korea's TAA program provides financial support. The United States' annual budget for its TAA program is US\$ 1.16 billion, which consists of US\$ 1.06 billion for workers, US\$ 90 million for farmers, and only US\$ 16 million for firms.

To minimize political opposition to the KORUS FTA, the National Assembly expanded the kind of support that was especially set up for the agricultural sector in the "Special Law for Assisting the Agricultural Sector in Implementing the Korea–Chile FTA" to also apply to manufacturing industries.³ At the time of this legislation, there was consensus that (unlike the support for agriculture under the Korea–Chile FTA) TAA for the manufacturing industry should be in the form of support for industrial restructuring under strict eligibility criteria to minimize moral hazards. Although strict criteria for TAA benefits were adopted in the law, the obligation of industrial restructuring was not enforced in the actual TAA law. TAA in Korea has thus degenerated into support for firms injured by FTAs.

3 Such assistance programs with the implementation of FTAs began with the Korea–Chile FTA, which was implemented in 2004. To supplement the Korea–Chile FTA, Korea enacted a special law for agricultural support, the Korea–Chile FTA Special Law, which stipulated that during the 8-year period following the implementation of the agreement, an agricultural support budget of about 200 billion won (equivalent to US\$ 174 million) per year was to be spent regardless of any damage from the FTA.

3.2 Enactment and amendment of TAA

In August 2005, a public hearing on the enactment of a law related to TAA for workers and firms was held under the initiative of industry and trade organizations, such as the Korean Chamber of Commerce and Industry. The then Ministry of Commerce, Industry, and Energy (currently the Ministry of Knowledge Economy) took the lead in submitting the bill to the National Assembly in November of the same year, and the bill was passed in the plenary session of the National Assembly in early 2006. This law, the official title of which is "The Law for Trade Adjustment Assistance with the Implementation of FTAs," was promulgated on 28 April 2006, and, after a one-year preparation period, was enforced on 29 April 2007.

This law has been amended twice. The first amendment was proposed on 28 August 2007 and was passed in the plenary session of the National Assembly on 22 November 2007. The rationale for the amendment was to expand the coverage of TAA to the service sector, which is a part of FTAs today. The coverage of TAA was loosened to provide the consulting service needed for the trade adjustment in the event that the urgent need is recognized even before a company is designated as eligible for trade adjustment, and to address some operational problems with the existing program.

The second amendment was passed in the plenary session of the National Assembly on 1 April 2009. The concrete criterion for determining the nature of serious damages that will qualify firms for TAA was changed from 25 percent of the sales or production volume to one that will be determined by a presidential decree, so as to flexibly cope with changes in the trade environment. The presidential decree has not yet been promulgated, however, so the criterion of 25 percent of the sales or production volume is still being applied.

3.3 Current status of TAA support for firms

Currently, five firms have been designated as recipients of TAA benefits, as summarized in Table 2. Four of them are food processing firms and one is a manufacturing firm. The four food processing firms comprise one alcoholic beverage firm (a kind of wine), two pork processing firms, and one marine products processing firm.

Two firms were designated as eligible for TAA support in 2008 and three were designated in 2009. Of these firms, three firms cited as their reason for applying for TAA support a decrease in sales; one firm, a decrease in production; and one firm, a decrease in sales and operating profits. The FTAs that harmed Korean firms were found to be the Korea–Chile FTA and the Korea–Europe Free Trade Association (EFTA) FTA; and of the five TAA-assisted firms, three firms were found to have

Table 2. Current conditions of the TAA program (as of February 2010)

	Company A	Company B	Company C	Company D	Company E	
Major products	Wild grape wine	Pork meat	Watches	Pork meat	Salted mackerel	
Reason for application	Sale reduction –45%	Production reduction –28%	Sale reduction –49.50%	Sale reduction –31.60%	Sale reduction (19.5%), profit reduction (51%)	
Related FTA	Korea–Chile FTA	Korea–Chile FTA	Korea–EFTA FTA	Korea–Chile FTA	Korea–EFTA FTA	
Date of TAA decision	2008.10.31	2008.12.15	2009.4.7	2009.6.4	2009.11.4	
Loan	200 million won	100 million won	n/a	100 million won	n/a	
Consulting	Cost	16 million won (2009.1.22–4.30)	16 million won (2009.3.2–12.12)	n/a	n/a	n/a
	Field	Marketing strategy	B2B Business	n/a	n/a	n/a

Source: Various issues of documents by Korea's Trade Commission.

received 100–200 million won (US\$ 87,000–174,000) in working capital loans. Two of the firms received consulting service on business-to-business marketing strategies, and no TAA firm was known to have received any consulting service on the restructuring of their firms.

