Rethinking Food Security against the New Situation

Jinqiu Wang[1]
[1] Center for Food Security and Strategic Studies, Nanjing University of Finance and Economics, Nanjing, Jiangsu, 210003
wjqnufe@163.com

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Abstract: Due to the regulation of the international market, the food production and demand relationship in any open country will not be equated with the relationship between food supply and demand. That the international market is used to adjust surplus and deficiency is an inevitable choice for many countries to achieve a balance between domestic food supply and demand. However, recent trade frictions between China and the United States have exacerbated the instability of international food trade. Therefore, it is necessary to actively and moderately and cautiously use the international food market.

1 Introduction

The relationship between supply and demand is a basic concept to be focused on in studying a certain market in economics. Food supply and demand is obviously an important issue to be solved in studying the food market. Scholars pay much attention to it. However, there are still a few key words to consider in studying food issues: food production and demand. In some cases, the relationship between food production and demand is consistent with or equal to the relationship between food supply and demand, but in more circumstances there is a certain difference between the two.

In fact, due to the particularity of food production, studies on the relationship between food supply and demand can not ignore the relationship between food production and demand, and the relationship between food supply and demand and that between food production and production against global economic integration are increasingly different. In recent months, Sino-U.S. trade relations have experienced roller-coaster-like fluctuations, centering on agriculture, causing certain hidden dangers to China's food security, and it is necessary to analyze China's food security in essence. This paper starts with the composition of food supply and demand and food production and demand, distinguishing them, and suggesting certain appropriate concept of China's food security against the new situation and some measures to improve China's food security.

2 The difference between food supply and demand balance and between food production and demand balance

In a closed economy, food supply consists of domestic output and reserve callout, while food demand includes domestic demand and reserve call-in. Equal government reserve callout and call-in will mean the relationship between food supply and demand and that between food production and demand are basically consistent. But in most cases the gap between food production and demand relies on government reserve adjustments. In other words, the food consumed in the current year may come from that not produced in the current year, and the food produced in the current year may not completely used for consumption in the current year. In other words, in a closed economy, the relationship between food supply and demand and that between food production and demand differ to certain extent, though not seriously. In an open economy, food supply includes domestic output and reserve callout, and imports, while food demand expands into 3 components: domestic demand, reserve call-in and exports. International food trade makes the difference between domestic food production and food supply, and that between domestic food demand and food demand increased,

and the relationship between food supply and demand and that between food production and demand inconsistent. To explore the balance of the food market in an open economy, it is necessary to consider government food reserve callout and call-in, and supply and demand of the international market. In other words, domestic food consumed in the current year may come from that produced in other years, or produced in other countries. And domestic food produced in the current year may be provided to residents, enterprises and governments of other countries or some international agencies. Therefore, in the open economy, the relationship between food supply and demand and that between food production and demand are seriously inconsistent.

Judging from the results, the final supply and demand in the food market will reach a state of balance because of reserves or international market adjustments. In other words, food production and demand may be out of balance, but food supply and demand will not be imbalanced. In fact, against current normal international food trade, it is an inevitable choice for many countries to use international food to achieve a balance between domestic food supply and demand. However, the international food market is far more complex than the domestic food market, and plagued with political factors, making food security sensitive and complicated.

3 Rethinking food security

With continuous improvement of the international food trading system and cargo capacity, the annual international food trade volume has increased year by year, currently exceeding 500 million tons, requiring proper adjustment of the food security concept. According to the definition of the Food and Agriculture Organization of the United Nations, food security refers to that “anyone at any time can afford and obtain sufficient, safe and nutritious food to meet their needs for an active and healthy life and preferences for food.” The definition emphasizes consumer satisfaction with food consumption, without requiring food (grain) production sites or imports. In fact, FAO has its definition of food security imply the assumption of free flow of resources and undisturbed international trade freedom (Zhong Funing, 2016). However, judging from recent trade frictions repeatedly caused by the United States, the international food trade has constantly increased its scale as well as its sensitivity of food international trade is constantly increasing as scale continues to expand. Therefore, the above-mentioned assumption is actually not satisfactory. In terms of the global pattern of food production and trade, the increasing disconnection between production areas and consumption areas and the polarization of food trade have made international food trade unstable, and it is not proper to believe the international food market is dependent simply because of trade volume increase. On the other hand, China has increased its food imports year by year. In 2017, China had food imports of 13,062 million tons, including soybean imports of 95.53 million tons. It can be said that the dependence on the international market is serious. In terms of the above 2 facts, it is necessary to use the international food market to protect domestic food security and prevent damage caused by its instability, in other words, making the use of the international market adequate and cautious.

