

A Study on the Development of Chinese Agriculture under the US-China Tariff War and Countermeasures

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Abstract: Since the trade friction between China and the US in 2018, the US has maintained a surplus in agricultural trade between China and the US, and China will also impose agricultural tariffs in response to the US sanctions. The list of tariff increases announced by China and the US in 2018 covers all types of agricultural products traded between China and the US, meaning that agricultural trade becomes an important part of the game between the two countries. Based on the list and the analysis of previous literature, this paper focuses on the development of Chinese agriculture and tries to provide countermeasures. The study finds that the US-China tariff war has both positive and negative impacts on China's agricultural development, bringing benefits to some enterprises and pushing back the development of new foreign trade markets. It has caused losses to relevant stakeholders, increased price volatility of agricultural products, and is detrimental to the development of agricultural foreign trade and the restructuring of agriculture. In the future, the development of Chinese agriculture can be promoted through the promotion of market stability, the continuous optimization of the agricultural structure and the improvement of modernization.

Keywords: Chinese agriculture, development status, countermeasures research, US-China trade

1. Introduction

In 2018, China and the U.S. have increased their tariffed goods four times, and agricultural products account for the largest share of the tariff list [1]. As one of the world's largest agricultural producers and exporters, the outbreak of a tariff war is a double-edged sword for Chinese agriculture. How to seize the opportunities for China's agricultural development under the tariff war as well as find countermeasures for China's agricultural development has become a hot topic of research.

The current study focuses on empirical analysis from various smaller entry points, and a synthesis of the findings reveals that the US-China tariff war has brought opportunities and challenges to Chinese agriculture. In the face of these challenges, some targeted countermeasures have been proposed. To a certain extent, the US-China tariff war has brought opportunities for enterprises and new market development [2]. At the same time, the US-China tariff war had a negative impact on stakeholders and Chinese agricultural prices [3], Chinese agricultural foreign trade [4], the restructuring of China's agricultural industry [5] and the transformation and modernization of Chinese

agriculture [6]. These problems can be addressed in terms of the structure of agricultural trade [7], the structural reform of the agricultural supply side [4], and the degree of modernization [8].

By review the tariff system under the Sino-US trade war and the development of China's agriculture, opportunities and challenges faced by China's agriculture will be analyzed. Then, countermeasures will be provided. This paper hopes to provide reference for the development of China's agricultural modernization.

2. The History of Chinese Agriculture

With a population of 1.4 billion, agriculture is essential to China's economy. Since the founding of New China, China's agriculture has changed from traditional agriculture based on a single cultivation industry to modern agriculture with comprehensive development of agriculture, forestry, animal husbandry and fishery. The main contradiction in agriculture has changed from a lack of total quantity to a structural contradiction. These changes are mainly reflected in the following aspects.

Firstly, the total volume of agricultural products in China has been growing and the variety has become increasingly rich and diverse, and the supply and demand of agricultural products have changed from a long-term shortage to a generally balanced total. However, under the shackles of the small-holder economy and traditional institutional mechanisms, structural contradictions have become increasingly evident, including: high dependence on resource consumption for agricultural development, backward infrastructure and technical equipment, low organization of production and operation, imbalance between supply and demand for some agricultural products, sloppy agricultural development, substandard quality and safety of agricultural products, and weak international competitiveness of agriculture. To date, the situation of "weak agriculture" in China has not been fundamentally changed, and the problems of large but not strong agriculture and many but not good agricultural products have become more prominent.

In addition, with the exception of a few years when imports are transferred, the rest of China's grain comes from local sources. Since China's reform and opening up, especially since its accession to the World Trade Organization (WTO), China has committed itself to integrating the two international and domestic markets and has expanded its agricultural openness to the outside world, becoming the world's most important importer of agricultural products and an important source of foreign agricultural investment [9]. Among them, agricultural trade activities between China and the US are frequent, and the dependence of agricultural trade between the two sides is very high.

3. Impact of the US-China tariff war on Chinese Agriculture

3.1. Challenges for Chinese Agriculture

Firstly, industries that import agricultural products as feedstuffs or intermediate products are facing a difficult situation. The rising cost of raw materials and the consequent increase in production and operating costs will make it necessary for these industries to find alternative products. Difficulties in access, changes in the extraction and processing of new materials, and the fact that the results of their use may not be satisfactory, will all have an impact on their production activities. In the case of the domestic farming industry, for example, if they choose US soybeans, they will have to pay high import duties. If domestically produced soybeans are used, as shown in Table 1, soybean producer prices have started to increase year on year since 2018, indicating that although the US reduced exports to China in 2018 due to trade frictions between the US and China, it has to some extent increased domestic producer prices and cannot avoid domestic soybean price increases. As the increased cost could not be reflected in the final consumption of finished products, it made the domestic livestock farmers' earnings suffer. Meanwhile, trade frictions will break the balance of the domestic agricultural market in the short term. The tariffs imposed on agricultural products as a result

of trade frictions between the US and China will be partially passed on to consumers, resulting in the country facing a phased increase in the prices of some agricultural products such as soybeans, pork and fats, with higher prices leading to a reduction in domestic consumer surplus and the inevitable loss of consumer benefits.

