Discussion on Industry Chain Financing Promoting International Competitiveness of China’s Agriculture

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Abstract Industry chain financing, also known as supply chain financing, is a kind of financial innovation in production and transaction emerging from the 1990s. Recent years, industry chain financing has gradually permeated in agriculture. As one of the major agricultural countries in the world, China should still make great endeavor in satisfying domestic requirement of agricultural products and improving international competitiveness. Based on the empirical and feasible analysis of agricultural industry chain financing, this article emphasizes on the new mode of industry chain financing and puts forward some related policy suggestions to discuss how to quicken agricultural development with financial support as well as promote international competitiveness of China’s agriculture.

Key words Industry chain financing, Agriculture, International competitiveness

1 Present challenges for China’s agriculture

After joining in WTO, China’s agriculture has enjoyed various rights, which is quite beneficial to its development. Meanwhile, China should also bear obligations like tariff concession, reducing or canceling non-tariff barrier and opening domestic market, which also brings impingement on the development of China’s agriculture.

Agriculture will be affected faster than any other department both at home and abroad. Foreign agro-products with powerful competitiveness can directly enter into Chinese market. Although grain yield in China had increased for 10 years successively, achieving more than 600 million tons in 2013, China has become the world largest grain importing country because of the soaring demand. According to statistics provided by Peng Bo, China imported 7.25 million tonnes of grain during the time from January to October in 2014 and most were soybeans, barley and sorghum. The larger grain gap, the easier that agriculture is affected.

Besides, most of agricultural products in China do not possess comparative advantages. Firstly, production cost of China’s agro-products is higher than the world average level, making agro-products at a disadvantage in price. Single household production and small-scaled management cannot create scale economic benefits while domestic farm management in foreign developed countries is relatively large-scaled. According to statistics, agricultural production cost in China is more than twice of the world level. Secondly, agro-products in China have single variety with low quality, low technological content as well as backward processing technique and management. According to statistics, there are only about 10 kinds of tailored flour in China while the figures in Japan and USA are more than 60 and 100 respectively. Furthermore, due to ecological environment deterioration, safety of China’s agro-products is questioned at abroad, which affects the international competitiveness and further results in constant decline in export growth.

Moreover, farmers’ incomes have been seriously affected. Although Chinese farmers’ incomes have been increasing in recent years, the decline of international competitiveness of agro-products has caused less net growth of farmers’ income due to the limitation of resources, ecological environment, scale economy and systematization. After joining in the WTO, the opening up and liberalization of agricultural department has resulted in the shrinkage of planting as well as decline in output and return of agricultural production factors has inevitably decreased. According to the current grain prices and tariff, Chinese farmers’ incomes will decrease by at least one quarter, which will further aggravate the gap between the rich and the poor as well as challenge the stability of China.

2 Empirical and feasible analysis on agricultural industry chain financing supporting agricultural development

Industry chain financing, also known as supply chain financing, is a kind of financial innovation in production and transaction emerging in the 1990s and has gradually permeated in agriculture in recent years. Because of scale economy, agriculture in various countries is under imperfect competition and manufactures have certain monopoly power. Therefore, trade policies do not possess optimality and there is necessity for industry chain financing to support agricultural development, promote industrial growth and increase national benefits. How to cope with the challenges for China’s agriculture, support the high-paced and stable agricultural development and rational use industry chain financing would be an effective choice.

In fact, agriculture in most countries, especially in deve-
oped countries, has already been closely linked with industry chain financing. Since the 1930s, agricultural trade policies in America has emphasized on stabilizing export prices of agricultural products with financial support, which depends on not only production control, export subsidies and import quota to actively interfere in agro-product market but also powerful capital funds to support the whole industry. The most successful country in this field is Japan, where integration of industry and finance has been a tradition. With the experience of wartime shortage, Japan has paid great attention on guarantee of food supply with financial institutions monopolizing administered prices, which is supported by some restrictive measures like import quota and high tariff to keep the prices of rice, beef and other food high above the world level. The European Union has many financial institutions related to agricultural industry, which provide common agricultural policies with price support as the main content in order to maintain the high prices within member countries. These countries and regions have adopted these policies with profound consideration. Firstly, it is the demand of self-sufficient national security because the existence of a country depends on the acquisition of food. Secondly, under the influence of industrial economic development on agricultural production and trade, agro-product trade protection is closely related to national economic development. With the growth of industrial economy, agricultural position has changed. The main factors of agricultural protection are its comparative advantages, agricultural quota in the whole economy and international trade conditions between agro-products and finished products. Lastly, it is the demand of stabilizing and increasing farmers’ incomes. Due to the unpredictable factors like weather, supply of agricultural products is not flexible with more price fluctuations than other goods. Unstable prices results in unstable incomes of farmers while their cost like land, equipment and service is relatively fixed. Therefore, the actual conditions indicate that agricultural industry chain financing is beneficial to agricultural development and can effectively increase international competitiveness.

