

The Impact of Multinational Grain Export Restrictions on China

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Abstract: India is an important exporter of rice in the world. In 2022, India's total rice exports accounted for over 40% of the world's rice exports. With India's announcement of restrictions on rice exports, the import price of rice has also increased. As a populous country, although China has high grain production, due to factors such as food security and balancing international trade, China also imports a large amount of grain from other countries every year. Since 2022, many countries, including Russia, Brazil, and others, have also chosen to restrict grain exports due to certain factors. Although China's rice production can make it self-sufficient, the situation for other agricultural products is not the same. If the largest exporting country of some crops with low yields China restricts their export, it will undoubtedly have an impact on China's imports and market, as the difficulty of importing these crops has increased. This article aims to analyze the impact of grain export constraints on China through literature review to demonstrate the impact of grain export restrictions from other countries on China in order to draw attention to the impact of grain export restrictions on China.

Keywords: Grain export restriction, China, Ukraine, Agriculture market, Crop prices

1. Introduction

As the saying goes, food is the top priority for the people. China has a large population. Meeting the food consumption of billions of people is a difficult task. China's grain production is at a high level, but there is a significant gap between production and demand. The total grain production in China in 2022 is approximately 687 million tons, but the consumption is as high as 800 million tons. A problem that cannot be ignored is the high cost of storing grain. Therefore, China needs to import grain from other countries. According to He , as early as 1994, scholars predicted that China would rely heavily on imports for food by 2030, which would boost international food prices significantly [1]. Take rice as an example, according to the article Analysis of the Development of China's Rice Industry in 2022 and Prospects for 2023, since 2012, China's rice imports have continued to grow. Affected by the sustained high prices of corn and wheat both domestically and internationally. Due to factors such as increased demand for rice and feed, China's import demand for rice, especially broken rice, has significantly increased, with the import volume reaching a new historical high and exceeding China's rice import quota [2]. Coincidentally, the export restrictions imposed by major grain-producing countries have a substantial and significant driving effect on international grain prices [3]. So, under such a huge import volume, once the export price of rice is affected by export

restrictions, China's agriculture and economy will be affected in various aspects: whether the government should encourage farmers to plant more rice, whether the quota for crop imports needs to be adjusted, whether to reduce their own rice exports, etc. In addition, food prices are closely related to food security issues. According to Zeng and Liu, the corresponding changes in China's grain prices, grain market transaction costs, and grain supply and demand elasticity are influenced by changes in international grain prices, which in turn have an impact on China's food security. The changes in international food prices come from a series of changes in price mechanisms, markets, and producer and consumer psychology, among others [4]. Therefore, it is necessary to understand the impact of grain export restrictions. Only in this way can people formulate the correct policies to respond to limitations on grain exports from other countries.

2. Influence mechanism of transnational grain export restriction on China

2.1. The impact of the conflict between Russia and Ukraine on China's food import prices

Because China needs to import a large amount of grain, the rise in grain export prices will inevitably have an impact on China's agricultural market. An intuitive manifestation is that the prices of agricultural products consumed by residents are increasing. According to "A Brief Analysis of the impact of the Russia-Ukraine conflict on China's food security", the Russo-Ukrainian War affected the prices of Chinese agricultural products a lot [5]. According to Zeng, most of China's imported sunflower seed oil, corn, and soybeans are produced in Ukraine. Meanwhile, Russia provides China with a large amount of fertilizers [5]. The war between these two countries has had a huge impact on their food exports [5]. People often see Ukrainian ports or airports being damaged by Russia, but shipping and sea freight are also Ukraine's main export transportation methods. These places have been destroyed, and Ukrainian food cannot reach China. At the same time, war will cause damage to infrastructure and food production areas, and it will require a large amount of human resources to be invested in military operations. These factors will all lead to a decrease in food production in Ukraine. In addition, Ukrainians will definitely prioritize whether the food resources are sufficient for themselves, so Ukraine's food exports will inevitably decrease. Russia will also reduce its grain exports due to factors such as sanctions from European countries. Wang also noted that in recent years, the significant increase in land rent, material costs, and the rise in oil prices have all led to an increase in agricultural production costs [6]. China's grain inventory often fluctuates, and a decrease in inventory can cause drastic fluctuations in grain prices [6]. As the saying goes, rare things are precious. Since production has decreased, prices will rise. In this way, as an importing country, China will pay a greater price to buy food.

