

## The buffer zone of China's rural economy-blockchain technology

Qi Cao<sup>1</sup>, Jiayi Tai<sup>2</sup>

<sup>1</sup>School of Public Finance & Economics, Shanxi University of Finance and Economics, Taiyuan, China

<sup>2</sup>School of Accounting, Shanxi University of Finance and Economics, Taiyuan, China, Taiyuan, China

**Keywords:** China's rural areas; reshaping the economic buffer zone

**Abstract:** China's rural areas are China's natural economic buffer zone. Prosperous cities are more vulnerable than poor rural areas. Agricultural stability is the foundation and reliable guarantee of China's stability. Faced with the sudden increase in the number of unemployed people caused by the global financial crisis in 2008, China effectively used the rural employment capacity of urban unemployed people with rural household registration to return to the countryside, alleviating domestic employment pressures, protecting people's necessary income sources, and inheriting It is China's unique farming civilization, which enhances people's sense of identity and belonging to traditional culture, and is conducive to social harmony and stability. However, with the development of modern science and technology and social progress, the willingness of rural unemployed urban unemployed people to return to the countryside has gradually decreased, and the ability to master farming technology has slowly lost. The role of the economic buffer zone has weakened. This paper analyzes the existing financial situation in rural areas, points out the problems at the current stage, and proposes corresponding countermeasures for reshaping China's financial buffer zone.

### 1. Introduction

#### 1.1 Economic buffer zone

Under certain economic conditions, an economy can hide its adverse effects in a carefully constructed buffer system and weaken the adverse effects. According to relevant data from the National Bureau of Statistics, it can be concluded that the proportion of agriculture in GDP is declining in the marginalization of the national economy, farmers have become synonymous with poverty and backwardness. However, the importance of rural areas to national economic development remains self-evident. It is the blood of China's economic growth and a stable and reliable buffer zone for China's economy.

#### 1.2 China's Natural Economic Buffer Zone

In the early days of the founding of the People's Republic of China, due to commercial construction and external debt pressures, the government's fiscal deficit rose significantly, economic growth was slow, and there was no sustained and sufficient motivation. Therefore, the country uses rural areas in China as a financial buffer zone and calls on the country Tens of millions of young people to go to to the countryside to carry out rural construction to get through difficult times.

In the past 20 years, three trips to the countryside and the countryside have taken on 40 million unemployed urban youths in rural areas, and a buffer zone for socio-economic development has been created.

In 2006, Premier Wen Jiabao proposed to abolish the agricultural tax and subsidize agriculture in the country. The country reduced the burden on farmers, solved the problems of agriculture, rural areas, and farmers, narrowed the gap between urban and rural areas, increased farmers' enthusiasm for farming, and guaranteed agricultural stability. It has reduced social contradictions and is conducive to achieving shared prosperity. It played a specific buffering role in coping with the global financial crisis in 2008, and it also played a buffering role in China's economic modernization.

## 2. The 2008 global financial crisis

### (1) Unemployment rate

Source: United Nations ILO Database

Unit: %

Country	2007	2008	2009
China	4.0	4.2	4.3
Japan	3.9	4.0	5.1
United States	4.6	5.8	9.3
new Zealand	3.7	4.2	6.1
Spain	8.3	11.3	18.0
Korea	3.2	3.2	3.6

### (2) Employment composition by three industries

Source: World Bank Database

Unit: %

County	Primary industry		Secondary industry		Tertiary Industry	
	2008	2009	2008	2009	2008	2009
China	38.1	39.6	27.8	27.2	34.1	33.2
Japan	4.2	3.9	27.9	25.9	67.9	70.2
United States	1.4	1.5	20.6	17.1	78.0	81.4
new Zealand	7.2	6.6	21.9	20.9	70.9	72.5
Spain	4.3	4.2	27.8	24.7	67.9	71.1
Korea	7.4	7.0	25.9	16.4	66.7	76.6

### (3) Agricultural production index

Source: FAO database (1999-2001 = 100)