Because only limited information could be obtained from the data published by TAA organizations, it was difficult to conduct an analysis and evaluation of the current TAA program. To comprehensively investigate the backgrounds of the applications for TAA and the opinions on the said program, interviews with four of the five firms approved for TAA support as of July 2010 were conducted.⁴

Based on the information obtained from the interviews, the following three conclusions were made: (1) The firms that had not been directly harmed by the implementation of FTAs were designated as TAA firms; (2) Benefits were being provided to the firms without bearing the obligation of restructuring, which was the original purpose of TAA; and (3) TAA provided fewer benefits than were originally expected.

Even if a firm was designated as a TAA firm because its sales or production volume decreased to a degree greater than the predetermined standard, firms that could properly prove that they were harmed by the FTA or by trade liberalization could hardly be found. In the case of Company B in Table 2, they had been processing about 180 butchered pigs each day before 2007, but as of 13 September 2009, they processed only 63 pigs daily, implying that their production was reduced to one-third of its level before 2007, and subsequently, the number of the company's em-

⁴ The company that was not interviewed was Company E of Table 2, which was designated in November 2009.

ployees decreased from 32 in 2007 to 21. Such damage, however, was due to the rise in grain feed prices and various other expenses by about 26 percent and the consequently sharp deterioration in the production and profitability of the hog-raising industry. The decisive proof that the damage was not caused by trade liberalization is that the supply price of pork per kilo was 5,000 won in 2009, which was double the average pork price of 2,400 won per kilo in 2006.

The sales of Company C's self-manufactured low-priced watches decreased from 2 billion won in 2007 to 1.4 billion won in 2008. This company claimed that it was harmed by the implementation of Korea's FTA with EFTA, of which Switzerland is a member country, but it is hard to say that Company C's low-priced watches are competing with Swiss-made high-priced watches. A more reasonable explanation may be that as low-priced Chinese-made watches penetrated the domestic market, the company's sales continued to decrease, although the low-priced Chinese watches had long been in the Korean market. Because no FTA with China is being implemented, this firm cannot qualify for TAA. Moreover, components of Swiss-made movements are imported and loaded in Korean-made watches. When the tariff on those parts and machinery was lowered or removed with the implementation of the Korea-EFTA FTA, it helped reduce the watches' manufacturing cost. Thus, it is hard to say that the company's decrease in sales was due to the FTA.

Second, none of the four interviewed firms were making plans for the restructuring. None of the firms applied for TAA benefits with restructuring as a precondition or applied for consulting for restructuring. Directors of some of the TAA firms wondered if restructuring was really a precondition of their TAA designation and they said that if they had known that restructuring was a precondition, they would not have applied for TAA support. Some of the firms were receiving management consulting, but it was more general business management consulting than business restructuring consulting in connection with the implementation of FTAs. Moreover, the firms' degree of satisfaction with the consulting was not high.

Third, the amount of financial support from TAA was less than originally expected. A working capital loan of 200 million won was extended to Company A, but the actual benefit was a 0.7 percent reduction of the interest rate on the loan. In other words, the actual benefit was only 1.4 million won (US\$ 1,200) per year. The average amount of the restructuring support loan that was extended independently from TAA was 800 million won (US\$ 695,600), but the TAA loan amounted to only one-fourth of this fund. KIET (2007) projected that an average 600 million won (US\$ 521,740) support loan would be required for one TAA firm. The actual support amount and related benefits were smaller than similar programs for industrial

support. This has happened to minimize the moral hazard problem that may arise when the proof of damage is not clear.

Currently, five FTAs are being implemented, and the TAA program is being implemented as a supplementary measure for trade damage, but few firms are using this support system and only a minimal part of the budget that the government put aside as the TAA support fund is being used. The budget appropriated 30 billion won (US\$ 26,000,000) for the TAA support fund for 2009, but only 500 million won (US\$ 435,000) was spent on TAA assistance.

4. Background on poor performance of TAA support

The Korean government's policymaking authorities concerned with TAA are wondering why fewer firms are applying for TAA support than was originally expected. According to unpublished government documents, the Knowledge Economy Committee of the National Assembly asked the government about this, and it is feared that the TAA support budget will be reduced in the course of the budget deliberation at the National Assembly, since only an extremely small portion of the TAA budget that the government appropriated was used.

There are several reasons for so few TAA support firms despite the implementation of five FTAs. Two reasons may be given in a broad sense: (1) the problems with the FTA policy itself, and (2) the problems inherent in TAA. Despite the active promotion of the FTA so far, an FTA in which many small- and medium-sized enterprises (SMEs) may be interested has not yet been implemented. The problems with TAA itself are the lofty criteria for applying for TAA support and the firms' lack of understanding of TAA. The criterion for eligibility of "a decrease in sales/production volume of more than 25 percent" has been the barrier in firms' use of TAA, as happened in the United States under TAA of the Trade Expansion Act of 1962.

