

Analysis of Agricultural Trade Cooperation Path under the Framework of China-Japan-ROK FTA

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Abstract: Due to the geographical proximity of China, Japan and South Korea, agricultural trade has been a sensitive area for a long time, disagreements in the agricultural sector have held up further implementation of the free trade agreement. This article uses the GTAP model to simulate the economic effects after the FTA agreement is reached, the result shows that the hindrance of agriculture to the implementation of FTA is less than the promotion of the overall economic effect of the three countries. Based on the framework of China-Japan-ROK FTA and comparative advantages in the agricultural field, this paper puts forward the agricultural trade cooperation path in the direction of complementary fields and benefit sharing.

1. The introduction

China, Japan and the ROK are major economies in East Asia with a long history of trade among the three countries. In recent years, China, Japan and South Korea to the rapid growth of the two countries export agricultural products mainly labor-intensive, but the price terms of trade, export interests still depend on the quantity, Japan and South Korea have established strict standards for the terms of trade of Chinese agricultural products. Therefore, issues such as trade protection and market opening in the agricultural sector are important obstacles in the negotiation of free trade agreements. The negotiation process of free trade agreement (FTA) of the three countries since 2011 has been a wave of setbacks. This paper analyzes from the field of agricultural trade, analyzes the impact of agriculture on the implementation of FTA, and puts forward the path selection of agricultural trade cooperation [1].

At present, the three countries have different positions on the opening up of agricultural products markets. Japan and South Korea are concerned about the impact on sensitive products after market opening, while China hopes to expand its advantages in agriculture and make up for the weakness of technology-intensive products, and holds a positive attitude towards market opening of agricultural products [2].

In November 2020, China signed "the Regional Comprehensive Economic Partnership" (RCEP) agreement with 14 countries. It is worth noting that before the RCEP agreement, China and Japan did not reach a trade agreement, after China and Japan join hands, the trend of economic and trade cooperation among the "China, Japan and South Korea" will play a driving role. In recent years, Japanese foreign investment in North America and Europe accounts for a large proportion. The large-scale outbreak of the epidemic in the United States will affect the investment decisions of Japanese multinational enterprises. With the acceleration of the resumption of work and production in China, It is expected that Japanese enterprises will return to Asia.

2. Analysis on the economic effect of FTA implementation based on GTAP model

Global Trade Analysis Model (GTAP), developed by the Global Trade Analysis Project (GTAP) led by Professor Thomas W. Hertel of Purdue University, is a general equilibrium model applied in

many countries and departments based on neoclassical economic theory, which is widely used in the analysis of many fields of international trade. This paper uses the tenth edition of GTAP database to simulate and re-division of global countries. The main body of the analysis is China, Japan, and South Korea. The data is simulated based on the scenarios of sensitive industries and bilateral trade agreements, and to analyze changes in various economic and trade indicators after the establishment of trilateral FTA or bilateral FTA .

2.1 Simulation setting:

2.1.1 Trilateral FTA agreement reached

Scenario 1 is set as follows: after the agreement is reached, the tariff will be reduced to zero, the macroeconomic effects of each country's welfare, import and export, GDP changes, output will be simulated and predicted, and evaluate the impact of FTA implementation on each country based on the results of economic and trade changes.

Since there may be different paths in the negotiation of the China-Japan-ROK FTA, this paper considers two ways to transition from bilateral FTA to multilateral FTA: the first way is that the two countries that have established bilateral FTA to directly add one member; The second way is that one of the two countries that have already established bilateral FTA, which establishes a new bilateral FTA with a non-member country, thus forming a wheel-and-spoke FTA structure [3]. Given that the fact that China and South Korea have reached an agreement, Japan's participation is of great significance to the trilateral FTA landing, thus setting scenario 2:

2.1.2 Bilateral agreements: Japan-China FTA, Japan-South Korea FTA

Scenario 2 is set as Japan has reached FTA with China and South Korea, and agriculture is Japan's sensitive industry. Therefore, in scenario 2 simulation using GTAP, agriculture is set as a sensitive industry, and Japan's agricultural tariff is set to be reduced to half rather than zero at one time.

2.2 Using GTAP database to analyze the economic effects of China-Japan-ROK multilateral trade under different scenarios

(1) Analysis of the economic effect of trilateral FTA in scenario 1

Table.1. Analysis of macroeconomic effects of trilateral FTA

countries	Changes in benefits (EV)	Variation of GDP	Changes in terms of trade (TOT)	Export change	Import change
China	7223.82	1577.00	0.20	0.36	0.45
Japan	-360.18	858.00	-0.13	0.40	0.50
South Korea	810.72	1711.50	-0.14	0.80	1.52

Note: The unit of change in welfare level and GDP is millions of U.S. dollars, and the unit of change in other indicators is percentage (%).

Data source: GTAP simulation results. The source of scenario 2 table is the same.

Scenario 1 simulates that after FTA is reached, the industrial tariffs of the three countries are set to 0, as a large exporter, China basically has a surplus in trade with Japan. Although it has been in deficit for a long time in trade with South Korea, the gap is narrowing. Therefore, after the FTA is reached, China's welfare level has increased the most, and South Korea has also increased significantly. As Japan is involved in sensitive industries, it has declined, and a targeted analysis is carried out in Scenario 2; In terms of changes in terms of trade, China has improved, Japan and South Korea have slightly declined. This has a greater relationship with China's economic volume. However, in terms of other indicators, the three countries' GDP changes and import and export ratios are all positive growths. So the implementation of FTA has an obvious effect on the economic and trade promotion of the three countries. South Korea's GDP growth even exceeds that of China, fully demonstrating the economic benefits of the implementation of FTA.

