Study on the "Going out" Strategy in Reform of the Supply Front for Agriculture

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Abstract The three rural issues have been always valued by all circles. At present, the main conflict of agriculture in China has been changed from insufficient total amount to structural conflict. Thus, deeply promoting the reform of agricultural supply front has become a primary work in rural areas. It is required to follow the national grain security strategy based on domestic supply and moderate imports, to ensure production capacity. Besides, China should make full use of domestic and foreign markets and resources to protect the domestic agricultural consumption demand, which is favorable for resolving the current structural conflict and also favorable for sustainable agricultural development.

Key words "Going out" strategy, Grain security, Agricultural production capacity cooperation, Reform of the supply-front

1 Introduction

Agriculture takes a fundamental position in the national economy. It provides the necessary food and other agricultural products for survival of human beings and provides a variety of raw materials for industrial production. In recent years, the undertaking of three rural issues continues to improve, agriculture and rural development have made a great breakthrough, and the three rural issues have entered a new historical stage. At present, the main conflict of agriculture in China has been changed from insufficient total amount to structural conflict, which is characterized by the phased over-supply and the shortage of supply. The main aspect of the conflict lies in the supply front. Thus, deeply promoting the reform of agricultural supply front has become a primary work in rural areas. With nearly 40 years of reform and opening up, China has become the world's second largest economy, the largest industrial producer and the largest commodity trading country. In the process of international trade and sharing the development dividends with other countries, China has realized rapid improvement in the overall national strength and the steady improvement in the welfare of the residents and has obtained great benefits. In fact, based on comparative advantage, international trade realizes optimal allocation of resources in the global range, to promote development of industry and service industry, as well as agriculture. The *Opinions of the Central Committee and State Council on Formulating the Outline of the* 13*th Five-year Plan* set forth the important deployment of the development ideas of innovation, coordination, green, open and share, and a good job of agricultural and rural issues in the new era, proposed that in the context of deepening the impact of the international agricultural market, it is required to make full use of international and domestic markets and resources to enhance China's agricultural competitiveness. This deployment is consistent with the objective reality of China's national conditions and the agricultural and rural development at current stage. This research focuses on the new development concept of opening and sharing, and explores the issues related to promoting the development of agriculture by using international and domestic markets and two resources to serve the structural reform of supply front.

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2 Necessities for the structural reform of agricultural supply front

2.1 Structural supply-demand conflict in agricultural field of China At present, the supply and demand structure of China's agricultural products has serious problem of imbalance. Maize and other agricultural products are oversupplied and have the stock pressure, while soybean products have rapid growth in import volume. Since 2007, China has launched the policy of temporary purchasing and storage of maize in the northeast and Inner Mongolia. This policy once played a great role in protecting enthusiasm of farmers for maize production, promoting increase in farmers' income, and stabilizing market fluctuation. However, it also resulted in market distortion and disrupted normal play of market mechanism. Due to reversal of domestic maize price, there appeared problems of rise in the maize yield, import volume, and stock volume, leading to inappropriate allocation of production elements and bringing huge financial burden. At the same time, with the increase in population and the upgrading of consumption structure, there coexists the rigid growth of agricultural products in China and the hard constraints of resources[4]. China imported 81.69 million tons of soybean products in 2015. According to 138.35 kg per mu yield at the same period, it needs 5.9 million mu of sown area, while the actual soybean planting area in the same period was only 100 million mu. Table 1 lists the costs and benefits of the four main crops. According to simple comparison, we can find that soybean production is characterized by low yield, low benefit, and low labor. Under the action of the market mechanism, farmers often plant less soybeans but plant more other crops, so as

to increase the income (in the cost accounting, although the cost of labor is deducted, in the absence of workers, it increased the family income). This is the root cause for continuous rise of import volume of China's soybean but no growth of domestic supply. For countries with abundant resources, such as the United States and Argentina, instead of letting farmland idle, it is better to sow soybean and export to China. Thus, in the case of relatively scarce farmland, importing soybean has some logical rationality.