4.1 Problems with Korea's FTA policy

Under the Roh Moo-hyun Administration, Korea recorded high FTA promotion performance for a short period of time with a "multi-track FTA promotion strategy" and an "FTA Roadmap." Despite the country's unfavorable political environment for the promotion of FTAs, many FTAs were concluded in the past six to seven years, and Korea was freed from a state of having an FTA wasteland. A total of five FTAs—with Chile, Singapore, EFTA, ASEAN, and India—have been effective in Korea and the Korea–U.S. FTA is waiting for ratification at the National Assembly. Korea's FTA with the EU is expected to become effective late 2010 and Korea is now negotiating bilateral FTAs with Australia, New Zealand, Peru, Canada, Mexico, and the Gulf Corporation Council.

Many economists have evaluated Korea's FTA promotion strategy to cope with the sluggish Doha Development Agenda negotiations and the global spread of FTAs as a positive move, but there is much room for improving FTA policies from the viewpoint of business utilization of currently effective FTAs.

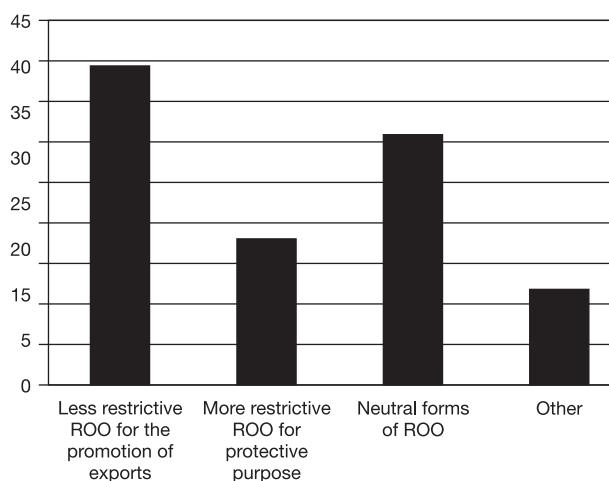
Because Korea's FTA policy has focused on numeric expansion until recently, the content of trade liberalization has been evaluated as less than expected.⁵ Despite the many concluded FTAs, the survey showed that the firms' interest in using the FTAs and their degree of actual use of the FTAs are low. The low interest of SMEs about FTAs is due to the low quality of the FTAs, namely, the strict criteria of the rules of origin and the low preferential tariff benefits. In the FTAs that were concluded with Chile and ASEAN, the low early liberalization ratio, the allowance of exceptions to tariff liberalization to many items, and the excessive cost of meeting the criteria of the rules of origin are why Korean SMEs have little incentive to use FTAs. In the case of the ASEAN–Korea FTA, only five of the ten ASEAN countries were implementing the FTA at the time of its official enforcement. Even in some ASEAN countries where the FTA was legally effective, it was not applied in actual customs clearance.

The criteria of the rules of origin in Korea's FTAs are more restrictive and complicated than those in other countries' FTAs, and an additional cost is required to meet the criteria of the rules of origin, which has resulted in firms' low ratio of FTA utilization. Cho (2006) found that in Korea's FTAs, the change in the Harmonized System two-digit system (Change of Chapter: CC), which is the hardest requirement, is given for many items that Korean firms are concerned with. It was also found that Korean firms are having difficulties meeting the requirement for value-added content because they are heavily dependent on imported parts.

In a survey of general business firms (Figure 1), more than half of the firms said that the criteria of the rules of origin should be eased so that exports can be vitalized, and 30.8 percent of the firms said that a neutral form was desirable. Most of the firms that responded to the survey questionnaire answered that it was difficult to apply for preferential tariffs provided in FTAs because of the difficulty of complying with the details of the rules of origin.

Poor tariff concession works against the use of FTAs. The tariff concession in the currently implemented Korean FTAs is narrowly defined, and takes a long time for the elimination of tariffs. Government reports mention that 90 percent of the items that are classified as normal-track in the ASEAN–Korea FTA are liberalized gradually, but a tariff reduction of 0–5 percent, rather than tariff abolishment, is stipulated

⁵ Refer to Cheong (2009) for detailed analysis.

Figure 1. Companies' opinion on the specification of ROO (unit: %)

Source: KOTRA (2008).

Note: ROO = rules of origin.

for many items. Also, sensitive items are classified as goods of sensitive-track or exceptions to trade liberalization, but these items are those that can be traded more among the participating countries if fully liberalized.

The KOTRA (2008, 15) survey also revealed that the FTA preferential tariff margin is not being used because "there is no tariff anymore (zero tariff before FTA) or it has no actual benefit on the whole" (39.0 percent), and because of the "lack of information on the circumstances of FTA conclusions and the methods of using the FTAs" (37.3 percent).

