

Research on the Impact of Agricultural Industrial Structure Adjustment on Agricultural Labor Productivity Based on Trade Channels

Fan Yihan

College of Agriculture, University of Illinois at Urbana-Champaign, Urbana Champaign, United State

Keywords: Agricultural industrial structure; Adjustment; Agricultural labor productivity

Abstract: Since the reform and opening up, although it is said that Chinese agricultural structure is gradually becoming more rational and scientific, from the overall development of Chinese agriculture, there are still low economic benefits, unbalanced structure, and there is a certain disconnect with the development of the secondary industry and the tertiary industry. In the 21st century, agriculture is still the foundation of national economy. Without the agricultural labor productivity that exceeds the needs of agricultural workers, there will be no independent development and leap of industry, nor the realization of industrialization and sustained economic growth. Based on the trade channel, this paper adopts a combination of theoretical analysis and empirical analysis to study the impact of agricultural industrial structure adjustment on agricultural labor productivity, explore the adjustment of agricultural industrial structure in the new era, and improve the effective countermeasures of agricultural labor productivity.

1. Introduction

The basic way to solve the “three rural” problems is to take the road of agricultural modernization with Chinese characteristics and transform “weak traditional agriculture into a high productivity economic sector” [1]. At this stage, the economic development in rural areas is rapid. With the guidance and assistance of the Party and the state, the industrial structure in rural areas has been effectively adjusted. Rural areas can also give full play to their regional advantages, characteristic products advantages, cultural resources advantages, brand advantages, etc. Without the growth of agricultural labor productivity, it is impossible to realize the non-agricultural transfer of agricultural surplus labor force and the sustained growth of farmers' income, let alone the realization of agricultural modernization [2]. The most important reason is to realize the increase of farmers' economic income as soon as possible, and promote the rapid development of rural economy as soon as possible. At the same time, it is also the objective requirement of Chinese accession to the world trade organization to comprehensively increase the international comprehensive competitiveness [3]. The idea of agricultural industrial structure adjustment can refer to the idea of industrial economic structure adjustment and Optimization in China, and introduce modern industrial management methods into agriculture, so as to realize the rapid improvement of agricultural labor productivity. Although there are some deficiencies in the adjustment of agricultural industrial structure, the overall development trend is good.

In recent years, China has been adjusting the structure of agricultural industry, and has achieved some results. However, due to the influence of many factors, there are still some problems. If they can not be solved in time, they will have a bad impact on the development of Chinese agricultural industry [4]. In an economic entity, in every specific stage of economic development, the industrial sectors that make up the national economy are quite different. The composition of various industrial sectors, their relationship and proportion are different, and their contribution to economic growth is also different. The core of the “three rural” problem is the increase of farmers' income. The improvement of agricultural labor productivity is an important way to increase farmers' income [5]. The labor-saving agricultural development path improves labor productivity through advances in mechanical technology, while land-saving roads increase land productivity through advances in biotechnology. In the 21st century, reform and opening up have developed in the depth direction. The market-oriented economic operation mechanism has been established, and the living standards

of urban residents have been greatly improved. Relatively speaking, the income level of rural residents is still low and the growth is slow [6]. The growth of agricultural labor capital is an important reason for the growth of agricultural labor productivity. It is analyzed whether the investment in agricultural products and food processing industry further affects the safety of agriculture and food processing industry through trade channels, etc., and provides a new perspective for promoting the healthy development of related industries in China.

2. Basic Understanding of Adjustment of Agricultural Industrial Structure

2.1 The definition of the adjustment of agricultural industrial structure

China is a traditional agricultural country. In recent years, with the acceleration of industrialization and urbanization, Chinese traditional agriculture is gradually changing to modern agriculture. Adjustment of agricultural industrial structure refers to the process of adjusting the production structure of existing agricultural products according to the changes in the market demand structure for agricultural products so as to ensure the coordination of agricultural production and market demand [7]. Structural adjustment is the third source of economic efficiency growth. When the production structure adapts to the change of demand structure and the production factors change from the low productivity department to the high productivity department, the economic growth can be accelerated. These production sectors, affected and restricted by various factors, will show great differences in growth rate, employment, proportion in the total economic volume, and the role of promoting economic growth.