Table 1: China's imports of US soybeans, 2017-2020 (Source: UN database).

Year	Data on China's imports of US soybeans			Amount of US soybeans imported into China			Producer prices year-on-year (%)
	Tonnes (Million)	Increase (%)	Proportion (%)	US\$ (Billion)	Increase (%)	Proportion (%)	
2017	3286	-3.8	24.4	139.5	1.3	35.2	-2.3
2018	1554	-49.4	28.9	70.6	-49.4	18.5	0.2
2019	1702	2.3	19.2	66.0	-7.0	18.6	2.1
2020	2589	52.1	25.8	106.0	60.6	26.8	5.4

Secondly, the United States is the world's largest exporter of agricultural products, and its agricultural prices play a pivotal role in international market prices. Due to factors such as production costs and agricultural subsidies, US agricultural prices have remained low for a long time and are the main driver of low international agricultural prices. In China, on the other hand, with the advancement of industrialisation and urbanisation, arable land resources are becoming increasingly scarce and labour prices are rising, leading to escalating production costs. In this Sino-US trade friction, China's countermeasures in the agricultural sector have hurt its own interests while hitting US trade [3]. Initiating a tax increase on agricultural products exported from the US is likely to further push up domestic agricultural prices, thus triggering inflation. If policy subsidies are adopted to guide farmers to plant scarce domestic agricultural products such as soybeans and corn, the supply and demand of already scarce arable land resources will be further strained.

Thirdly, the increase in tariffs between China and the United States has raised trade barriers, directly leading to an increase in the cost of trade between the two countries and causing a significant reduction in the scale of trade between China and the United States. The damaging effect of the tariff war has had a greater negative impact on China's international trade in agricultural products, with the higher the trade dependency the more severe the negative impact caused by agricultural products [2].

The impact of the US-China tariff war on China's domestic market will mainly be felt in terms of the supply of domestic bulk feedstuffs. In the short term, prices of bulk agricultural products fall, while in the medium to long term it may lead to poor expectations in the domestic market, weak agricultural inputs and abnormal price fluctuations, which in turn will increase the risk factors for China's imported agricultural products and affect market stability [7]. In addition, China's foreign markets have been hit. The United States, in order to protect the interests of its own agricultural producers, has been stepping up anti-dumping investigations into Chinese agricultural products in recent years and imposing higher tariffs on Chinese exports of superior agricultural products to the US, which has had a significant impact on Chinese agricultural and agricultural exporters.

Finally, the US-China tariff war has had an impact on the size, pattern, and structure of agricultural products in China and the US. Specifically, the situation varies by agricultural commodity. For example, cereals such as wheat and corn are in the oversupply category; soybeans, cotton and sugar crops require large imports, with the supply gap for soybeans already reaching nearly 100 million tonnes [1]. As a result of the tariff increase, the supply of agricultural products that depend on imports will fall, leading to higher market prices, which will bring structural changes to China's agricultural imports and exports, and the uncertainty of the situation will make it more difficult to restructure China's agricultural production.

The import substitution effect of agricultural products has exposed a problem in Chinese national agriculture, namely that despite being a large agricultural producer, there is a large annual demand gap for agricultural products [5]. If the tariff war persists, the gap is likely to widen. Inevitably, China's future supply of important agricultural products will require imports from other countries or regions to supplement the demand gap, with structural shortages and structural surpluses co-existing.

3.2. Tariff Wars Present Opportunities for Chinese Agriculture

A certain degree of reduction in agricultural imports is a protection for China's own agricultural products production. It reduces the impact of foreign agricultural products on the domestic agricultural market, helps to maintain higher agricultural prices, ensures farmers' incomes, and at the same time promotes supply-side reforms in agriculture, facilitating the development of agriculture to a higher level of production efficiency [10].

Tariff increases are good for business. A significant part of the agricultural sector benefits from the protection of tariff countermeasures, gaining from the tariff war and increasing production efficiency. The domestic prices of intermediate inputs for some agricultural products fell after the tariff frictions took place. Also benefiting from the US tariff barriers, the output of agricultural products was expanded. In addition, the increase in China's agricultural trade import tariffs led to higher selling prices for US agribusiness products, resulting in poor sales of US agricultural products, which was good news for China's agribusinesses [2].