China is characterized by large population, less land and insufficient water resources. It is impossible to select the almost closed mode of internal self-sufficiency food security. Instead, it should select the moderately open internal and external integrated food security mode. Zeng Hong (2005) pointed out that food security had 5 basic connotations. The connotation of economy or price refers to the ability or status of a country or region to obtain the required food from the market (especially the international market) at a relatively small cost. This is very important against normal (non-war) conditions. It is also the most economical choice. However, due to the impact of climate change, biomass energy, traditional energy price fluctuations, speculative capital and even political factors, international food prices have become volatile, uncertain, and risky. In particular, in recent years, the international food prices have witnessed “roller-coaster-like” fluctuations, failing to control international food use risks. Therefore, this paper suggests that at this stage food security should basically rely on the domestic market, improving the domestic food supply capacity and flexibility, and actively, moderately and cautiously use the international market to adjust surplus and

deficiency.

4 Strategies for improving China's food security

(1) Flexible determination of quantitative indicators of food security, and use of the international food market

It is proper to determine quantitative indicators of food security according to the international political environment and supply and demand of the global food market, making the quantitative indicators of food security floatable: Lowering the food self-sufficiency rate in case of the loose international environment and low international food prices, to 86%-92% as proposed by Long Fang and Zeng Fusheng (2008) against the moderately safe food security model. It is proper to import low-cost food to ensure food security, significantly saving land and water resources; Increasing it in case of the tense international environment, and international food price not lower than the domestic food price, to 95% or higher.

(2) Adjusting planting structures and policies

It is proper to focus on cultivation and introduction of high-quality food varieties although disadvantageous, cultivation and technology accumulation instead of reliance on imports, conducting adjustment of planting structures to achieve environmental protection. For example, it is proper to plant potatoes instead of wheat in areas such as northwest arid areas and North China funnel area, saving water resources and regulating the ecological environment.

Against the background of economically using the international market to make up domestic deficiencies, it is proper to domestic food support policies focus on food production capacity instead of actual food production. At present, there is limited room for China to improve food unit yield, and it is very difficult to increase the planting area and accumulate planting techniques. Therefore, to protect or increase food production capacity, it is necessary to maintain or increase soil fertility and agricultural mechanization. It is necessary to properly adjust food price policies, transfer food subsidies to “environment-friendly” factors, encouraging farmers (farms) to conduct fallow, crop rotation, and intention for agricultural machinery. It is necessary to conduct policy dynamic adjustment to achieve flexible control of food production capacity, and capacity to substantially increase domestic production in case of the tightened international food market.

(3) Expanding overseas food production centers, “Storing food abroad”

It is difficult to control changes in the international political environment and global food market. It is necessary to take the initiative to properly use the international food market. The government should encourage food enterprises to acquire and merge foreign food enterprises and establish food production centers in other countries, ensuring required food import in case of the tense international environment or high international food prices,. In addition, food production centers in other countries can ensure the effective supply of domestic rare food varieties.

(4) Improving the forecast and early warning mechanism of international food price fluctuations

The most important factor in the global food market is the international food price. Therefore, it is important for food security to predict fluctuations of domestic food prices. The price fluctuations in the global food market have been weakened and relatively predictable due to trade liberalization (Liu Jianwen, 2004). Some models can be used to forecast international food prices and combine domestic food prices to adjust domestic food production based on forecasted results.

About the author

Jinqiu Wang (1982-), Male, Native of Xiangshui, Jiangsu, Doctor Candidate at the Center for Food Security and Strategic Studies, Nanjing University of Finance and Economics, Research Direction: Modern Food Circulation Theory, Food International Trade.

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