2.2 An analysis of the reasons for the adjustment of agricultural industrial structure

2.2.1 Adjustment of agricultural industrial structure is the objective requirement of agricultural development

With the rapid development of Chinese economy, the productivity level of Chinese agriculture has been greatly improved, and the supply-demand relationship of agricultural products has also changed greatly. The constraints on agricultural development are not only a single resource constraint, but also a dual constraint of resources and demand. Because they are limited to the natural growth process, the production cycle is also relatively long [8]. The industry and service industry can use advanced production equipment and scientific research technology to significantly reduce the production cycle. To expand the scale of agricultural production in time is the fundamental problem of realizing agricultural modernization in coastal areas. The agricultural modernization from the perspective of agricultural technology expounded by agricultural experts is undoubtedly absolutely correct for small farmers, but also for large farmers [9]. Driven by good economic development, the lives of urban and rural residents have undergone great changes. Their pursuit of life is no longer just to solve the most basic problem of food and clothing. They pay more attention to the quality of life, which leads to the consumption structure. Variety. When the scale of the organization increases, the transaction cost decreases and the management cost increases. Therefore, the size of the organization depends on the balance between transaction costs and management costs [10]. Agriculture has gradually shifted from addressing the need for food and clothing to adapting to the higher requirements of entering a well-off society, from simply pursuing quantity and speed to the track centered on improving quality and efficiency. Especially under the current market economic system, government functions have been transformed, and market regulation has become a necessary means of restructuring the agricultural industry.

2.2.2 The adjustment of the agricultural industrial structure is to further expand the requirements for agricultural opening up

The country's agriculture must not only improve production efficiency, but also pay attention to the improvement of product quality. At the same time, it also requires further strengthening of marketization, taking agricultural production as an important part of the market economy and producing according to the demands of the market economy [11]. With China becoming a member

of the World Trade Organization, agriculture has also shown an increasingly obvious international trend. Only high-yield and high-quality agricultural products can achieve high income. It is necessary to take the market as the guide, to do a good job in the construction of information networks inside and outside the market, and to use online information sharing to guide production and sales [12]. Therefore, we should not only meet the needs of the domestic market, but also adjust and optimize the structure of the agricultural industry according to the needs of the international market, so as to make good use of strengths and avoid weaknesses, and comprehensively enhance the comprehensive competitive strength of Chinese agricultural products in the international market.

For a long time, the consumption and growth of agricultural energy have not attracted enough attention, because the proportion of energy consumed by agriculture to the total energy consumption is not high relative to the secondary industry, but we must see that the absolute consumption of agricultural energy is increasing year by year (see Figure 1).

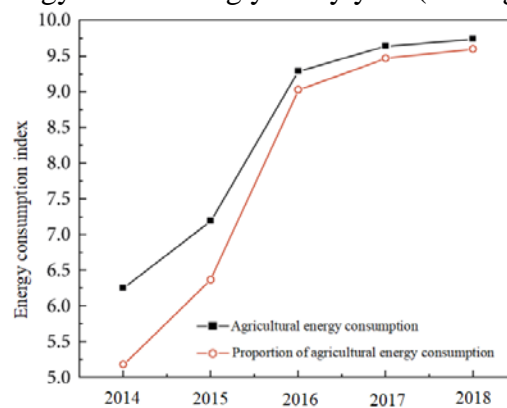


Figure 1 Agricultural energy consumption and its proportion

It is necessary to reverse the traditional concept of agricultural production, establish the modern concept of large agriculture, and strengthen the efforts to cultivate the farmers' awareness of market economy, so as to change the current passive dependence on the market into active occupation of the market. To adapt to the consumption structure, it is necessary to adjust the agricultural industrial structure, produce new food that consumers like and increase the food consumption expenditure of residents, so as to promote the market expansion of agricultural products.

