

Influence of RMB Exchange Rate Change on Import and Export Trade of Agricultural Products: An Analysis of External Correction Factors

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Abstract: This paper selects the RMB exchange rate as the explanatory variable, analyzes the main elements affecting the agricultural exports and imports, and analyzes the corrective effect of external factors on its influence. Using the WTO caliber, the scope of agricultural products will be defined as Chapter 1 - 24 classified by HS code, and the annual data from 2005 to 2020 will be selected to study the relationship between various variables. This paper shows that the negative influences of RMB exchange rate fluctuations on agricultural exports is more than the negative effects on imports due to the fluctuation of RMB exchange rate, which will increase China's agricultural import and export trade deficit. At the same time, this paper also puts forward some suggestions on agricultural products to resist the impact of exchange rate and improve their own industrial structure.

Keywords: Exchange Rate of RMB; Upvaluation; Depreciation; Trade deficit; Corrective Action

1. Introduction

Agriculture is the basis of national economic development. China is a major global agricultural power. Agricultural development is not only affected by natural factors, but also closely linked to economic factors such as RMB exchange rate, market price and inflation. Mover, it is concluded that there is a cointegration relationship between agricultural products and RMB exchange rate with a large elastic coefficient [1]. Therefore, it is significant to study the import and export trade of agricultural products in China. As the world trade continues to strengthen and deepen, the influence of RMB exchange rate fluctuation on China's agricultural trade is increasing, and the volume of China's agricultural trade is significantly affected by the change of RMB exchange rate. However, through data comparison, agricultural imports and exports are not always consistent with exchange rate changes, and external factors may have a hindering or amplifying effect on the extent to which they are affected [2].

2. Literature Review

The RMB exchange rate on import and export trade has always been researched. Bi Yujia et al. [1] used the stability test and cointegration test to test the cointegration relationship between various products and the real effective exchange rate of RMB according to the Standard International Trade Classification. Zhang Yu'e et al. [3] defined the scope of agricultural products in agricultural trade. Wang Qi et al. [4] sorted and analyzed four representative classification methods of agricultural products, and compared their advantages and disadvantages. Chen Lixua et al. [5] analyzed the current situation of China's agricultural economic development and proved that the appreciation of RMB will increase the import of agricultural products and reduce the export. Based on the background of RMB exchange rate depreciation fluctuation, Wang Yuru pointed out that RMB exchange rate fluctuation has a negative effects on China's agricultural exports and imports in the short run, and the impact effect on exports is less than that on imports [2]. Its findings differ from the traditional view and the author briefly describes the mechanism of action of the correction factors. However, In this paper, it will continue to explore in depth the role of external factors in hindering or amplifying the outcome of RMB exchange rate affecting agricultural import and export trade along its research direction.

3. Scope Definition

This paper adopts the WTO caliber commonly used in international scope- basic agricultural products including chapters 1 ~ 24 of HS code, except fish and fish products, plus some other products [3]. The Ministry of Commerce and the Ministry of agriculture have also basically defined the scope of agricultural products in accordance with this law. However, the aquatic products have always been one of the agricultural products with comparative advantages in China, which should be included in the statistical scope of agricultural products according to traditional habits. Considering the difficulty of data acquisition and calculation, the agricultural products referred to in this paper are all the contents of chapters 1 - 24 of HS code. There are four categories and 24 sub categories.

According to the CHINA STATISTICAL YEARBOOK, the import and export amount of China's main agricultural products from 2005 to 2020 is shown in Table 1.

Table 1: The import and export amount of China's main agricultural products

Year	Export amount (USD 100 million)	Import amount (USD 100 million)	Import-Export (USD 100 million)
2005	264.62	221.88	-42.74
2006	302.12	236.29	-65.83
2007	354.63	331.99	-22.64
2008	388.30	504.10	115.80
2009	382.37	46L. 74	80.37
2010	476.26	610.16	133.90
2011	586.17	770.26	184.09
2012	610.90	921.67	310.77
2013	653.66	1007.89	354.23
2014	693.63	1081.85	388.22
2015	681.66	1052.93	371.27
2016	711.70	1021.54	309.84
2017	735.82	1152.93	417.11
2018	775.59	1263.49	487.90
2019	769.51	1402.50	632.99
2020	745.26	1623.02	877.76

4. Analysis and Discussion

Table 2: RMB exchange rate (annual average price)

Years	Unit: RMB			
	100 dollars	100 yen	100 Hongkong dollars	100 euros
2005	819.17	7.4484	105.30	1019.53
2006	797.18	6.8570	102.62	1001.90
2007	760.40	6.4632	97.46	1041.75
2008	694.51	6.7427	89.19	1022.27
2009	683.10	7.2986	88.12	952.70
2010	676.95	7.7279	87.13	897.25
2011	645.88	8.1050	82.97	900.11
2012	631.25	7.9037	81.38	810.67
2013	619.32	6.3323	79.85	822.19
2014	614.28	5.8196	79.22	816.51
2015	622.84	5.1543	80.34	691.41
2016	664.23	6.1243	85.58	734.26
2017	675.18	6.0244	86.74	763.03
2018	661.74	5.9890	84.43	780.16
2019	689.85	6.3347	88.05	772.55
2020	689.76	6.4626	88.93	787.55

According to the analysis of classical economic theory, the decline of exports and the rise of imports will lead to the reduction of trade surplus or the increase of trade deficit under the condition of excluding the interference of external factors [5]. As it can be seen from Table 2, from 2005 to 2015, the RMB exchange rate has generally shown an upward trend, and China's agricultural trade deficit was also increasing year by year, which is consistent with the classical theory. However, from 2015 to 2019, the RMB showed a depreciation trend, and China's agricultural trade deficit is still increasing, which is inconsistent with the classic theory. Therefore, this paper speculates that the import and export volume of agricultural products will also be affected by other exogenous variable.