Country and region	Agriculture	
	2008	2009
World	120.0	121.0
China	128.0	131.0
Japan	97.0	95.0
United States	108.0	110.0
New Zealand	116.0	113.0
Spain	103.0	99.0
Korea	100.0	100.0

According to the analysis of the relevant data of (1), (2), and (3), through the comparison of different countries in the horizontal and different time points in the vertical, we can clearly and clearly see that in the face of the global financial crisis in 2008, the world the economic situation is more severe. Due to the unique advantages of agriculture, China has absorbed idle urban labor force lost due to the financial crisis in a short period, alleviating the pressure on employment in the society, and increasing the unemployment rate in (1) by only one percentage point. (2) The increase in jobs in the primary industry across China has played a role in diluting the unemployment crisis; the increase in agricultural labor forces has increased the input to agrarian production factors, and other contributions (science, technology, funds, etc.) Under changing circumstances, according to Solow's economic growth model, it can be concluded that agricultural output increases, and the farm production index also increases accordingly.

## 3. Reasons for the weakening of the role of rural areas as China's economic buffer zone

### 3.1. The material basis for agricultural development

At this stage, the total amount of agricultural land in rural areas in China is relatively limited, and the quality of agricultural land is uneven due to differences in the distribution of natural factors.

Moreover, the scale of agricultural production in rural areas in China is relatively low, the degree of mechanization of agrarian farming is relatively poor, and the production efficiency is not high.

### **3.2. Difficulty in financing**

On the one hand, the agricultural population in rural areas of China has a small capacity of its funds, and it is difficult to meet the demand for large amounts of funds for agricultural development under current conditions. Besides, the concept of agricultural population is relatively closed and affected by the influence of traditional conservative ideas is mainly unwilling to invest a small number of their funds in the reservoir of the agricultural economy.

At the same time, rural residents' lack of investment concepts and no specific investment and financing training activities will mostly lead to the failure of investment activities and reduce the investment enthusiasm of rural residents.

On the other hand, the agricultural economy has a long production cycle, small profit margins, low capital utilization efficiency, and people in urban areas have a low willingness to invest in idle funds. In contrast, through a rational analysis of input-output, they are more willing to Carry out high-yield investment activities.

### **3.3. Shortage of agricultural staff**

On the one hand, there is a shortage of agricultural planters. With the development of modern science and technology and the progress of society, the unemployed people with rural household registration and urban unemployed people gradually reduce their willingness to return to the countryside, and their ability to master farming technology is gradually lost. Even returning to the countryside will face the risk of unemployment.

On the other hand, there is a shortage of agricultural management talents. The local rural residents have a low level of education and weak scientific and technological farming methods, which make it challenging to meet the needs of science and technology agriculture at this stage. There are more agricultural management talents in cities with high-level education activities, but they are not willing to flow into rural areas because rural areas have lower service levels of infrastructure and supporting facilities than cities.

### **3.4. Weak infrastructure construction and poor ability to resist risks**

Although China has increased its support for rural areas in recent years, there is still a large gap compared with the modernized level of agricultural infrastructure in developed countries. For example, logistics in rural areas of China has its particularities. On the one hand, rural areas in China are vast, and the geographical environment is complex. Most rural areas have distant roads and rugged mountain roads, leading to the construction of transportation infrastructure in rural areas. The difficulty is relatively large, and transportation is difficult to achieve full coverage. On the other hand, China's rural areas are vast, and it is difficult to cover logistics and transportation networks fully, and the market supply is scattered. As a result, the relative cost of logistics and transportation in rural areas is relatively high, and investment returns are poor. At the same time, it is difficult to standardize the management of logistics and transportation. According to the input-output analysis, the incomplete infrastructure construction in the rural areas of China has reduced agricultural production efficiency to a certain extent and increased the circulation cost of agricultural product transportation. At the same time, a large part of it comes from the government's fiscal expenditure, which readily forms inertia in agricultural production in rural areas and inefficient use of funds.