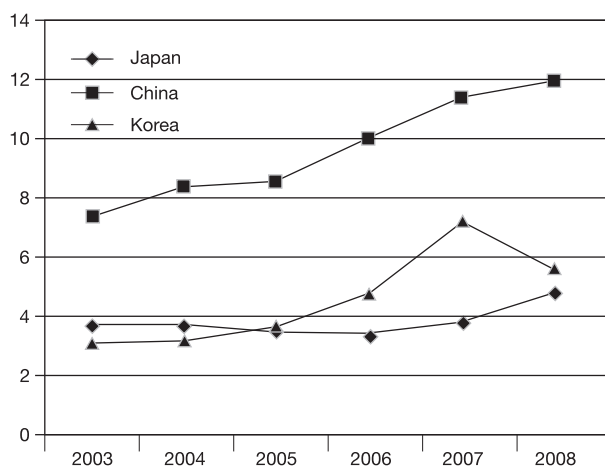
The unfavorable tariff concessions in Korean FTAs, compared with those in China's and Japan's FTAs, discourage firms from using them. The scope of the Korean FTAs' tariff concessions is so narrow that their economic effects are sometimes weakened. Since the recent Chile–China FTA became effective in September 2006, Korea has been lagging behind China in terms of its exports of products that both countries domestically produce, such as automatic washing machines, vacuum cleaners, valves, plastic products, and polyester filament fabrics, as seen in Table 3.

Due to these factors, the market share of Korean products in the Chilean market, which increased after the conclusion of the Korea–Chile FTA, decreased from

Table 3. Korean products with less competitiveness than Chinese ones in the Chilean market (unit: %)

	HS code	Base tariff rate	Country	FTA concession (year)	Current tariff rate	Market share in Chile		
						2 years before FTA	1 year before FTA	1 year after FTA
Washing machine	845011	6	Korea China	Exception (Ex) 0/10/Ex	6 0/4.8/6	56.8 14.2	31.4 17.6	27 39.7
Copper cable	854420	6	Korea China	5 5/10/2000	2 0/3.6/4.8	11.4 12.9	19.6 11.1	5.5 24.9
Valve	848180	6	Korea China	13 0/Ex	6 0/6	1.2 18.9	5.4 19	1.7 25.3
Vacuum cleaner	850910	6	Korea China	10 0	3.8 0	16.3 18.9	11.6 19	3.1 25.3
Air conditioner	841510	6	Korea China	0/5 0	0/2 0	18.6 58.7	10.3 76.6	9.1 77.1
Plastic products	392690	6	Korea China	5 0/5	2 0/3.6	1.6 20.5	1.5 23.2	1 26.7
Polyester, filament fabric	540761	6	Korea China	5 5/10/2000	2 0/3.6/4.8	19.8 51.2	12.7 58.9	3.8 70.3

Source: Assembled based on relevant FTAs and trade statistics.

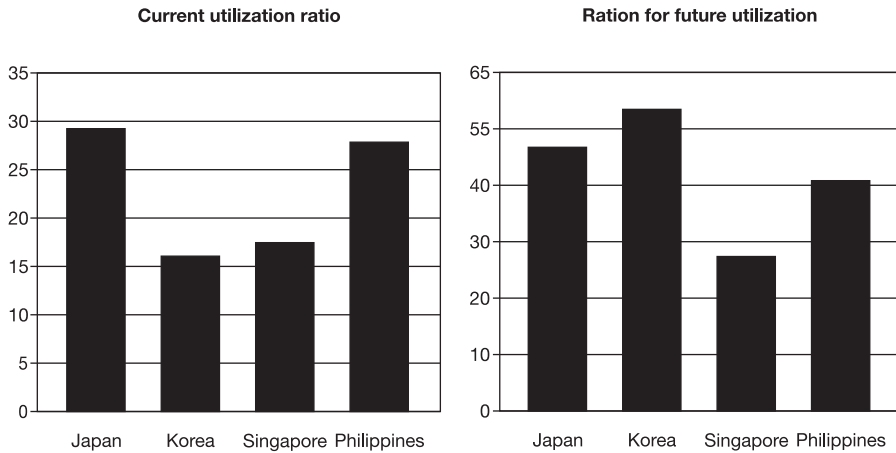
Figure 2. Changes in Chilean market shares of China, Japan, and Korea

Source: Korea International Trade Association Trade Statistics.

7.2 percent in 2007 to 5.6 percent in 2008, whereas shares of Japanese and Chinese goods increased from 3.7 percent and 11.4 percent in 2007 to 4.7 percent and 12.0 percent, respectively (Figure 2).

According to the international survey in Figure 3, in general, East Asian countries' FTA utilization rates are low (ranging from 16 percent to 29 percent), which contrasts with the 60–80 percent utilization rates in Western FTAs such as NAFTA. Moreover, the rate of FTA use by business firms in Korea is lower than that in Japan, the Philippines, and Singapore. Of the firms that responded to the survey, however, 54 percent said they are planning to use FTAs henceforth, which shows that they are interested in the implementation of FTAs with big economic blocs such as the United States and the EU.