Based on the above empirical analysis, developed countries have successfully used industry chain financing to protect and develop agriculture and further increase international competitiveness of agricultural products. Under the conditions of imperfect competition and dynamic scale economy, developing countries can also cultivate and support agriculture with the basic ideas of industry chain financing to promote international competitiveness and guarantee more profits from international market. As the largest developing country in the world, China has a huge domestic market, which is a great advantage for implementing strategic industry chain financing.

3 Specific modes of agricultural industry chain financing
The main forms of agricultural industry chain financing are traditional industry chain financing and traditional financing plus futures. In traditional industry chain financing, agricultural enter-

prises are the center while farmers are the front end. Apart from offering traditional business like grain storage and purchasing, agricultural enterprises also provide farmers with a series of value-maintained and value-added service like deterred pricing purchasing, short-term financing and price insurance of stored grain based on enterprise credit as well as farmers’ grain storage. Farmers can directly transfer their grain to enterprises and settle anytime within a certain period, protecting farmers’ benefits. Direct storage and processing can decrease grain wastage by 5% to 10% per ton. Besides, it can also relieve grain shortage caused by storage policies and decrease the raw material supply and production cost of enterprises. Since October, 2004, China has implemented this testing mode of industry chain financing with “grain banks” as the representative. The settlement period is between 9 and 150 days, covering more than 400 peasant households and rural cooperatives. Income increase of price difference, on average, reaches over one thousand yuan per household.

However, in traditional financing plus futures, high risk and frequent price fluctuation are the main obstacle to scale development. Therefore, support from financial instruments like futures, options, insurance and banks is required to form a new financing mode adapting to China’s current economic environment. According to traditional industry chain financing, if listed price on the settlement day is lower than that on the delivery day, the enterprise will offer a new price 10 yuan per ton higher than that on the delivery day while the subsidies would be utterly inadequate to farmers if the price decreases largely. On the contrary, although the increased price is beneficial to farmers, the increased purchasing cost will affect production and operation of enterprises. Therefore, financial instruments and subjects are urgently needed.

Taking industry chain with bank and futures designed by the writer as an example, namely "core enterprises + upstream centralized storage + deterred pricing + bank financing", operation of new industry chain financing is as follows. In the above financing mode, based on the upstream and downstream industry chain and effective orders between agro-product manufactures and farms or farmers, financial institutes segment credit of production enter-
prises which have lines of credit in banks to farms. Then, production enterprises can purchase agricultural products according to orders, establish long positions in futures market and set up prices in advance. Thirdly, the bank can grant loans to farmers based on the segmented lines of credit as well as credit examining and approving system to help them with basic financing requirements including agricultural machinery, farming implements, films, pesticides and seeds. Loans are granted according to chronological process of agricultural production and seasonal factors and directly paid to the suppliers of production materials with financing maturity being between 8 and 10 months, no more than one year. Fourthly, farms collect and store agricultural products. Fifthly, during production and processing enterprises purchasing agro-products at contracted prices, farms regulate the prices of spot goods according to prices of relevant future goods in large manu-
Fig. 1  Industry chain financing involving commodities exchange

Figures. Then, production enterprises close positions in futures market according to the sales volume of farms and production enterprises pay sales funds to farms 2 or 3 days after pricing. Finally, farms repay the loan principal and interest.

Agricultural industry chain financing mode is established through the effective integration of conventional futures pricing in international trade and credit approval of supply chain. Based on the effective orders signed between soybean processing enterprise and farms as well as lines of credit of soybean processing enterprise, the bank provide funds for farms to help farmers purchase production materials during the production. After the purchasing quantity is fixed, the soybean processing industry may open a position through Dalian Commodities Exchange (hereinafter referred to as DCE) and set up the purchasing prices. Farms sell products during the regulated quotational period and soybean processing industry may close the position in DCE. The risk of soybean price fluctuation can be effectively avoided during the whole financing. This financing mode shows the following advantages.

Firstly, farmers’ difficulties in financing can be actually resolved with the financial support during the cultivation of agricultural products. Secondly, through the priced sales in futures market, farms can hold the initiative to choose the prices, which changes the buyers’ “fixed prices” and increases farmers’ income to some extent.

Thirdly, sufficient supply of agricultural products are ensured without occupying the cash flow of production enterprises.