### **3.5. Unreasonable supply and demand for agricultural products**

On the one hand, due to the natural factors such as drought and flood disasters and the social factors of backward agricultural production technology, there is a wide range of fluctuations in agricultural product prices in China's agriculture, which makes the supply of agricultural products appear unstable.

On the other hand, due to the high level of agricultural science and technology in developed countries, the efficiency of output per unit time is high, which reduces the production cost of

agricultural products. Under certain circumstances, the price of agricultural products can be appropriately reduced.

It has a price advantage and has increased the output of agricultural products to China. Compared with Chinese agricultural products (in the process of urbanization and industrialization, the cultivated area of agricultural products in urban suburbs has been reduced, and the sufficient supply of agricultural products has been reduced to some extent.

The supply has decreased, and the price of agricultural products has been increasing. Rural residents have entered cities, and hollowing and aging have occurred in rural areas. From the supply side of agricultural products to the demand side, the demand for agricultural products has increased. Competition, under the condition of congestion, squeezed out a part of China's domestic agricultural product sales market.

#### **4. Promote the development of "Internet + Agriculture" and gradually realize the blockchain informatization in rural areas**

##### **4.1. Increase subsidies and promote smart devices to the countryside to learn from China's successful experience in implementing "home appliances to the countryside."**

Drawing on China's successful experience of implementing "home appliances to the countryside", the Ministry of Finance and the Ministry of Commerce should formulate corresponding policies for the use of intelligent agricultural equipment for the countryside based on repeated investigations. In order to advance the policy steadily and effectively, we will indeed bring together all farmers and implement a pilot program for rural smart agricultural equipment. Based on the pilot, regular evaluations of the effects of policies are conducted, for example the role of expanding domestic demand, improving people's livelihood and promoting the construction of new socialist countryside, and coordinating an effective domestic market. The assessment should be detailed, fully considering the differences in consumption environment and characteristics of consumption levels in rural areas under the premise of China's vast territory, and explore intelligent agricultural equipment with reliable performance, high quality and low price, energy-saving and environmental protection, and easy operation to ensure that At the same time, farmers should be assured of buying. At the same time, full consideration should be given to the low maturity of farmers 'use of agricultural intelligent equipment, and relevant agreements should be signed with the sellers of agricultural intelligent equipment to strengthen and improve after-sales and maintenance services to ensure farmers' confidence. After a comprehensive and meticulous evaluation, it is believed that after implementation, the production enthusiasm and efficiency of production in local rural areas can be improved. The State Council can make a final decision and decide to implement the policy of smart devices going to the countryside across the country.

##### **4.2. Strengthen rural logistics construction and promote agricultural products into cities**

At this stage, logistics construction in Chinese cities and more developed townships and villages have been saturated, but logistics construction in backward rural areas is still a gap in China's all-around logistics construction.

Filling in the "last mile" shortcoming will help promote high-quality agricultural products to enter the urban market, and promote the industrialization and upgrading of products in backward rural areas, which can effectively reduce the income gap between urban and rural areas; by strengthening logistics and distribution in rural areas, etc.

The construction of related infrastructure will help alleviate the dilemma of sales difficulties caused by backward transportation conditions, increase the logistics and transportation resources caused by agricultural product transportation, and can effectively increase farmers 'income to a certain extent, reduce the income gap between urban and rural areas, and increase farmers' income.

The enthusiasm of rural farmers to alleviate the problems of hollowing and aging in rural areas in China at this stage can improve the consumption capacity of rural areas; by accelerating the construction of logistics and warehousing infrastructure in rural areas, a relatively stable industrial

base has been established Strengthened the ability of "blood production" in rural areas, fostered a more sustained endogenous development drive, alleviated the current waste of resource allocation by the government due to excessive "transfusion (financial expenditure)", and laid the industrial foundation for rural areas.

Conducive to promoting rural areas Industry revitalization; through the improvement of the urban and rural distribution system, is conducive to building logical and efficient distribution channels, can effectively reduce the cost of logistics and transport of agricultural products to some extent, and can effectively improve the efficiency of logistics and transport of agricultural products.

