The Impact of the Second Phase of China-South Korea FTA Negotiation on China's Service Trade

-- Simulation Analysis Based on GTAP Model

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Abstract: The second phase of China-South Korea FTA negotiation is underway, its main negotiation content is focused on the service trade and investment field, this is the first time for China to carry out the negative list mode of related negotiations, and has made substantial progress at this stage, is expected to sign the agreement in the past two years. However, from the perspective of the second stage negotiations between China and South Korea, there are relatively few studies to analyze the possible impact of the signing on China, especially on various industries of service trade. Therefore, this paper takes the negotiation as the background, takes the service trade as the research object, and on the basis of fully analyzing the development status of the service trade between China and South Korea, uses the GTAP model to empirically analyze the impact of the reduction of service trade barriers in three different scenarios on the macro-economy and service trade of China and South Korea, and draws a conclusion: The conclusion of this negotiation will bring a very obvious positive effect to China and South Korea, and the positive effect will increase with the degree of service trade opening between the two countries, and on this basis, corresponding policy suggestions are given.

Keywords: China-South Korea FTA, GTAP model, barriers to trade in services

1. Introduction

In March 2018, the first round of the second phase of the China-ROK FTA negotiation was held in South Korea. The main contents of this negotiation focused on service trade and investment, which was the first time for China to carry out relevant negotiations in the negative list mode. Up to now, the two sides have conducted nine rounds of formal negotiations and made substantial progress in promoting bilateral trade cooperation. The entry into force of the RCEP at the beginning of this year has provided a broader space for China and the ROK to further deepen economic and trade cooperation. In the first half of this year alone, bilateral trade reached US $184.25 billion, up 9.4% year on year. Against the backdrop of the fragile global economy, China-ROK trade has maintained rapid growth, which to some extent reflects the strong complementarity of the two economies, and also fully demonstrates the great resilience and potential of bilateral economic and trade cooperation.

DOI: 10.54254/2754-1169/67/20241302

Under the RCEP framework, China has promised participating countries, including the ROK, to use the negative list model in the field of investment while granting pre-establishment national treatment. In terms of trade in services, although the positive list commitment is still adopted, China has also promised to submit a negative list bid for trade in services within three years, which provides a good basis for China and the ROK to push forward the second phase of negotiations on the trade agreement. The FTA signed by China and South Korea in 2015 mainly focuses on the field of trade in goods, while the second stage of ongoing negotiations focuses on the field of service trade and investment. Since China has been in a trade deficit in the field of service trade in recent years, this paper will focus on the study of service trade and study the possible impact of this negotiation. Corresponding policy suggestions are given in order to further enhance the level of opening-up and cooperation in China's service trade and push China-South Korea economic and trade relations to a new level.

2. Analysis of Current Situation of Bilateral Service Trade Between China and South Korea

Since China's accession to the WTO, it has greatly promoted the opening and exchange of China's service trade, and the scope of China's service trade industry has been expanding continuously [1]. However, China's service trade started late. At present, some industrial structure has not been rationalized, and the development of industrial sectors is not balanced. The problem of China's service trade deficit is serious, its position in the international service trade competition needs to be improved and the degree of openness of service trade needs to be improved.

In contrast, South Korea has developed rapidly in recent years, and its manufacturing output value has ranked fifth in the world, which has injected a strong impetus to the development of related industries in the field of service trade in South Korea. Its total trade in services has continued to rise, and in recent years it has developed at a rapid rate of almost double digits every year. Compared with the problem of China's service trade deficit increasing, Korea's service trade balance deficit has gradually narrowed, and has turned into a surplus in the past two years.

In the context of the rapid development of the global economy, the exchanges and cooperation between China and South Korea in the field of service trade have deepened, and the total import and export volume has achieved a great breakthrough from 2009 to 2021. The total trade volume of services between the two countries in 2021 has reached a new high on the basis of 2013, and the latest statistics have reached 43.203 billion US dollars.