It is known that Korea and the EU will implement the bilateral FTA between the two regions in late 2010, and governments of Korea and the United States agreed to try to get the ratification on the KORUS FTA at the April Summit between two countries. Based on the survey result and the possibilities of FTA implementation in the near future, it can be inferred that high pressure for structural adjustment will be present in a few years, and the TAA program should be rationalized for the facilitation of structural adjustment.

Figure 3. International comparison of FTA utilization ratio (unit: %)

Source: Kawai and Wignaraja (2009) and survey by authors.

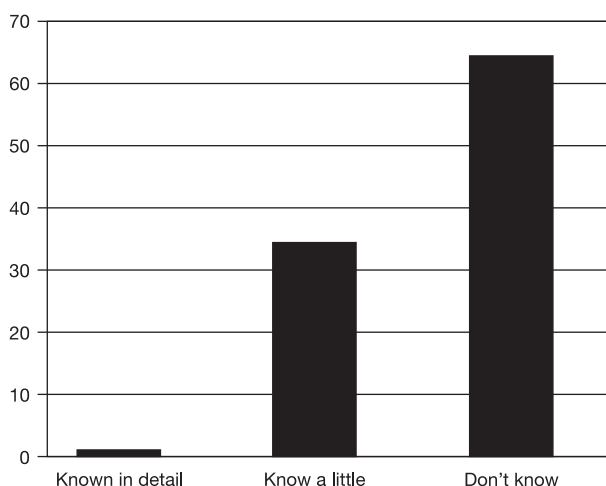
4.2 Problems with the TAA program

In addition to problems related with FTA policies, there are several hindrance factors against the use of TAA. First of all, Korean firms' understanding of the TAA program is low. More than half (64.5 percent) of the surveyed business firms said they "have never known about the TAA program"; 34.4 percent said they "know a little"; and only 1.1 percent said they "know it well" (Figure 4).⁶ Without improving firms' understanding of the TAA program, it is not likely the number of TAA applications will be increased.

In the same survey, questions on the eligibility for TAA support were asked, and it was found that the 25 percent decrease in sales volume is too high for them. Sixty-four percent of the firms that were asked about the appropriateness of the 25 percent decrease in sales/production volume as one of the criteria for eligibility for TAA benefits said "the criterion is too high."

As to what is a more appropriate criterion for eligibility for TAA support, 54.4 percent of the respondents said a 15 percent decrease in sales volume; 30.3 percent selected a 10 percent decrease in sales volume; 10.2 percent selected a 20 percent

⁶ This survey, which is a part of this paper, was done by a professional research institute in May–August 2009. About 2,000 questionnaires were sent and 495 firms responded to the survey.

Figure 4. Korean companies' recognition of the TAA program

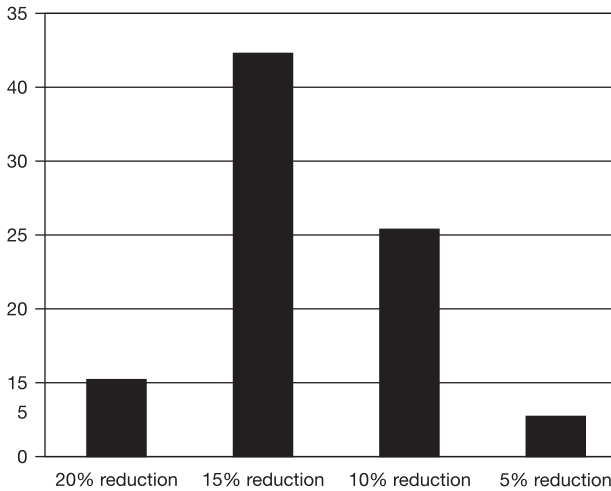
Source: Survey by authors.

decrease in sales volume; and 5.1 percent selected a 5 percent decrease in sales volume. Firms with more employees selected more often a 15 percent decrease in sales volume as the appropriate criterion (Figure 5).

The results of the survey of general business firms and the TAA designated firms, through questionnaires and field investigations about TAA implementation, showed that the criterion for eligibility for TAA support of a 25 percent decrease in sales volume is too high and does not reflect the firms' business realities. The United States, which was the first country to adopt the TAA program, requires only a 5 percent decrease in sales or production volume for a firm to be designated as eligible for TAA. The reason for the 5 percent decrease in sales/production volume requirement is that if the criterion for TAA is too strict, policy intervention in the firms that are about to go bankrupt may no longer be justified. This shows that the key to an effective TAA policy is the provision of prompt, easy, and effective support while minimizing the firms' administrative burden.

In connection with the problems of the criterion of a 25 percent decrease in sales, Cheong and Cho's (2009) analysis of SMEs, whose financial data are available at the Small & Medium Business Corporation,⁷ showed that firms with a 25 percent de-

7 The Small & Medium Business Corporation is a professional and official organization that provides financial and managerial support for small- and medium-sized industries in Korea.