## **5. Implement the agricultural product supply and marketing model of PPP multi-party cooperation**

According to the thinking of the blockchain, correctly handle the relationship between the government, enterprises, and individuals, and transfer part of the government's responsibility to social subjects in the form of franchise rights for the supply and marketing of agricultural products.

Social entities have established a community relationship of "benefit sharing, risk sharing and full cooperation," which can effectively reduce the government's financial expenditure to a certain extent, reduce the burden on the government, ease the waste of government input resources, and reduce the investment risk of social entities.

On the one hand, in a short period of time, it effectively and reasonably gathers idle funds from all parties in the society, establishes a comprehensive and effective network chain of production, supply, and sales, strengthens the informatization construction of blockchain in rural areas, and breaks down due to the congestion effect of urban enterprises. At the same time, the bottleneck problem of excessive production input costs, make agricultural products develop in the direction of modernization, technology and scale, realize the industrialized supply of agricultural products, and promote the revitalization and development of rural areas.

On the other hand, the government rationally and effectively transforms government functions, strengthens the construction of a service-oriented government, effectively monitors and manages the production, supply, and marketing of agricultural products, develops its leading role in the operation process, and achieves targeted and fundamental implementation of simplicity.

Delegating power and improving the level and ability of government public services can also increase the level and intensity of information disclosure to a certain extent and achieve adequate social supervision of all aspects of agriculture.

## **6. Create regional characteristic agricultural brands**

Create regional characteristic agricultural brands, increase the promotion of agricultural-related particular brands such as agricultural products, food, and tourism, improve brand effectiveness, enhance the popularity of regional characteristic agricultural brands and regional influence, and improve the agricultural market competitiveness.

On the one hand, the promotion of blockchain in rural areas can effectively understand the high demand of market demanders for the variety, quality, brand, and services of agricultural products, increase the supply of green and safe agricultural products, and make the supply effective and reasonable. To match demand with land and effectively promote supply-side structural reforms in agricultural areas.

On the other hand, it is necessary to strengthen brand awareness through the popularization of the "AR" trademark of agricultural products. After consumers purchase agricultural products, by scanning the relevant "AR" marks, they can efficiently and intelligently understand key information such as the production date, production location, and transportation process of agricultural products, improve the scientific and technological content of products, and enhance the production and management of agricultural operators in agricultural areas benefits, can effectively fix and expand consumer groups, and promote the sustainable and healthy development of characteristic regional industries.

## References

- [1] Persson, Lars Olof, Westholm, Erik. Turmoil in the welfare system reshapes rural Sweden[J]. *Journal of Rural Studies*, 9(4):397-404.
- [2] Hu, Yining, Manzoor, Ahsan, Ekparinya, Parinya, et al. A Delay-Tolerant Payment Scheme Based on the Ethereum Blockchain[J].
- [3] Yi Liu, Jiawen Peng, and Zhihao Yu. 2018. Big Data Platform Architecture under The Background of Financial Technology: In The Insurance Industry As An Example. In *Proceedings of the 2018 International Conference on Big Data Engineering and Technology (BDET 2018)*. ACM, New York, NY, USA, 31-35.
- [4] Chun-Wei Chiang, Eber Betanzos, Saiph Savage. Exploring Blockchain for Trustful Collaborations between Immigrants and Governments[C]// *Extended Abstracts of the 2018 CHI Conference*. 2018.
- [5] Zhang Yanjun, Yang Xiaodong, Liu Yi, Zheng Dayuan, Bi Shujun. Research on the Frame of Intelligent Inspection Platform Based on Spatio-temporal Data. *Computer & Digital Engineering [J]*, 2019, 47(03): 616-619+637.
- [6] Ding, Ding. *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1 || From Ant Financial to Alibaba's Rural Taobao Strategy – How Fintech Is Transforming Social Inclusion [J]*. :19-35.
- [7] Wang, Wenbo, Hoang, Dinh Thai, Hu, Peizhao, et al. A Survey on Consensus Mechanisms and Mining Strategy Management in Blockchain Networks[J].