2.2.3 The adjustment of agricultural industrial structure helps to increase farmers' economic income

Judging from the current actual situation, if farmers want to further increase their economic income, simply relying on increasing the quantity of agricultural products or raising the price of agricultural products may not be realized [13]. As a measure of the effect of agricultural structural adjustment, actual labor productivity studies the impact of changes in crop production, forestry, animal husbandry and fishery on agricultural labor productivity [14]. In this regard, the government should further promote the rural land transfer system, promote the development of large-scale business models, actively change the mode of agricultural management, and rely on farmers' professional cooperatives to centrally transfer land [15]. For the funds of the state to support the development of agriculture and the adjustment of agricultural structure and other projects, the responsible units and persons of the projects shall be given economic responsibilities, and those who do well and achieve benefits shall be rewarded or shared. On the basis of the resource advantages of all regions, we should intensify the work of production division of high-quality agricultural products, scientifically determine the production bases of different varieties of high-quality products, such as grain, cotton, oil and fruit, constantly improve the quality and quality of agricultural products, and constantly develop new products, so as to better meet the high-quality and diversified market demand, and finally realize the growth of farmers' economic income.

3. Major Contradictions in Current Agricultural Industrial Structure

3.1 The contradiction between short-term benefits and long-term benefits

In agricultural production, most Chinese farmers only pay attention to immediate interests and ignore long-term interests. In addition, the transition from a planned economy to a market economy is not long. When the host country's agricultural products are highly dependent on the exporting and investing countries, the influence of the market demand of the investing countries on the country's agriculture will continue to deepen, which will lead to increased uncertainty in agriculture itself. In the early days of Chinese reform and opening up, the household contract responsibility system with remuneration linked to output has greatly encouraged farmers' enthusiasm for production, solved the problem of food and clothing for the first time, and actively promoted the rapid improvement of the living standards of urban and rural residents. There is no "grand unification" based on the reality of structural adjustment of one county, one township (town) and one village. Some farmers are lack of initiative and enthusiasm for the adjustment of agricultural industrial structure, and have resistance to the adjustment of industrial structure [16]. Therefore, in the economic battlefield of agricultural production, which has the largest area, the largest population and the widest coverage, and is both simple (sowing and harvest) and complex (the situation varies greatly from place to place), it seems to be at a loss. With the continuous improvement of the degree of marketization, the main body of Chinese agricultural products export is also moving towards a far-reaching development [17]. The status of foreign direct investment enterprises in the export trade of agricultural products is rising, and the proportion of export of agricultural products is also increasing. All kinds of data show that the impact of foreign investment on Chinese export of agricultural products is deepening day by day.

3.2 The contradiction between government behavior and farmers' production behavior

Since the reform and opening up, China has actively participated in the global economic integration and trade liberalization, and the degree of opening up in the field of agriculture has been increasing. After Chinese accession to the WTO, the tariff of agricultural products in China has dropped significantly, and the main body of agricultural products import trade has diversified. In this technological revolution, developed countries took the lead in realizing agricultural modernization by virtue of their strong industrial foundation and advanced science and technology [18]. When the superstructure adapts to the development of productive forces, the government's behavior is generally the representative of advanced productive forces. As a whole, it can guide the masses to develop production and promote economic construction. In some places, the adjustment of agricultural industrial structure has not been adapted to local conditions. Most of the projects for the adjustment of agricultural industrial structure are located in places with convenient transportation. For the purpose of inspection by superiors, the purpose is to highlight political achievements, pay attention to form and ignore actual results. The agricultural labor productivity has improved rapidly. However, Chinese agricultural development is also facing the challenges of imbalanced variety structure, resource and environmental constraints, and consumption structure upgrading. The main contradiction of agriculture has changed from insufficient total to structural contradiction. Subjectively, the government always wants to actively support the masses to develop production, increase income and improve living standards, which may be counterproductive objectively. The institutional arrangement between farmers will also affect agricultural labor productivity due to their different transaction costs. Therefore, agricultural labor productivity will depend on per capita scale, land productivity and institutional arrangements.