2.2. The impact of Brazil's export restrictions on the price of sugar in China

Many countries have also imposed restrictions on the export of their own agricultural products in 2022. Brazil is one of them, and its main export commodity is sugar, which is a necessity for people's daily lives. As the world's largest sugar producing country, Brazil produces about 33 million tons of sugar annually, accounting for 1/4 of the global total, and exports account for more than half of the global total sugar exports. In 2022, Brazil spared no effort to break the contract and gradually canceled previously signed sugar export contracts, turning to sugarcane for ethanol production. The decrease in sugar supply in Brazil caused panic in the world sugar market. As the second largest sugar exporting country after Brazil, India has also introduced a plan to limit the maximum export volume of sugar. On May 25, 2022, India announced that it would limit the sugar export volume for the 2021/2022 squeezing season (October 2021 to September 2022) to 10 million tons to ensure sufficient inventory and control domestic sugar prices, exacerbating the tight supply situation in the world sugar market. China has a high dependence on Brazilian sugar imports. China

need to be highly vigilant about import risks. In 2021, China imported 4.6875 million tons of sugar from Brazil, accounting for 82.74% of the total sugar imports. Brazil's conversion to ethanol is expected to reduce sugar production by 70-21 million tons, accounting for 14.93% to 44.80% of China's sugar imports from Brazil. Brazil's use of sugarcane for ethanol production poses a severe test on the availability of sugar in China. Outside of India, most restricted exporting countries have low sugar production, which will not affect the overall global sugar production situation or have a substantial impact on China's sugar safety. As shown in table 1:

Table 1: The situation of sugar trade between major countries implementing export restrictions and China (2021)

Country	Main restricted varieties	China's import scale from export restricted countries /10000 tons	Proportion in China's imports
Kazakhstan	Sugar	0.00	0.00
Moldova	Sugar	0.00	0.00
Ukraine	Sugar	0.00	0.00
Algeria	Sugar	0.00	0.00
Russia	Sugar	0.00	0.00
Lebanon	Sugar	0.00	0.00
Kyrgyzstan	Sugar	0.00	0.00
Pakistan	Sugar	0.00	0.00
India	Sugar	10.70	1.89
Brazil	Sugar	468.75	82.74

However, the high cost of sugar import is inevitable. In the first quarter of 2022, China imported 938000 tons of sugar, although it decreased by 24.6% compared to the same period last year. However, the average import price increased by 39.6%, reaching 3187.2 yuan per ton. In July 2022, the international market domestic sugar prices were 4985 yuan/ton and 5790 yuan/ton, respectively, which were 11.55% and 5.01% higher than in the same period last year [7]. Sugar is not only a daily necessity for ordinary people but also positioned as a strategic reserve by most countries. The constraint on Brazilian sugar exports has undoubtedly caused trouble for China's access to sugar resources.

2.3. Economic impact on China's agricultural market

Grain export limitations will also have an impact on China's economy. The frequent high fluctuations in grain prices in the international market are not conducive to China's stable grain production and supply. Grain producers face not only natural risks but also market risks. With such dual risks, the number of practitioners in grain production has significantly decreased [8]. So when international food prices rise, food production decreases, greatly reducing people's ability to obtain food. In addition, after the rise of international food prices, many countries realized that it was profitable and began to actively seek foreign markets to obtain profits. For example, Japan, as the second largest food importer in Asia, actively invested in food exports and used multilateral cooperation, multilateral economy, and other means to promote international cooperation [8]. However, China has abundant arable land resources, sufficient labor supply, and low costs, gradually attracting overseas expansion of agriculture in other major countries. By participating in crop cultivation, investing in capital, technology and other factors to acquire crops produced by local farmers, China has become a low-cost supplier of various crops to other countries. In this way,

the investment environment for agricultural products in China will be distorted, and the risks of operation will greatly increase.