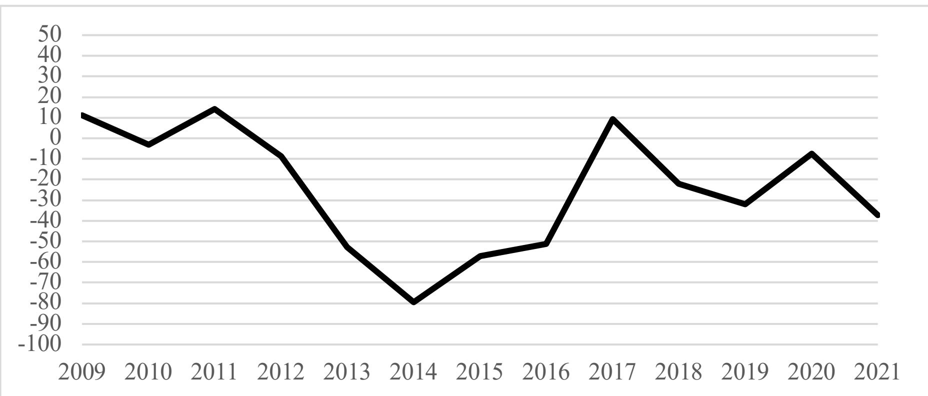

Figure 1: Balance of Import and export of services trade between China and South Korea (unit: USD billion).

China ranks among the top in the world in terms of trade in goods. The total import and export volume has always maintained a good surplus with a strong momentum of development. However, most industries related to trade in services in China have not yet entered the mature stage and progress is slow [2]. In the service trade with the Republic of Korea, it has been in a long-term trade deficit. From 2009 to 2021, China's service trade deficit with South Korea was basically in a state, and the trade deficit reached the maximum in 2014, even approaching 8 billion US dollars. From 2015, the service trade deficit began to decrease. From the above analysis, it can be seen that in the process of trade with South Korea, China's service trade deficit has become increasingly severe. The export capacity of China's service trade is far less than the import capacity, which shows a serious imbalance [3]. The reason may be that South Korea is too protective of local service trade, and the reduction of service trade barriers between China and South Korea is likely to greatly improve this deficit and promote the upgrading of China's service trade industry.

3. Research Methods and Simulation Schemes

3.1. Research Methods

The Global Trade Analysis Project (GTAP) model was invented by Thomas Hurt, a professor from Purdue University in the United States, and has been widely used in quantitative analysis of relevant policies in the field of international trade [4]. This paper uses the GTAP model to analyze the impact of the reduction of service trade barriers between China and South Korea on the macro-economy and service trade of the two countries.

3.2. Setting of Base Year

At present, substantial progress has been made in the second phase of negotiations between China and South Korea, and it is expected that the signing will be completed in the next two years. In order to ensure the timeliness and accuracy of the data of this study, the benchmark time is set as 2022 in this paper.

3.3. Update and Upgrade the Database

In order to ensure the validity of this paper, this paper collects macro-historical data such as GDP, population, capital stock and labor force in Econmap database of CEPII, and updates and corrects relevant data in GTAP database according to Walmsley (2010) dynamic recursion method [5].

Because the research focus of this paper is trade in services, in order to better evaluate the effect of reducing barriers to trade in services, we reduce the tariffs of non-service trade industries to zero.

3.4. Simulation Scenario Setting

Unlike tariff restrictions on goods, non-tariff barriers to trade in services are difficult to quantify. Therefore, this paper refers to Lionel Fontagne et al. 's service industry trade tariff equivalence algorithm to calculate the level of service trade barriers between China and South Korea [6], and uses the data of service trade tariff equivalence between China and South Korea calculated by Wang Shujuan (2022). On this basis, different tariff impacts of different intensity are taken as different scenarios [7]. To carry out an empirical analysis of the possible impact on the macro-economy and service trade of China and South Korea after the signing of the China-South Korea FTA.

Table 1: Service trade tariff equivalence between China and South Korea (unit: %).