3.3 The contradiction between market demand and market forecast

According to the specific national conditions of our country, Chinese agriculture is gradually moving towards modernization. However, due to the government's long-term policy preference for industry, coupled with the long business cycle and high risk characteristics of agriculture itself, Chinese agricultural development has been facing the bottleneck of capital shortage. Therefore, in

the view of farmers, the relationship between production and market is not very close, which is formed in thousands of years. Under the traditional planned economy system of our country, agriculture is under the protection of the government. Farmers are only responsible for the production process. They don't care about what they produce, how they sell and how they price them. The adjustment of agricultural industrial structure also relies on administrative orders. Local governments continue to use the previous administrative orders to adjust the structure of agricultural industries, which are of a coercive nature and do not play the guiding role of government departments. Although farmers' market awareness has been strengthened, there is still a big gap with the requirements of understanding and grasping the market. Even the grass-roots government staff or economic managers are not very familiar with the market and can correctly grasp the market changes. Judging from the development trend, world agriculture is gradually transforming from a labor-intensive industry driven by traditional factors to a capital-intensive and technology-intensive industry. This transformation mode makes the level of agricultural science and technology in a country determine the agricultural productivity to a large extent. Therefore, it can be said that without the progress of science and technology, there will be no agricultural development, and there will be no agricultural leap without the breakthrough of science and technology. Chinese agricultural development must also rely on the progress of agricultural science and technology in order to give full play to its late development advantages.

3.4 Modern agricultural economy and the spear of traditional mode of production

Market oriented and benefit oriented is the direction of modern agricultural development. The main way of development is to make full use of the advanced science and technology in the world, exert local advantages, optimize resource allocation, and carry out specialized and intensive production. However, the purpose of most farmers' production is still to meet their own basic survival needs, and agricultural production is not regarded as an effective way to change the current situation of life and improve the living standard. The agricultural production structure of each region is repeated, the products are the same, the regional distribution is unreasonable, and the local characteristics are not obvious. In order to meet local needs, many places in China have to develop their own unsuitable agricultural projects. At present, Chinese agriculture coexists with its requirements. It is a long-term (except for a few agriculturally advanced areas) traditionally backward production forms. First, it is based on planting, with the aim of self-sufficiency, so the production is extensive and disorderly. There is a lack of necessary knowledge of the market. Under the family business conditions, the supervision mechanism is internalized to the family members, and the distribution effort disappears, thus maximizing the savings of supervision costs and management costs. The adjustment of agricultural industrial structure pays one-sided attention to learning from the experience of other countries. Instead of combining the actual situation of the local area and starting from the actual situation of local farmers, traditional agricultural economic structure and market price changes, it is urgent to make quick achievements and instant profits, which results in the adjustment of agricultural structure with no real name.

4. Analysis of the Impact of Agricultural Industrial Structure Adjustment on Agricultural Labor Productivity

4.1 Consumption structure promotes the adjustment of agricultural industrial structure

In recent years, China is continuously promoting the adjustment of agricultural industrial structure, helping rural areas to realize industrial transformation and development, and has achieved outstanding results. It has helped rural farmers bring real economic benefits and promoted the social and economic development in rural areas. Compared with other industries, agriculture has an inherent characteristic: the income demand elasticity of agriculture is decreasing, therefore, the proportion of food expenditure in income will decrease with the increase of income. As we all know, China is a big producer of apples, and its annual output of apples ranks first in the world. This also enables Chinese apples to have a price advantage in the international market. Therefore, it is the

primary task of agricultural science and technology workers to promote advanced technology, support the adjustment of agricultural structure and effectively improve the living standards of farmers. Direct investment will affect the safety of the host country's agricultural industry through trade channels, establish high-quality product brands, and gradually form brand awareness, so as to drive the overall improvement of the quality of bulk agricultural products. Strengthen the construction of market system, establish professional wholesale market around featured agricultural products, improve market radiation and service functions, and promote the sustainable development of high-quality and efficient agriculture. With the improvement of urbanization and industrialization in China, the income level of both urban and rural residents has been greatly improved, and people's food consumption structure has also changed a lot. Therefore, it can be concluded that the cross-sectoral transfer of agricultural labor has significantly promoted the growth of agricultural labor capital, which in turn has promoted the increase of agricultural labor productivity. At this stage, Chinese agriculture is in the period of accelerated capital deepening.