Table 1 Costs and benefits of four main crops

Operation situation	Rice	Wheat	Maize	Soybean
Yield of main products//kg/mu	492.64	420.79	488.81	138.35
Net profit//yuan/mu	175.40	17.41	-134.18	-115.09
Days of labor employment per mu//day	6.23	4.65	5.95	2.68
Labor cost//yuan/mu	508.59	364.39	468.72	215.16
Net profit per mu plus labor cost//yuan	683.99	381.80	334.54	100.07

Data source: *Compilation of National Cost Benefit Data of Agricultural Products* (2016). The net profit per mu plus labor cost, calculated by us, refers to the net benefit without considering labor employment and price conversion of family employment.

2.2 Arduous transfer of rural surplus labor According to National Bureau of Statistics, China's urbanization rate reached 57.35% in 2016, but it is still much lower than the average level of the European and American developed countries (80%). According to the general theory of economics, the agricultural labor productivity is significantly lower than that of the industry, so the non-agricultural employment is a fundamental path for increasing the labor productivity and promoting the income level of residents. In the context of current global economic slowdown and the rise of trade protectionism, there will be higher difficulty of new jobs and transfer of rural surplus labor. The existence of rural surplus labor not only causes the waste of human resources, but also is not favorable for the improvement of labor productivity in agriculture. Increasing the transfer of rural surplus labor is beneficial to the increase of income of non-agricultural employment population and also favorable for increasing the level of per capita possession in agriculture and ultimately increasing their income.

2.3 Huge pressure of realizing complete self-sufficiency using domestic agricultural resources China's per capita farmland and per capita fresh water resources account for 40% and 25% of the world average respectively, but the constraints of China's farmland and water resources continue to deteriorate, and urbanization continues to occupy farmland, and industrial water squeezes space of agricultural water. It is increasingly difficult to meet the growing demands for agricultural products in China on the basis of the existing farmland and fresh water resources, and it is increasingly difficult to meet the growing domestic demands for agricultural products relying entirely on the existing domestic farmland, fresh water and other resources. These also bring huge pressure to the existing agricultural resources, lead to degradation of farmland, overlift groundwater and non-point source pollution, which have threatened sustainable agricultural development[6,7]. In addition, with years of foreign trade, China has accumulated huge amount of foreign exchange reserves relying on labors, but the corresponding yield of foreign exchange assets is low, which actually inflicts deadweight loss on national welfare. "A national grain security strategy based on domestic supply and moderate imports will be followed. It will ensure production capacity and endorse science and technology." This is the national grain security strategy of China. Under the premise of ensuring the national grain security, satisfying domestic demands through moderately relying on international market and resources is favorable for increasing the overall welfare of residents. This shows that there is excess capacity in production of agricultural products, especially, the transfer of rural surplus labor is arduous, but there is still problem of insufficient supply of agricultural products, such as soybean. It is increasingly difficult to meet growing domestic consumption demands simply relying on the existing domestic agricultural resources. Besides, the huge amount of foreign exchange reserves accumulated through trade surplus has not brought into full play to its role in improving national welfare. How to properly allocate agricultural production factors under the premise of ensuring the grain security has become a significant practical issue, and it is urgent to carry out structural reform of supply front for agriculture.

3 Practical paths for promoting the "Going out" strategy to serve reform of the supply front for agriculture

3.1 Bringing into full play the comparative advantages and carrying out agricultural production capacity cooperation with the aid of foreign resources William (1992) and Wackernagel (1996) proposed the concept of ecological footprint. They calculated the ecological footprint and ecological carrying capacity from the perspective of demand and supply through integrating the resources consumed by each person into a globally unified and productive geographical area. By calculating the difference between the total supply of regional ecological footprint and the aggregate demand, it is able to reflect the contribution of different regions to the present situation of the global ecological environment (which may be negative). The related application researches are very extensive. Tony Allan (1993) proposed the concept of virtual water, which refers to the total amount of water resources required for production of specific commodities and services. In the context of the commercialization of water resources and the globalization of resource allocation, there appear problems of virtual water trade and virtual water flow. A country exports water-intensive products to other countries, equivalent to exporting water resources in a virtual form. Similar to the concept of virtual water trade, virtual farmland is used to indicate the amount of farmland resources required for producing commodities and services. The grain trade between countries and regions can be considered as the import or export of farmland resources in the form of virtual farmland. The per capita farmland and fresh water resources is low in China, but China is