Industries	China's service trade tariff is equivalent	South Korea's service trade tariff is equivalent
Construction	40.76	67.62
Travel	45.89	101.15
Public service	91.73	67.21
TRANSPORT	32.39	48.45
Communications	99.04	25.23
finance	12.55	28.74
Insurance	52.41	13.12
Other Business Services	58.56	36.19

Source: According to the data summary in Wang Shujuan (2022)

Scenario 1: The reduction of service trade barriers between China and South Korea is 10%. According to the calculation of Zeng Xuda (2016) [8], the average reduction degree of non-tariff barriers in the FTA is about 10%, so scenario 1 also assumes that China and South Korea have a conservative attitude in this negotiation and the reduction degree of tariff barriers is only 10%.

Scenario 2: The reduction degree of service trade barriers between China and South Korea is 50%. This scenario assumes that the Chinese and South Korean negotiators are more open and agree to gradually remove some barriers to trade in services, initially cutting tariff barriers by 50%.

Scenario 3: China and South Korea reduce service trade barriers to 100%. This scenario assumes that both countries completely remove any barriers to trade in services and initially cut tariff barriers by 100%.

4. Analysis of Simulation Results

4.1. Impact on Terms of Trade

Table 2 shows the impact of the successful negotiation on the terms of trade in services of various countries under different circumstances. The simulation results show that the reduction of non-tariff barriers to trade in services between China and South Korea will worsen the terms of trade of each other and promote the terms of trade in services of neighboring countries, and this impact will be intensified with the increase of the reduction of non-tariff barriers to trade in services.

For the deterioration of the terms of trade in services between China and South Korea, the reduction of non-tariff barriers to trade in services makes it easier for the importing countries of services to obtain the technology needed in the export link of trade, and then on the basis of increasing the export of domestic service trade, reduce the relative price, which leads to the deterioration of the terms of trade in services. In other words, the liberalization of service trade will reduce the comparative advantage of service trade between the two countries through technology transfer, and then lead to the deterioration of the terms of service trade between the two countries. Due to the reduction of the comparative advantage of the two countries, the comparative advantage of the two countries in service trade with the neighboring countries will be relatively increased, so the reduction of non-tariff barriers in service trade between China and South Korea will promote the terms of service trade of the neighboring countries.

DOI: 10.54254/2754-1169/67/20241302

Table 2: Changes in terms of trade under different scenarios (unit: %).

Terms of Trade	Scenario 1	Scenario 2	Scenario 3
China	0.0005	0.0037	0.0136
Japan	0.0004	0.0022	0.0049
Korean	0.0038	0.0143	0.0030
ASEAN	0.0004	0.0021	0.0043
EU	0.0002	0.0009	0.0019
United States	0.0005	0.0024	0.0056
Rest of the world	0.0003	0.0013	0.0024

Source: Collated according to RunGTAP

4.2. Impact on the Import and Export of Service Trade Between China and South Korea

Table 3 shows the changes of import and export of service trade between China and South Korea under different scenarios. The simulation results show that the reduction of non-tariff barriers in service trade between China and South Korea will greatly promote the service trade between China and South Korea.

Table 3: Influences on import and export changes of China and South Korea under different scenarios (unit: %).

Industries	China exports, South Korea imports			China imports, South Korea exports		
	Scenario 1	Scenario 2	Scenario 3	Scenario 1	Scenario 2	Scenario 3
Buildings	5.29	33.59	101.23	3.24	18.64	45.75
Tour	3.38	19.53	48.58	2.51	13.91	32.26
Public service	2.73	15.34	36.29	3.83	22.60	58.35
Transport	1.18	6.22	13.34	3.57	20.81	52.48
Communications	2.29	12.61	28.92	1.13	5.89	12.47
Finance	4.20	25.21	67.47	5.02	31.40	91.50
Insurance	4.22	25.38	68.06	2.99	16.95	40.76
Other Business Services	2.06	11.26	25.43	5.23	33.08	98.81

Source: Collated according to RunGTAP calculations

From the perspective of China's export, the industries with obvious growth are construction, finance and insurance industries, with their growth reaching 101.23%, 67.47% and 68.06% under the condition of 100% tariff reduction.

From the perspective of South Korea's exports, under the three scenarios, the industries with the most obvious growth of South Korea's exports are financial and other business services, which reach 91.5% and 98.81% respectively when non-tariff barriers to service trade are completely eliminated.