According to the CHINA STATISTICAL YEARBOOK, China's 2005-2020 RMB exchange rate (annual average price) is shown in the Table 2.

4.1. Appreciation of RMB exchange rate

The RMB exchange rate has shown an overall appreciation trend since the implementation of the managed floating exchange rate system in 2005. When the RMB exchange rate appreciates, the local currency appreciates and the foreign currency depreciates relatively. Meanwhile, the relative price of China's export products in the international market increases, the competitive advantage of agricultural export prices decreases and the competitive pressure increases. Theoretically, the export of agricultural products will be adversely affected and the import will have an advantage. Nevertheless, because of the influence of some external factors, the changes of import and export trade volume of agricultural products are different from the results of theoretical analysis.

Because of the high concentration of China's agricultural export market, it is not conducive to dispersing risks. At the same time, China's export products are mostly primary agricultural products. Their own value attributes and value-added are low. And the degree of deep processing is low, the technology content is not high, which leads to product competitiveness is not strong. Consequently, once the exchange rate rises significantly, it will have a big impact on exports. For the import industry of agricultural products, there are some disadvantages such as the shortage of arable land resources, huge population base, low scale of agriculture, and high planting cost, so the appreciation of RMB further increases China's import consumption and promotes the import of agricultural products.

4.2. Depreciation of RMB Exchange Rate

In 2016, the RMB began to depreciate, in other words, foreign currencies appreciated relatively. The prices of agricultural products in foreign currencies rose, and the purchasing power of local currencies in the same currency fell. In theory, agricultural imports should be hit, and exports will have an advantage. However, due to the influence of some external factors, the changes of import and export trade volume of agricultural products are different from the results of theoretical analysis.

For China's import trade of agricultural products, the decline of RMB exchange rate and the relative appreciation of foreign currencies will increase the exchange cost of enterprises importing agricultural products, and the import volume will be reduced in theory. However, due to the tight arable land resources in China and the low scale and mechanization of agriculture, the cost of growing agricultural products is high. Coupled with the huge population base, it leads to a large demand for agricultural products in China. Some kinds of agricultural products such as wheat, corn, soybean and oilseed need to be imported, so the import of agricultural products has rigid demand to a certain extent. Secondly, people's demand for imported agricultural products led to an increase in imported consumption because traditional domestic agricultural products cannot meet the needs of the people, which has a hindering effect on the reduction of agricultural imports. Hence the negative effects of RMB exchange rate depreciation on agricultural imports is very limited, and the import amount of agricultural products still maintains a growth trend.

China is a large exporter of labor-intensive products. Because the technical level of agricultural products is not high, we mainly rely on the price advantage to obtain the foreign market. The devaluation of RMB makes China occupy a considerable share in the international low-end market by virtue of price advantage.

4.3. The "Bidirectional Fluctuation" of RMB Exchange Rate

Since 2019, the RMB exchange rate has been generally stable with the characteristics of "bidirectional fluctuation". In fact, the trade friction between China and the United States has been increasing and escalating since March 2018, which had a great influence on the import and export trade

of China's agricultural products. In recent years, U.S. agricultural exports to China have accounted for a large share (more than 20%) of China's total agricultural imports, which makes China highly dependent on them. After the trade friction, China reduced the import of agricultural products from the United States and increased it from other countries, so the import volume of agricultural products increased instead of decreased. The outbreak of trade disputes between China and the United States caused a global panic of trade friction, which made trade protection prevalent in the short term, and reduced China's agricultural exports.

5. Conclusion and Suggestion

The fluctuation of RMB exchange rate has a obvious influence on the export and import of agricultural products, and the positive impact on the export industry of agricultural products is greater than that of import. At the same time, the fluctuation of RMB exchange rate will have a certain negative effects on China's import and export of agricultural products. Besides, external factors can offset the adverse impact on the import of agricultural products and amplify the adverse impact on the export. Therefore, the negative shock effect of RMB exchange rate fluctuation on agricultural exports is more than that on imports, which indicates that RMB exchange rate fluctuation will increase China's trade deficit and may affect the stability of China's trade balance. This paper predicts the increase of the fluctuation range of China's exchange rate will become a long-term trend with the increasingly close trade contacts all over the world and the deepening of the reform of the RMB exchange rate system.

Therefore, on the basis of providing a more stable external environment for agricultural trade, the anti-risk capacity of enterprises related to agricultural trade should be enhanced to prevent or resolve the unfavorable situation of the agricultural import and export industry from the impact of RMB exchange rate fluctuations. For example, the market should be diversified to prevent the concentration of risk caused by market singularity, which then protect the real gains of agricultural traders. In order to improve the quality of agricultural products and enhance product characteristics, it is necessary to further strengthen the scale and mechanization of agriculture, so as to bring into play the synergistic effect of favorable factors on agricultural trade and reduce the agricultural trade deficit. In the meantime, risk hedging can be realized through agricultural products futures trading to further reduce the risk of agricultural products affected by exchange rate changes. In addition, insurance can be purchased to reduce trade risk, so as to achieve rapid and excellent development of China's agricultural trade.

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