Figure 5. Opinions on TAA eligibility (unit: %)

Source: Survey by authors.

crease in sales during 2005–07 recorded a 36.6 percent decrease in operating profits. Their analysis of the 2-year sales of firms before they went out of business in 2008 indicated that trade adjustment support criteria must be eased, with the finding that the sales of 2,201 bankrupt firms decreased by 26 percent on average, implying that a 26 percent decrease in sales bankrupts most firms. Samil Accounting Consulting (2008) provides a similar finding that a 25 percent reduction of sale means “very high possibility of bankruptcy,” based on the survey of 1,008 firms of five industries such as chemicals, machinery, electronics, automobile parts, and textiles. Thus, with regard to the possibility of damages occurring, firms should be allowed to apply for TAA support in advance.

The criterion for eligibility for TAA benefits of a 25 percent decrease in sales for 6 months that is stipulated in the TAA Law was set for firms that are facing a serious managerial crisis due to a FTA, but the 25 percent decrease in sales would virtually mean bankruptcy. Bankrupt firms are not eligible for TAA. To enhance the effectiveness of TAA, which is the only way to remedy damages caused by FTAs, the criterion for eligibility for TAA support must be urgently rationalized. Even if the criteria are loosened, a system for strict “trade damage judgment” should be established based on the presentation of proof of a causal relationship and the requirement of “mandatory restructuring” to prevent moral hazards.

5. Estimation of the demand for TAA support

Six years have passed since the Korea–Chile FTA (the first of its kind in Korea) was implemented and four other FTAs are now being implemented in Korea. The surprise is that no credible damage due to FTAs has been reported yet. So far, only six firms have applied for TAA. Five of them have been given TAA status after their claims of a 25 percent decrease in sales or production were taken without serious deliberation of that the decreases were directly due to the FTAs damage, as stipulated in the related laws and regulations.

The Korean government has recorded high performance in “FTA conclusion” but poor performance in the implementation of FTA and the utilization of agreements. A similar phenomenon can be seen with TAA. The application of TAA is linked with the utilization of FTAs, which might increase trade damage. The benefits of FTAs have not yet widely spread throughout the national economy. Particularly, the degree of utilization of FTAs by firms is lower than originally expected, so the priority of the Korean government in its FTA policies should be the enhancement of the degree of FTA use by firms rather than the conclusion of additional FTAs. FTAs with large economic blocs such as the EU and the United States should be implemented soon so that many SMEs can utilize them.

In 2005, when the negotiations on the ASEAN–Korea FTA were underway, Cheong (2005) estimated that TAA would support an average of 192 firms annually for the next 10 years of the FTA's implementation. Only six firms applied for TAA support from 2007 to July 2010, however, and none of these firms proved that they suffered trade damages from the implementation of the FTA with the ASEAN. The reason for this difference can be explained by poor market access under the FTA. Cheong (2005) assumed that in the ASEAN–Korea FTA, all tariffs are abolished immediately after their implementation, but in the actual agreement, an exception to liberalization or long-term tariff abolition is allowed for many items.

According to Cheong and Cho (2009), the actual difference between the preferential tariff in the ASEAN–Korea FTA and the Most Favored Nation tariff is only 1 percent. Under these circumstances, when the cost of meeting the criteria of the rules of origin is considered, it can be said that firms can expect hardly any benefits from the FTA. Regarding poor utilization of the ASEAN FTA (AFTA), Baldwin (2006, 10) states that “given that the margins of preference are razor thin—between zero and 1.5 percent—it is no surprise that AFTA was almost never used.”

The KORUS FTA and the EU–Korea FTA widely differ from Korea's existing FTAs in terms of the scope and width of market access. In the two FTAs, the tariffs on virtu-

ally all items are abolished within 7 years, and upon implementing the FTA, the rate of tariff abolishment is over 80 percent. These FTAs are evaluated to have the most comprehensive market access, even better than NAFTA in many respects. And the United States and the EU have the world's highest levels of manufacturing bases, so trade damages to Korean firms, the international competitiveness of which is relatively weak, are expected to be considerable.

Table 4 shows the estimated number of firms that would apply for TAA in the EU–Korea FTA, which will be implemented in late 2010. The decrease in the tariff rate by period was calculated by classifying all the contents of the tariff concession for manufacturing goods in the EU–Korea FTA by industry, and changes in producer surplus by industry were estimated using the modified Global Trade Application Program (GTAP) computational general equilibrium (CGE) model.⁸ The expected number of firms that would apply for TAA was derived from the average sales statistics of Korean business firms by industry. When the 10 percent decrease in sales criterion was applied, the expected number of firms that would apply for TAA became 2,992. In the early period (0–3 years) of the implementation of the agreement, 1,805 firms are expected to apply for TAA; in the third to fourth years of the FTA's implementation, 583 firms; in the fifth to sixth years, 454 firms; and in the seventh year, 150 firms.