According to the analysis of the trend of changes in the import and export of service trade between China and South Korea, we find that the industries with large growth in China include both traditional labor-intensive service industry and construction industry, and finance and insurance industry with high added value. However, the growth of finance and insurance industry is still lower than that of traditional construction industry. It proves that the trade status of China's service industry is still low value-added service trade has more comparative advantages. In addition to the rapid increase of Korea's trade in finance, other commercial services, public services and transportation have relatively large growth, which proves that China and Korea have their own advantageous industries in service trade, and just form a good complementary trend.

4.3. Impact on China's Service Industry Output

Table 4 shows the changes in the output of China's service trade industries under different scenarios. As shown in Table 4, under the three scenarios, the reduction of non-tariff barriers to service trade has a positive impact on the output changes of China's service trade industries. Compared with scenario 1, the output changes of each service trade industry under scenario 2 are more obvious. In addition to the construction industry, the output changes are not obvious under the two scenarios, and other industries have significant changes. Among them, the output changes of tourism service and insurance service are relatively large, rising from 0.0037% and 0.0036% to 0.211% and 0.0205% respectively, and the output changes increase by 0.0174% and 0.01686% respectively. Under scenario 3, the output change of construction service changes from positive 0.001% to negative 0.0016%, and the change amplitude is further increased. Among them, the output of tourism service and insurance service increased by 0.02988% and 0.02901% respectively. In general, except for the construction industry, the reduction of non-tariff barriers to service trade has a positive promoting effect on the output change of China's service trade industries, and it increases with the increase of the reduction degree of barriers.

Table 4: Output changes of China's service trade industries (unit: %).

Output	Scenario 1	Scenario 2	Case 3
Construction	0.0001	0.0001	0.0016
Travel	0.0037	0.0211	0.0510
Public service	0.0015	0.0078	0.0158
Shipping	0.0024	0.0126	0.0267
Communications	0.0017	0.0089	0.0188
Finance	0.0015	0.0081	0.0187
Insurance	0.0036	0.0205	0.0495
Other Business Services	0.0024	0.0130	0.0285

Data Source: Collated according to RunGTAP

5. Conclusions and Policy Recommendations

5.1. Conclusions

This paper first briefly introduces the status quo, research significance, research ideas and basic framework of the second phase of China-South Korea free trade Agreement negotiations, and then combs the research literature related to this paper. On this basis, the current situation of service trade between China and South Korea is systematically analyzed. Then, the GTAP model with updated data is used to simulate different possible tariff reduction degrees after the signing of the second phase of the China-South Korea FTA.

The empirical results show that after the second signing of the China-South Korea FTA, the reduction of non-tariff barriers to service trade of the two countries will promote the improvement of the overall economic level and social welfare level of China and South Korea, and the improvement range will increase with the reduction of non-tariff barriers to service trade. Moreover, it has a positive promoting effect on the service trade scale between China and South Korea, the service trade scale facing the world and the output change of China's service industry. This shows that if the second phase of China-South Korea FTA negotiation is concluded, it will have a very obvious positive effect on China and South Korea, and the greater the reduction of non-tariff barriers in service trade, the more obvious this positive effect will be.

DOI: 10.54254/2754-1169/67/20241302

5.2. Policy Recommendations

First, actively push forward the second phase of China-ROK FTA negotiations. The reduction of tariff barriers in the field of service trade between China and the ROK will significantly promote both countries. Therefore, we should strengthen bilateral exchanges and cooperation and actively push for the early signing of the second phase of the China-ROK FTA.

Second, we should refine the contents of the agreement, follow the principle of easy things first and then difficult ones, and gradually expand the scope of cooperation. Due to the recent turbulence in the international situation, there are still great difficulties for China and the ROK to carry out concrete cooperation in service trade. Therefore, it will be beneficial for the negotiation to find the industries where the two countries have the strongest desire to cooperate and then gradually develop the cooperation in sensitive industries.

Third, through negotiations, we should establish high-standard economic and trade rules that are benchmarked to the world. Summarize the experience of the service trade negotiation with South Korea, promote the reform of domestic service trade system, accelerate the development of domestic service trade related industries, protect vulnerable industries, promote the integration of advantageous industries with international standards, and then promote the progress of China's GDP and welfare level.

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