plentiful in funds, abundant in labors, and advanced in agricultural production technologies. Thus, it is workable to carry out many types of agricultural production capacity cooperation with Argentina, Australia, Brazil, Russia, Canada, the United States and other countries in the way through foreign investment, labor output and agricultural technology transfer, to fully use idle agricultural production resources of related countries to satisfy domestic production demands.

3.2 Building a complete agricultural product production chain with the aid of international market According to the theory of comparative advantage, China has abundant labors but relatively scarce farmland. On the basis ensuring the bottom line of national grain security, it is required to focus on the development of industrial crops with less farmland resources and more labors to promote the increase of farmers' income; besides, China should develop vegetable, fruit, flower, herb and other agricultural products with comparative advantages and actively explore the international market[11]. Apart from the international agricultural production capacity cooperation in capital, labor, and technology export, China also can build a complete agricultural product production chain with the aid of our own comparative advantages through vigorously developing agricultural products and actively exploring international market. In fact, an essential reason for continuous growth of soybean import of China in recent years is to satisfy increasingly expanding feed demands, a large portion of which is to produce exported aquatic products or other agricultural and animal husbandry products. In the international trade of soybean, China imports large volume of soybean from the United States, Brazil, and Argentina. We could clearly observe such production - consumption chain: soybean is imported from the United States, Brazil, and Argentina, and pressed to extract oil, Chinese farmers feed various aquatic products and livestock products with soybean meal, then China exports soybean products to the United States and Japan. Similar to processing supplied materials in the manufacture industry, a large portion of China's imported soybean is converted to aquatic products and meat[9]. In this international trade cycle, Chinese farmers (including soybean farmers and farmers engaged in aquaculture) are one party, the farmers of United States, Brazil, and Argentina are one party, and the consumers are one party. Statistical data show that when China imports large volume of soybean, the export of aquatic products increases sharply, and prawns and seafood fishes exported from China appear at the table of the United States, Japan and South Korea. Soybean is land-intensive crop. The United States, Argentina, and Brazil have a lot of idle land, suitable for planting soybean. Aquaculture needs lots of labors, which creates numerous jobs for Chinese farmers. Import of soybean and export of prawns just constitute the international cycle of full use of resources. China's large volume of import of soybean creates a win-win situation. Chinese farmers are benefited from soybean trade. For higher yield, output value, and profit, Chinese farmers have changed soybean to maize and wheat, and some have changed to plant cash crops with higher profit. This is the structural adjustment actively made by farmers under the guidance of the market information. China's farmland has not been reduced due to increase in soybean import, and farmers' income has increased, so why not import soybean? For farmers in the United States, Brazil and Argentina, they have rich land resources, advanced machinery and equipment, fertilizer, pesticides, *etc.*, thus the marginal cost of production is very low. However, due to lack of orders, much of their farmland is left idle. Idle land has no income, but after receiving soybean orders China, they will obtain high profit. They are optimistic about the soybean market, so they have increased soybean production. After several planting seasons, the soybean yield was increased greatly, and the soybean price became stable. The farmers in the United States, Brazil and Argentina obtained jobs due to import of large volume of soybean from China, they increased income and obtained high profit. For the world consumers, China's large volume of soybean import promotes the rise of the international soybean price. On the other hand, China's farmers feed aquatic products using imported soybean and then export to the United States and other countries. This greatly lowers down the price of aquatic products, then families with moderate income also can enjoy affordable shrimps, accordingly improving their living conditions.