Forcing the development of new export markets. Under market economy conditions, agricultural tariffs are profit-seeking, and China's international tariff dependence on the US for agriculture is relatively high. After the tariff war, China was forced to shift its international tariff targets for agriculture to other countries. In the long run, the trade friction forced China's agricultural trade to explore broader international markets, accelerating the diversification of agricultural trade and promoting the upgrading of China's trade structure [7].

The outbreak of this trade war between the US and China reflects the urgency of China's agricultural reform, exposing that although China is a large agricultural country, it is unable to solve the problem of aggregate balance in the short term [4]. This helps to arouse the vigilance of the state and the government to deal with the crisis, further promote the reform of China's agricultural modernisation, accelerate the transformation and upgrading of the agricultural industrial structure, and develop a more open and flexible foreign policy, among others.

4. Recommendations for China's Agricultural Development

China has significantly reduced its imports from the US in the year and a half since the tariffs were officially implemented, with a range of negative effects. Making up for this loss will require China to cut back on market stability, the restructuring of Chinese agriculture and the modernization of agriculture.

4.1. Improving the Stability of the Chinese Market

The first suggestion is to activate the emergency protection mechanism for agricultural products to prevent the risk of tariff imbalance and maintain the stability of China's domestic market. Raising the government's minimum purchase price is a way of indirectly subsidizing the returns of agricultural producers. By increasing the returns of agricultural producers, it partially offsets the losses caused by the US China trade friction to domestic agricultural producers [11]. Agricultural producers should strengthen the environmental protection and quality of cultivated land, and gradually establish standardized cultivation areas that are drought resistant, high-yield, and stable [7].

Another suggestion is to seek new chances. For example, China could strengthen economic and trade exchanges with the "the Belt and Road" countries are also important [5]. In addition, to increase the added value of agricultural products, Chinese agricultural product exporters should also fully grasp foreign market conditions and develop new varieties of agricultural products based on market demand to improve their competitiveness.

4.2. Restructuring and Innovating China's Agriculture

The structure of agricultural supply and demand needs to be adjusted. For example, accelerating the upgrading and transformation of agricultural structure, optimizing crop planting and import structures, enhancing complementary advantages with major tariff targets and countries (regions), improving the utilization rate of sugar and oil crop arable land, and increasing supply [5]. At the same time, it is necessary to promote the structural reform of the agricultural supply side, such as developing agricultural products with comparative advantages and stimulating the domestic production of certain agricultural products with high external dependence. In addition, increasing the added value of agricultural products, deep processing of agricultural products, enhancing the production and processing level of value-added agricultural products, and expanding the variety of agricultural products can help break through trade barriers and increase market share.

4.3. Accelerating the Modernization of Chinese Agriculture

The close connection between domestic small and medium-sized farmers and modern agriculture should be strengthened. The model of large country small-scale farmers will exist for a long time. Small and medium-sized farmers have weak resistance to risks, so it is necessary to improve the support system for their transformation and enhance their ability to cope with external shocks. It is also necessary to integrate the power of small and medium-sized farmers through organizational models such as "company+farmers", and achieve an organic connection between small and medium-sized farmers and modern agriculture [6].

Finally, it is recommended to attach importance to technological innovation, such as increasing the quantity of labour-intensive agricultural products supplied by China, and making good use of China's advantageous agricultural products for export to ensure China's food self-sufficiency in the new international environment [2]. Genetically modified technology is responsible for the high quality and low price of US soybeans. China should also strengthen its agricultural science and technology infrastructure and encourage researchers to invest in the development of agricultural science and technology [1]. Moreover, it is crucial to enhance the training of innovative talents in agriculture, actively use modern science and technology, improve agricultural infrastructure, and create a production environment conducive to agricultural development.

5. Conclusion

On the one hand, the China-United States trade war weakened the impact of foreign agricultural products on the domestic agricultural product market. A portion of the agricultural sector has benefited from the protection of tariff countermeasures, gained development opportunities, and improved production efficiency. On the other hand, it exposed problems of China's agricultural reform, provided problem orientation and pushed China to develop new markets for foreign trade. In addition, the tariff war has a negative impact on stakeholders, Chinese agricultural prices, China's agricultural foreign trade, agricultural structure and agricultural modernization. Cross-field integration in agriculture is a hot topic nowadays, and the future research direction could be the cross-field integration in agriculture. Synthetic biology transfers genes from plants to microorganisms for the production of certain specific substances. This has the potential to completely change the current

production methods and production efficiency of certain crops, and has implications for the resilience of Chinese agriculture and the resolution of structural conflicts in agriculture.

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