(2) Analysis of the economic effects of Japan-China FTA and Japan-Korea FTA in Scenario 2

Table.2. Changes in agricultural exports in scenario 2

(Unit: %)			
Agricultural products	China	Japan	South Korea
grain	20.26	-0.1	8.83
Animal husbandry and meat products	7.5	-0.06	13.03

Scenario 2 conducted a data simulation for sensitive industrial agriculture, mainly analyzing two major categories of agricultural products, grains, animal husbandry and meat products. From the table, we can see that when Japan's agricultural tariffs are reduced to half, China and South Korea's exports increase is relatively obvious. China's grain exports increased by 20%, and South Korea's livestock industry and meat products increased by 13%. Japan's exports have fallen. The reduction in tariffs will affect the import and export of its sensitive industries, and it will have a small impact on Japan's agriculture, causing it to choose more advantageous products, such as manufacturing, for import and export trade. On the whole, sensitive industries are not a significant obstacle to the FTA of the three countries, and still have a significant role in promoting overall trade. Therefore, the path of scenario 2 can serve as a positive demonstration for the implementation way of FTA.

Table.3. Changes in welfare of each country in scenario 2

(Unit: %)			
The conclusion of the three-country FTA	China	Japan	South Korea
Japan-china FTA, Japan-South Korea FTA	8.82	5.09	-1.37

The table above clearly shows that the welfare level of China and Japan has improved after the reduction of Japan's agricultural tariff, while South Korea has slightly decreased. Due to the competitive relationship between South Korea and Japan in the fields of agriculture, forestry and water, its products structure still focus on high value-added and diversification, and South Korea have signed free-trade agreements with the United States, the European Union and so on, the negotiation attitude is positive. In the future, South Korea is expected to actively carry out regional economic cooperation diplomacy and seek the "wheel axle position" of FTA, due to the barrier-free access to multi-country markets, becoming a hub country often helps a country gain greater economic benefits [3]. Assuming that the China-Japan free trade agreement is reached, South Korea can establish a new bilateral FTA with Japan, since both China and South Korea are actively promoting FTA construction, this becomes another way of implement in the existing bilateral FTA.

3. Analysis of the path for promoting China-Japan-ROK agricultural cooperation

In summary, the implementation of the China-Japan-ROK FTA will promote the overall economic development of the three countries, but the obstacles of agricultural trade cannot be ignored. Based on the above analysis, it is necessary to find a direction in the agricultural cooperation path of the three countries, so as to accelerate the pace of promoting FTA cooperation.

This paper offers options for cooperation from the following aspects:

(1) Establish agricultural trade import and export alliance

Unite agricultural product production enterprises and agricultural product trading enterprises to establish strategic cooperative alliances, aiming at the industrialization of agricultural products. Combining the resources of the regional industry, and innovate agricultural production technology, to form a characteristic agricultural economic cooperation organization, guide supply and demand cooperation between upstream and downstream enterprises, and deepen the integration of industry chain, realize resource sharing and information exchange between enterprises, and achieve economies of scale of the organization.

(2) Industrial division and cooperation among the three countries

The three countries should explore cooperation framework within their respective advantages. First, they should explore space for horizontal cooperation. China has price advantage in agricultural products, while Japan and South Korea have technological and quality advantages. Through trade

cooperation and industrial exchanges, the three countries have continuously promoted the opening of the agricultural product markets of the three countries. The space for cooperation still needs market testing. On the other hand, vertical cooperation is carried out by using their respective advantages, and multinational agricultural enterprises are used to promote the cooperation of the international industrial chain. Raw materials and human resources of China are used for primary product production, while Japan and South Korea conduct deep processing and then sell the finished products to Europe and America through marketing channels, so as to achieve "all-win" in the competition. [4].

Facing the impact of COVID-19, the existing industrial chain of China, Japan and the ROK is facing the possibility of restructuring. We should focus on the comprehensive economic benefits of the three countries, learn from the experience of other countries' FREE trade zones, Learn from the experience of other countries' free trade zones, shelve highly sensitive agricultural product category negotiations, and adopt a step-by-step and classified strategy to reduce tariffs on different agricultural products. As long as the three agricultural products comparative advantage exist, the negative effect of agriculture on overall economic benefits is extremely small, so the achievement of the triple FTA is imperative, from the strategic view, The market opening of agricultural products can get more development space for each country, and cooperation in the field of trade complementary can achieve more longer-term benefits under the FTA framework.

References

- [1] Gao Yan. Join Hands to embark on a New Journey of China-Japan-ROK Economic and Trade Cooperation in the New Era [J]. People's Forum, 2020 (03): 6-9.
- [2] Geng Yejiang, LI Na. A Study on agricultural Products Trade in The Negotiations of China-Japan-ROK Free Trade Area [J]. Economic Issues, No. 10, 2014
- [3] Liu Pengchun, Xin Huan, Chen Cheng. Impact of TPP on feasibility and Construction path of China-Japan-ROK Free Trade Area [J]. International Trade Issues, 2015 (11): 96-108.
- [4] Zeng Y C. The model choice of trade cooperation in Agricultural products market among China, Japan and South Korea [J]. China Market, 2009. 10: 32-33.