4.2 Demand-oriented structural adjustment will boost the price of agricultural products

The adjustment of the production structure that matches the consumer demand can increase the supply of new foods that people love. With the increase of non-agricultural employment opportunities, the number of agricultural labor force is decreasing, the opportunity cost of agricultural labor is beginning to increase, and farmers, as rational people, will adjust the production mode according to the relative changes in factor prices. Agricultural infrastructure investment is the basic condition for stable agricultural production and high yield, and has a relatively obvious impact on agricultural output. Therefore, the increase of labor productivity caused by the expansion of business scale is limited. There is a modest problem. However, only on the basis of moderate scale management, agricultural mechanization, the promotion of advanced agricultural science and technology, and agricultural industrialization can have a more realistic basis and carrier, and real agricultural modernization can be realized. Their market price is generally higher than that of rations. This will encourage farmers to use more agricultural resources to produce more high-value agricultural products.

It is assumed that the production sector in a closed economy is divided into two major sectors: agricultural and non-agricultural sectors. The following standard 1 represents the agricultural sector and the following standard 2 represents the non-agricultural production sector. The agricultural sector produces products for consumption only, while the non-agricultural sector produces products for consumption and investment. The production functions of both departments adopt Cobb-Douglas function:

$$Y_1 = K_1^\alpha L_1^{1-\alpha}, \quad Y_2 = K_2^\beta L_2^{1-\beta} \quad (1)$$

Among them, Y_i represents the output of department i ; K_i and L_i are the capital investment and labor of department i respectively; α and β are the capital output elasticity of department i respectively. If $y_i = Y_i/L_i$, $k_i = K_i/L_i$, then the average labor output of the two departments is:

$$y_1 = k_1^\alpha, \quad y_2 = k_2^\beta \quad (2)$$

Assuming full employment, the total labor force $L = L_1 + L_2$ and the total capital $K = K_1 + K_2$. If the share of non-agricultural employment is $\mu = L_2/L$ and the total labor capital is $k = K/L$, then the distribution equation of capital under full employment is:

$$k = (1 - \mu)k_1 + \mu k_2 \quad (3)$$

Assuming that both the capital market and the labor market are completely competitive markets, capital can flow freely between the two sectors without cost and immediately reach equilibrium. When the capital market reaches equilibrium, the profit margin of capital is equal to the marginal output of capital, and the marginal output of capital in the two departments is equal, namely:

$$\alpha k_1^{\alpha-1} = \beta k_2^{\beta-1} \quad (4)$$

To a certain extent, capital has replaced labor force, various resources have been scientifically utilized, the ability to resist natural disasters has been enhanced, and the protection of drought and flood has been basically realized. Organize personnel to conduct research on the adjustment of agricultural industry, focusing on the research on the market price of the adjustment project of agricultural industrial structure, so as to ensure that the adjustment of agricultural industry can truly benefit farmers and increase their income.

4.3 The rise of agricultural product price can promote the increase of agricultural labor productivity

Government departments should strengthen the window guidance of agricultural industrial structure adjustment. We should make full use of the preferential policies to guide the adjustment of agricultural industrial structure. The existing literature has made a thorough and detailed study on how to improve the labor productivity by increasing the land labor ratio and land productivity. This paper studies the improvement of agricultural labor productivity from the perspective of how to improve the conversion rate of output value. In the future, the government can adopt a tilting policy on high-quality agricultural products bases in terms of capital investment, and provide technical guidance. By adjusting the quality difference of agricultural products, market and price levers are used to promote the adjustment of agricultural production structure and the improvement of agricultural product quality.