As shown in Table 4, when Korea's FTA with the EU is implemented, trade damages and pressure for restructuring are expected to concentrate on a few industries (such as machinery) and to be mitigated over time. The TAA program should therefore be reorganized to support smooth restructuring adjustments so as to reduce the damage of the harmed firms and to mitigate opposition.

The number of TAA firms might be regarded to be too many, considering current application of TAA supports in Korea. For reference, let's look at the performance of the U.S. TAA program for firms. According to Congressional Research Service (2009), 126–177 firms were assisted under the TAA program for fiscal years 2003–08. On average, 146 firms were assisted each year for this period. Most assisted firms were SMEs, averaging US\$ 10.7 million in annual sales and 81 employees. The EDA provided 52 percent of consulting fees for structural adjustment with the mean value of US\$ 50,816 per firm, which is higher than Korea's TAA program.

8 Controversy can arise over the method of estimating the number of firms designated for TAA, as expected from the implementation of the FTA. For the method that was used in this research, refer to the Technical Note at the end of this paper.

Table 4. Estimated number of TAA applications by industry

	1st–2nd year	3rd–4th year	5th–6th year	7th year	Subtotal
Processed food	0	0	240	0	240
Clothing	16	0	0	0	16
Textile	0	37	0	66	103
Chemicals	0	0	4	0	4
Steel	153	0	0	3	156
Electronics	0	0	0	0	0
Transportation	0	0	0	0	0
Machinery	1,635	546	175	77	2,433
Other manufacturing	0	0	36	4	40
Subtotal	1,805	583	454	150	2,992

Source: Authors' estimations.

Table 5. Trade adjustment assistance, FY2003–08

	2003	2004	2005	2006	2007	2008	Average
Number of firms assisted	162	177	132	137	126	139	146
Avg. firm sales (US\$ millions)	7	12	8	11	11	15	11
Avg. firm employees	68	88	64	91	68	81	77
Govt. share (US\$ millions)	8	9	6	7	7	8	7
Firm share (US\$ millions)	7	8	5	6	6	8	7
Total TAA (US\$ millions)	16	17	11	13	13	15	14
Avg. TAA per firm (US\$)	50,000	48,023	44,697	48,905	56,449	56,827	50,816

Source: CRS (2009, 4).

Note: Government share of TAA Firm program divided by the number of accepted adjustment proposals.

Estimated numbers of TAA firms in Korea (Table 4) seem to be much larger than the United States' TAA firms (Table 5). This can be understood in that the United States has not implemented massive trade liberalization measures since 2000, and those numbers of TAA cases were firms that were affected during the natural course of industrial development. Korea has high trade dependence and the EU is its second largest trade partner. When Korea eliminates its trade barrier for a large economy for the first time via the FTA with the EU, the structural reform pressure may be substantially large, as seen in Table 4.

6. Conclusion and policy implications

Korea's TAA program should be a quid pro quo for the implementation of FTAs by ending political patronage and lowering the threshold of TAA application, so that smooth industrial restructuring, which is the original purpose of TAA, can be attained. With the implementation of the FTAs with the EU and the United States in the near future, Korea's TAA program should be reformed to cope with the rising pressure of structural adjustment. It is difficult to set up the quantitative criterion for applying TAA. What is clear is that we have two extreme cases; 5 percent in the

United States' TAA program and 25 percent in Korea's current TAA program. Considering the opinion of firms shown in Figure 5 and the purpose of TAA, 10 percent of sales/production reduction seems to be reasonable.

The reason why the authorities do not loosen the precondition for TAA application can be summarized in two points. First, they may not recognize the high pressure for structural adjustment under FTAs with large economies, as no substantial trade damage was brought under the implementation of current four FTAs. However, Section 5 of this paper shows substantial expected damage, especially machinery, when the EU–Korea FTA is implemented. If the criterion of 25 percent decrease of sales is kept, many of the trade-damaged firms may go bankrupt under the implementation of the EU–Korea FTA and the KORUS FTA, and TAA will be a “prescription after death.”

Second, TAA has been used as an instrument of political patronage in some sense. From the political–economic point of view, TAA contributed greatly to reducing the social conflicts over FTAs in Korea, especially during the negotiation period for the KORUS FTA. This is because the government came up with the TAA law to persuade people to support FTAs by emphasizing the preparation of supplementary measures for damaged industries. In fact, the Korean government pushed ahead with FTA negotiations with the United States after agreeing with the National Assembly for the introduction of the TAA law.

Now it is time for the government to prepare for the rising pressure of structural adjustment from the FTAs with the EU and the United States, and policymakers should change how the TAA program works. Otherwise, TAA will remain only as political patronage for long time. A similar case was seen in the U.S. Trade Expansion Act of 1962. To weaken political objection against trade liberalization, TAA was introduced for the first time and serious injury from trade was a precondition for applying TAA. As a result, TAA certificates could be given to only few firms for the first 12 years. It took 12 years for the country to make the first change to its TAA program, and in the Trade Act of 2002 the U.S. Congress loosened the TAA program to allow trade promotion authority under the Bush Administration.