The foundation of processing enterprises derived from the grain industry is grain, and the high rise in grain prices inevitably reflects food shortages. Therefore, downstream enterprises in industries such as alcohol, starch, and aquaculture will face problems such as high raw material costs and small profit margins, which may even cause direct damage to downstream enterprises. The rise in grain prices can also lead to varying degrees of increase in product prices for downstream enterprises, resulting in a decrease in the target customer base in the market and not conducive to the development of enterprises.

Export restrictions have also had a negative impact on Chinese companies located in Russia and Ukraine. According to Zeng, the conflict between Russia-Ukraine conflict has directly damaged the interests of Chinese enterprises investing in Russian and Ukrainian agriculture [5]. Between 2013 and 2019, China's stock of agricultural investment in Russia increased by 332 million US dollars, which is an increase of 74%. China's largest grain, oil, and food enterprise, named COFCO Group, has firmly ranked among the top three in Ukraine's comprehensive investment in agriculture. In 2014, COFCO International, a subsidiary of COFCO Group, entered the Ukrainian market. Now, COFCO International has 7 strategic support points and 4 grain warehouses distributed along the east west direction of the Dnieper River in Ukraine [5]. According to Zheng, the COFCO Group plays an important role in improving import and export quota management and improving overall efficiency [9]. After the outbreak of the conflict between Russia-Ukraine conflict, Chinese agricultural enterprises in Russia and Ukraine were affected by the conflict, and their production and trade of agricultural products were faced with major obstacles.

2.4. The impact of grain export restrictions on the consumption prices of Chinese residents

The increase in grain prices caused by grain export constraints may also bring some social unrest. Although China is basically self-sufficient in food, its food rations are also absolutely safe. However, in recent years, China's grain imports have continued to rise, and the closing prices per ton of futures such as wheat, soybeans, and corn have also remained unchanged. According to the article Analysis of the Impact and Countermeasures of the International Grain Price Rise on China, compared to the growth rate, it is expected that prices will remain high in the future. This level in turn affects China's price index. According to data from December 2022, China's wheat import volume reached 1.05 million tons, an increase of 6.1% month on month and 12.9% year on year [10]. The import volume of corn reached 870000 tons, an increase of 17.6% month on month. The import volume of sorghum is 100000 tons. The import volume of barley is 370,000 tons, soybean is 10.56 million tons, and rice is 420,000 tons [10]. These data indicate that China's dependence on foreign grain is quite severe, which will bring certain risk adjustments to China's future grain imports and food safety. It may also exacerbate the risk of imported inflation, have an impact on the Chinese economy and cause pressure. In addition, Xu also points out that grain prices are the basis of any other things' prices [10]. Stable prices and food prices mean having strength of a solid 'ballast'. The most intuitive manifestation of the rise in food prices is the rise in prices, the depreciation of currency, and even inflation [10]. This is a very heavy blow to the middle and low-income population, which is not conducive to the long-term stability of society.

3. Conclusion

By analyzing relevant literature, it is found that grain export limitations will have a negative impact on China's grain prices and grain market. Firstly, the implementation of grain export restrictions by many countries, such as Ukraine, Russia, and Brazil, will have an impact on some of China's grain

and crop industries. For example, reducing exports of Russia's oil resources poses a huge challenge in finding alternative sellers. Furthermore, China's economy and agricultural market will also be affected, directly affecting the price of food purchased by residents, resulting in a chain reaction, such as social class conflicts and the inability to guarantee food security. Correspondingly, the Chinese government can implement some countermeasures, such as enhancing people's awareness of being based on the domestic market, accelerating the establishment of a stable production and supply guarantee mechanism, and promoting the strategy of diversified imports to deal with the series of troubles. In short, increasing China's own grain production is a good way to cope with restrictions on grain exports from multiple countries. The yield of crops such as rice is already sufficient to supply Chinese residents. However, people also need to recognize the impact of multinational restrictions on food exports on their own countries. Only by deeply recognizing the problem can people make changes and improve the affected agricultural market.

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