According to the improvement of the formula for agricultural labor productivity, the value of agricultural labor productivity is as follows:

$$Y/L = A/L \times Q/A \times Y/Q \quad (5)$$

Among them, Y/L is the labor productivity in the form of value, A/L is the land-labor ratio, Q/A is the land productivity, and Y/Q is the conversion rate of the agricultural product to the added value.

We use the model (5) for empirical test. Because of the panel data, we introduce location dummy variable and annual dummy variable on the basis of the model to reflect the differences between regions and control the factors that change with time. See Table 1 and Figure 2 for statistical description of each variable.

Table 1 Statistical description of variables

Variable	Average value	Standard deviation
Y	1.36	3.52
A	2.03	0.58
Q	1.07	2.24

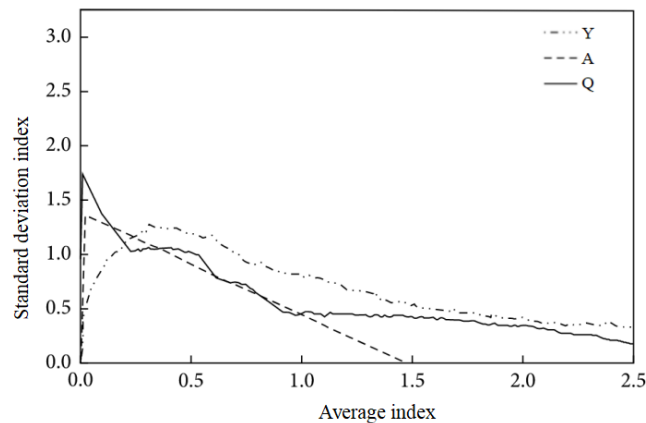


Fig. 2 Statistical description of variables

Through the adjustment of agricultural industrial structure according to local conditions, it is feasible to improve the efficiency of agricultural production. All regions should build characteristic

ecological agriculture on the basis of regional characteristic agricultural production mode, and promote the competitiveness of agricultural products. The transfer of labor force promotes the transfer of land, thus promoting the development of land to the direction of moderate scale operation, and creating conditions for capital to enter agriculture. The completion of the transfer of agricultural labor is a long and historical process. The determinant of accomplishing this historical mission is not the agriculture itself, but the realization of industrialization, the development of urbanization and the adaptation of the tertiary industry. We must adjust the existing agricultural industrial structure, not blindly pursue the growth of agricultural products, but pay more attention to the improvement of quality and quality, and lay a solid and powerful foundation for comprehensively enhancing the comprehensive competitiveness of agricultural products in the international market.

5. Effective Measures to Adjust Agricultural Industrial Structure and Improve Agricultural Labor Production Efficiency in the New Period

5.1 Strengthen propaganda work and realize linkage between departments

In order to exert the positive influence on agricultural labor productivity, the adjustment of agricultural industrial structure must first highlight the propaganda and launch, and strengthen the atmosphere construction. On the basis of a basically reasonable production structure, we will further optimize the allocation of resources, give full play to the advantages of intensive management and large-scale management, and establish more stable production bases. Facing the new situation, agricultural production must face the market, truly be market-oriented, adjust and arrange production according to changes in market demand, and maintain the dynamic consistency between production and market. Investing in local finance, planting high-efficiency, high-tech agriculture, hiring scientific and technological personnel for management and guidance, and using science and technology demonstrations to drive farmers' enthusiasm for industrial restructuring. The adjustment of the agricultural industry structure should also reflect the linkage of departments and strengthen coordination and cooperation. The County Agricultural Industry Structure Adjustment Leading Group Office has carried out business training to train county-level agricultural technicians and township agricultural technology backbones. At the traditional level, the focus of scientific and technological research and development is mainly to achieve an increase in the output of agricultural products. With the changes in the demand for agricultural products, the focus of scientific and technological research and development should be shifted to the pursuit of high-quality and efficient technology as soon as possible; The requirements for the commercialization of agricultural products have increased the rate of return on agricultural capital and, under the influence of profits, stimulated the flow of industrial capital into the agricultural sector.