4 Potential risks and recommendations for promoting the "Going out" strategy of agriculture

4.1 Potential risks in promoting the "Going out" strategy of agriculture It is a rational choice to promote the "Going out" strategy and the structural reform of supply front for agriculture based on current national conditions. However, this process will not go smoothly and there may be some potential risks and difficulties. From the macro point of view, the potential risks include loosening the domestic grain production, illegally occupying farmland, leading to the decline in comprehensive production capacity of agricultural products; from the microscopic point of view, there may be commercial disputes, cultural conflicts, and price fluctuation, leading to loss in investment. "A national grain security strategy based on domestic supply and moderate imports will be followed. It will ensure production capacity and endorse science and technology." This is an initiative choice on the condition of too high pressure of domestic farmland and fresh water resources. Rotation farming with the aid of favorable conditions is conducive to rehabilitation and sustainable agricultural development. But this exploration needs pilot test first and can not affect the maintenance of China's integrated agricultural production capacity. It is recommended to conduct cooperation in the form of capital, labor and technology output, to promote the "Going out" strategy. Under the market economic system, it is recommended to prevent market risks when carry outing international agricultural production cooperation. Possible market risks include understanding of the laws and regulations of the target country, understanding of humanities and customs, and judgment about domestic and foreign market conditions.

4.2 Recommendations for promoting the "Going out" strategy to serve reform of the supply front for agriculture The promotion of the "Going out" strategy of agriculture is a scientific decision made on the basis of China's national conditions and the current international situation. It is favorable for serving the structural reform of domestic agricultural supply front, improving national welfare, and ensuring national grain security, but potential risks are inevitable. According to the above analysis, we came up

with following recommendations. Firstly, we must always adhere to the strategy of "basing on domestic side" to ensure that national grain security. Grain is both a commodity and a very special strategic material. China's food must be firmly held in our own hands. China's food should mainly contain China's grain. In accordance with the guideline of the central government "basic self-sufficiency of grain and absolute security of grain ration", China should attach great importance to the grain security when adjusting agricultural supply and demand structure. While supporting the structural reform of the supply front for agriculture, China should still ensure the national grain security through various measures. Secondly, it is required to ensure the integrated production capacity of agriculture. Besides, China should also pay attention to continuously consolidating the foundation of modern agriculture and raising the integrated agricultural production capacity. To implement the strategy of storing grain in land and technology, it is required to continuously raise the integrated production capacity of agricultural products through pushing forward the construction of high standard farmland on a large scale, vigorously promoting the construction of farmland water conservancy and strengthening the extension system of modern agricultural science and technology innovation. With the aid of opportunity of high grain supply in both domestic and foreign market, it is workable to explore farmland crop rotation system, which is not only favorable for rehabilitation of farmland and sustainable development of agriculture, but also favorable for balancing the contradiction between food supply and demand and reducing financial pressure. However, this pilot should be based on protecting the national grain security and should not affect the income of farmers, fallow land should not reduce the farmland, conduct non-agricultural, and weaken the integrated agricultural production capacity, and should also ensure yield and supply of grain.

4.3 Strengthening market assessment and taking effective measures to resolve potential market risks and ensure sustainable management International cooperation of agricultural production capacity is faced with complex he market environment. In order to reduce the management risks, it is recommended to take the order management, agricultural futures, deep processing of agricultural products and other measures to help the supply of domestic agricultural products while maintaining the sustainability of business activities.

4.4 Carrying out preliminary research to accurately grasp national conditions of cooperation parties and safeguard the interests For the international trade and international cooperation, it is recommended to carry out preliminary researches about laws and regulations, religious practices and even the natural environment, to accurately grasp the basic conditions of cooperation target countries, make efforts to avoid commercial disputes and other disputes, and protect interests of every party.

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as to attract more private funds. Through loosening the market access and implementing the franchising, it is recommended to encourage social capital to participate, so as to solve the problem of funding source of the quasi-public welfare infrastructure construction. Then, investors are profitable, and it is able to attract more private capital.

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