Lastly, the bank provides financing to help farmers with funds problems, which decreases the management cost and risk exposure compared with traditional personal loan and consumption loan.

Based on the above analysis, as a new financing tool, agricultural industry chain financing provides new perspectives for normal commercial financial institutions to support agricultural industrialization. Difference and expression of agricultural industry chain financing should be specifically analyzed in both planting and breeding industry. Besides, financial institutions should develop pertinent products and service based on the comprehensive understanding and analysis of the features of agricultural industry chain in order to relieve inadequate financial support in China’s agricultural industrialization and further achieve the win-win situation of developing finance and solving issues of ”agriculture, farmers and countryside”. The application of agricultural industry chain financing will make great contributions to agricultural development in China.

4 Policy suggestions

Using industry chain financing to promote international competitiveness of China’s agriculture will be the best guideline at the present age. The writer will discuss this problem from the following aspects.

4.1 Supporting key agro-products and establishing brand image

According to statistics from the customs, imported soybeans in China achieved 63.4 million tons in 2013 while imported soybeans between January and October in 2012 arrived at 56.84 million tons, increasing by 13.8%. However, soybean output in China in 2013 only achieved 12 million tons. China mainly produces non-transgenic soybeans with the yield amounting to 250 to 350 jin per mu. Since the cost of imported foreign transgenic soybeans is relatively lower with higher yield, there is no advantage in cost competition for China. Besides, there is no obvious difference between transgenic and non-transgenic brands in Chinese market and farmers have decreased or stopped the plantation of non-transgenic soybeans. Establishing enterprise brands requires a long period as well as adequate capital funds. Operation mode of industry chain of soybean planting, storage and processing is needed, enabling consumers to recognize enterprise brands of non-transgenic soybeans.

4.2 Ensuring security of state grain strategy

Based on the dependence on imported technology, traditional farming in China like raising fish in paddy yield and intercropping will be abandoned. Once farmers are accustomed to easy cultivation with fertilizers, pesticides and transgene, young farmers will lose traditional farming techniques, therefore grain yield in China will be devastated without the support of imported technology. Besides, since cultivated land has adapted to the application of fertilizers and pesticides and then formed relevant soil features, grain yield will decrease drastically without fertilizers and hormones. If there is no pesticides, total yield may be lost in most cultivated land. Moreover, most farmers purchase imported seeds of grain and vegetables, so seeds cannot be collected, especially those of transgenic

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equal cost for the same public goods.

6.2.4 Reforming the social security system, speeding up the connection of urban and rural social security system and build a social security system covering urban and rural residents. It is necessary to strengthen the basic public service system, implement the wage system of "equal pay for equal work", encourage mutual alliance between urban and rural areas, strengthen the interaction of health care resources and educational resources between urban and rural areas, get rid of the existing dual urban-rural profit allocation pattern, and exclude factors not conducive to unified urban and rural security.

6.2.5 Speeding up the household registration system reform so that farmers are no longer subject to "agricultural registered permanent residence" discrimination. When there is no census register restriction, rural residents can enjoy the city’s public goods like urban residents, and freely choose to live in rural or urban areas with dignity. The social welfare level will be improved as the flow costs are reduced and public goods spillover problem is solved, thereby improving the willingness to support coordinating public goods supply in urban and rural areas.

References


4.3 Improving the efficiency of state subsidy State subsidies on agro-products have increased year by year, which mainly focus on high-quality and specialized agro-products, green products and deeply processed agro-products. Subsidies in agricultural production areas mainly focus on middle to low income households in the main production areas of sensitive agro-products. Subsidies on agricultural inputs mainly focus on water and electricity in improved varieties and water-saving irrigation. It should be noticed that efficiency of agricultural subsidies in China is generally low with relatively limited funds. Some coordinating institutions and agricultural guilds assisting governmental departments in investigating and distributing subsidies is usually lagging and non-pertinent. With urbanization and income increase of migrant workers, false planting for defrauding subsidies occurs. However, industry chain financing will attract specialists in related fields and different types of insurance and it also have standard regulation as well as strict supervision on the whole production, which can promote efficiency of state subsidies to the maximal degree.

4.4 Promoting domestic food safety and laying foundation for international competition Safety of agricultural products is the foundation of the existence of agricultural enterprises. In recent years, food safety crisis including milk powder affairs, the drug clenbuterol and the illegal cooking oil have seriously damaged the reputation of China's agriculture, which encourages domestic consumers to seek for imported foreign food. Industry chain financing can collect funds in the shortest term, establish trustworthy brands, resist the effect of agro-product price fluctuation in international market on the prices at home and restrain capital requirement caused by natural disasters, environmental protection as well as structure upgrading.