5.2 Promote the process of industrialization and develop leading enterprises

At present, the adjustment of rural industrial structure should take key industries as a breakthrough and accelerate the process of industrialization. We should encourage the development of animal husbandry and fisheries through market leading and policy guidance, and promote the rational optimization of agricultural industrial structure to increase labor productivity and thus increase farmers' income. Optimize the product and adjust the layout. Eliminate the existing inferior and low-yield varieties, and adjust and standardize the scattered and disorderly production projects, so that the production structure is basically reasonable, and the products gradually enter the market in addition to satisfying their own consumption. At first, our scientific and technological level is not high. In addition, the achievements cannot be well transformed and popularized, which makes the agricultural scientific and technological achievements unable to become the real productive forces. Therefore, we should organically combine scientific research, teaching and popularization in the future. To adjust the structure of agricultural industry, we must establish and perfect the information system, market system and quality standard system of agricultural products as soon as possible, and

provide timely and accurate information for farmers to adjust the structure of agriculture. With the gradual improvement of the living standards of Chinese farmers, the income of farmers only shows a trend of growth and never shows a trend of decline. China has a large population, a small population and fragmented plots of land. It is unrealistic to realize scale management in a short period of time. However, under the existing economic, technological and natural conditions, it is possible to properly concentrate land factors and achieve maximum economic benefits. This is the moderate scale management of land.

5.3 Adjust measures to local conditions and develop characteristic agricultural industry

The adjustment of agricultural industrial structure should combine the local regional and climatic characteristics, develop agriculture according to local conditions, adjust the agricultural production structure, realize the development of characteristic agricultural industry, give full play to the development advantages of regional agricultural products, and realize the continuous improvement of the market competitiveness of regional agricultural industry. Attaching importance to regional differences and giving full play to comparative advantages, we should rationally adjust the agricultural structure according to the natural resources and actual conditions of the region, and avoid blindly adjusting the agricultural structure to increase farmers' income. The main task is for the government to increase the proportion of agricultural investment to improve various specialized production capacities, formulate production systems, standardize production behavior, increase investment in fixed assets, and reduce the number of agricultural workers in the front line. In this form of organization, leading enterprises play a key role. They can be state-owned enterprises, foreign-funded enterprises, or township enterprises with good local conditions and rapid development. Cultivate the marketing team, implement the sales strategy of all employees, and effectively form a situation in which everyone is mobilized and everyone participates in sales. If this goal can be achieved in the middle of the 21st century, then Chinese agricultural productivity will surely undergo fundamental changes, basically reaching the level of agriculture in the middle-developed countries.

6. Conclusion

In short, in the adjustment of agricultural structure, localities have their own advantages and disadvantages. How to formulate a local structural adjustment plan depends on the actual situation, neither blind adjustment nor hard regulation. Even in developed countries, agriculture has long been protected as a weak industry, while Chinese agriculture is the opposite. In the case of feeding a large population, the protection rate of agriculture is a negative number. At this stage, the adjustment of agricultural industrial structure is being carried out steadily. Rural areas should seize the opportunity of industrial adjustment, accelerate the industrial transformation and development, and improve the productivity of agricultural industry, so as to effectively improve economic efficiency. Therefore, we must constantly adjust and optimize the adjustment of agricultural industrial structure based on the needs of both international and domestic markets, so that it can truly meet the needs of the market. Only in this way can we truly achieve the goal of increasing farmers' economic income through the adjustment of agricultural industrial structure. In addition, effective guidance should be given to the choice of investment sites for foreign investment. In the future, foreign businessmen will be introduced to the vast rural villages and towns of our country as much as possible to improve the backward production conditions in rural areas of our country. And use its leading effect to promote complementary investment in local agriculture and employment of rural surplus labor, thus promoting the development of Chinese rural economy.