The reform of TAA is not limited to the downward adjustment of the application criteria. The core of TAA is facilitating industrial restructuring, so the current financing-oriented support system should be corrected. In the case of the United States' TAA program, direct financial support has not been allowed since 1986, and consulting services are focused on the structural adjustment for TAA firms. The

Urban Institute (1998) reports higher survival rates of TAA-assisted firms than non-assisted firms.⁹

The industries in which trade damages occurred regardless of FTAs must be excluded from the application for TAA. In other words, it should be stipulated that the firms with products in industries in which imported goods account for more than 50 percent of the market cannot apply for TAA. Firms complain about the heavy burden of documentation and other procedures in applying for TAA. A system of determining whether to offer TAA benefits or not after examining the circumstances and conditions, as the United States does, rather than emphasizing proof of damage, should be adopted.¹⁰

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9 The study by the Urban Institute (1998) shows TAA firms had a higher survival rate (84 percent), a higher employment rate (4.2 percent), and a higher sale growth (16 percent) than controlled groups.

10 Whereas the EDA of the United States has an internal analysis program for TAA application, Korea depends entirely on the documents provided by applying firms. Thus, no TAA can be designated without data from firms.

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Appendix: Technical note

At present, much research has been done on trade adjustment assistance; however, there are hardly any studies done on ex ante estimating the number of firms or workers applying for TAA. According to the research of authors, Topoleski (2008), a U.S. Congressional Research Service (CRS) analyst, appears to be the only person who has estimated the number of workers in the service sector who could apply for TAA as the United States expanded the TAA support area to the service sector in 2009. Working on ex ante estimation is a difficult task, and lack of TAA information is also a serious hindrance.¹¹

Therefore, simple methodology was used in Topoleski (2008), who approximated the number of workers who apply for TAA. Topoleski hypothesized that the number of jobs transferred to foreign countries will be almost the same as the number of unemployed workers who apply for TAA based on the fact that 489,000

¹¹ Rosen (2002) pointed out that it is difficult to make researches on TAA since the U.S. Department of Labor or EDA, which is the main organization that deals with TAA, neither collects nor issues data or statistics with which to evaluate TAA.

manufacturing jobs in the United States were transferred to foreign countries from 2003 to 2005, and 450,000 people were allowed to receive TAA support in that period. During the same period, there were 840,000 jobs in the service sector that were transferred to foreign countries, so if TAA support was expanded to the service sector, Topoleski estimated that the workers who would apply for TAA support would increase by 187 percent, or 840,000/450,000. These are the research results the CRS reported to the U.S. Congress and widely utilized as data for devising policies such as the appropriation of budget for TAA.

Our paper uses a simulation method to estimate of the number of TAA-eligible firms. The general forms of the CGE model such as GTAP, which are widely used in the analysis of trade policies, can estimate the volumes of changes in exports and imports, but it does not include the variables or indices necessary for TAA research. Because such positive and negative influences were reflected on the production changes by industry calculated in the CGE model, the trade damage by industry caused solely by the increase in imports can hardly be identified. For the estimation to work, firm-specific microscopic data and industrial level macroscopic statistics on the industries competing with imports are needed, but it is difficult to obtain such statistics.

Thus, in this research, changes in sales by industry caused by the implementation of FTAs were calculated, and the structural equations to estimate the number of firms that apply for TAA are added to the GTAP CGE model. Equation (1) calculates the changes in sales of the domestic firms, and equation (2) calculates the number of firms that apply for TAA. Equation (2) is computed by dividing the value from equation (1) by the changes in sales that enables a firm to apply for TAA. Only when the change in sales is negative will the conditional equation be calculated and a TAA firm comes into being. In other words, if there is no trade damage, the number of firms applying for TAA is zero. The minimum reduction in sales that enables a firm to apply for TAA is calculated in equation (3). It is calculated by a certain rate (policy variable) times the average sales per firm, which is then computed by dividing the sales by industry available in *Statistics Korea* by the number of firms for each respective industry.

Equations for TAA Calculation

$$V_r^i = \theta_r * \sum_j V_{dir}^i * q_{dir}^i \quad (1)$$

$$n_{dir}^i = V_r^i / v_r^i \text{ if } V_r^i < 0, n_r^i = 0 \text{ if } V_r^i > 0 \quad (2)$$

$$v_r^i = S_r^i * \phi \quad (3)$$

where

v_r^i : Change of sales of domestic industry i in region r

V_{djr}^i : Sales of domestic industry i in region r to industry j

q_{djr}^i : Percent change of sales of domestic industry i in region r to industry j

n_r^i : Number of TAA applying firms of industry i in region r

v_r^i : Minimum reduction of sales for qualifying TAA in industry i in region r

S_r^i : Total sales of industry i in region r

θ_r : Parameter for welfare changes

ϕ : Policy variable for TAA