References

[1] Yao C, Qian S, Mao Y, et al. Decomposition of impacting factors of animal husbandry carbon emissions change and its spatial differences in China[J]. *Nongye Gongcheng Xuebao/Transactions of the Chinese Society of Agricultural Engineering*, 2017, 33(12):10-19.

- [2] Elias G, Adriana B. Exploring the labour productivity of agricultural systems across European regions: A multilevel approach[J]. *Land Use Policy*, 2018, 77:94-106.
- [3] Chen C. Agricultural Total Factor Productivity and Income Gap between Urban and Rural Residents--An Empirical Study Based on Provincial Panel Data[J]. *Asian Agricultural Research*, 2018, 10(11):13-17.
- [4] Liang X Z, Wu Y, Chambers R G, et al. Determining climate effects on US total agricultural productivity [J]. *Proceedings of the National Academy of Sciences*, 2017, 114(12):E2285-E2292.
- [5] Chen C, Restuccia D, Raül Santaaulàlia-Llopis. The Effects of Land Markets on Resource Allocation and Agricultural Productivity[J]. *Working Papers*, 2017.
- [6] Darko F A, Palacios-Lopez A, Kilic T, et al. Micro-Level Welfare Impacts of Agricultural Productivity: Evidence from Rural Malawi[J]. *Journal of Development Studies*, 2018, 54(4):1-18.
- [7] Mohamed A A, Rangakulnuwat P, Paweenawat S W. Decomposition of agricultural productivity growth in Africa[J]. *African Journal of Economic and Management Studies*, 2016, 7(4):497-509.
- [8] Urrutia J D, Joseph M, Ebue K E E, et al. Analysis of Factors Influencing Agricultural Productivity in the Philippines[J]. *Indian Journal of Science and Technology*, 2018, 11(20):1-10.
- [9] Yinka A A, Abiodun O O. Linkage Between Rural Non-Farm Income and Agricultural Productivity in Nigeria: A Tobit-Two-Stage Least Square Regression Approach[J]. *The Journal of Developing Areas*, 2017, 51(3):317-333.
- [10] Gong, Binlei. Agricultural reforms and production in China: Changes in provincial production function and productivity in 1978 - 2015[J]. *Journal of Development Economics*, 2018, 132:18-31.
- [11] Ayalew M D, Nicolas G, Anna M J. Working Paper 235 - Social Networks, Agricultural Innovations, and Farm Productivity in Ethiopia[J]. *Working Paper Series*, 2016.
- [12] Schwaab J, Deb K, Goodman E, et al. Reducing the loss of agricultural productivity due to compact urban development in municipalities of Switzerland[J]. *Computers Environment and Urban Systems*, 2017, 65:162-177.
- [13] Seck A. Fertilizer subsidy and agricultural productivity in Senegal[J]. *World Economy*, 2017, 40(9):1989-2006.
- [14] Ogundipe A, Ogunniyi A, Olagunju K, et al. Scaling Up Agricultural Innovation for Inclusive Livelihood and Productivity Outcomes in Sub-Saharan Africa: The Case of Nigeria[J]. *African Development Review*, 2017, 29(S2):121-134.
- [15] Isoto R E, Sam A G, Kraybill D S. Uninsured Health Shocks and Agricultural Productivity among Rural Households: The Mitigating Role of Micro-credit[J]. *The Journal of Development Studies*, 2016:1-17.
- [16] Elahi E, Abid M, Zhang L, et al. Agricultural advisory and financial services; farm level access, outreach and impact in a mixed cropping district of Punjab, Pakistan[J]. *Land Use Policy*, 2018, 71:249-260.
- [17] Katarzyna Smędzik-Ambroży, Majchrzak A. EU agricultural policy and productivity of soil in countries varying in terms of intensity of agricultural production[J]. *Nephron Clinical Practice*, 2017, 21(1):250-258.
- [18] Mellor J W, Malik S J. The Impact of Growth in Small Commercial Farm Productivity on Rural Poverty Reduction[J]. *World Development*, 2017, 91:1-10.