

Performance of Antecedent Structural Reform of Agricultural Supply Side in Zhanjiang under the Perspective of Rural Revitalization

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Abstract: Agricultural supply-side structural reform is a product of China's economic and social development to a certain stage, and is an agricultural creation with Chinese characteristics. By describing the historical background of Zhanjiang's agricultural supply-side structural reform, the importance of the study and the conclusions obtained by using the qualitative comparative analysis method of fuzzy sets, this paper discovers the defects of Zhanjiang's agricultural supply-side structural reform and gives suggestions for the dedication of agricultural supply-side structural reform. The study will also provide recommendations to contribute to the supply-side structural reform in agriculture.

In the brand-new development process, China has changed from a period of fast-growing economic development to a period of high-quality development, Chinese agriculture has gained a great improvement in comprehensive productivity, Chinese rural development is facing brand-new task requirements, and farmers' income has improved greatly. In the context of development in the new era, in response to the strategic requirements of China's rural revitalization process, its concrete implementation has to combine the actual situation of Chinese society in a holistic manner, fully understand the unbalanced contradictions in China's development links, and find from them a good way that can lead farmers to a better life[1].

1. Background of Zhanjiang's Agricultural Supply-Side Structural Reform

The Leizhou Peninsula, to which Zhanjiang belongs, has a warm climate all year round, with no severe winters. The red land all over the Leizhou Peninsula was formed by volcanic eruptions and is rich in various minerals, making it a favored soil for many crops. The endless coastline and the excellent water quality of the harbor make Zhanjiang a treasure trove for the development of

aquaculture. As a major agricultural city in Guangdong Province, Zhanjiang has always topped the list in terms of total agricultural output. As shown in Figure 1, the total output value of agriculture, forestry, animal husbandry and fishery in Zhanjiang in 2021 is 1043.24 million yuan, standing proudly at the top of Guangdong's "agriculture list".

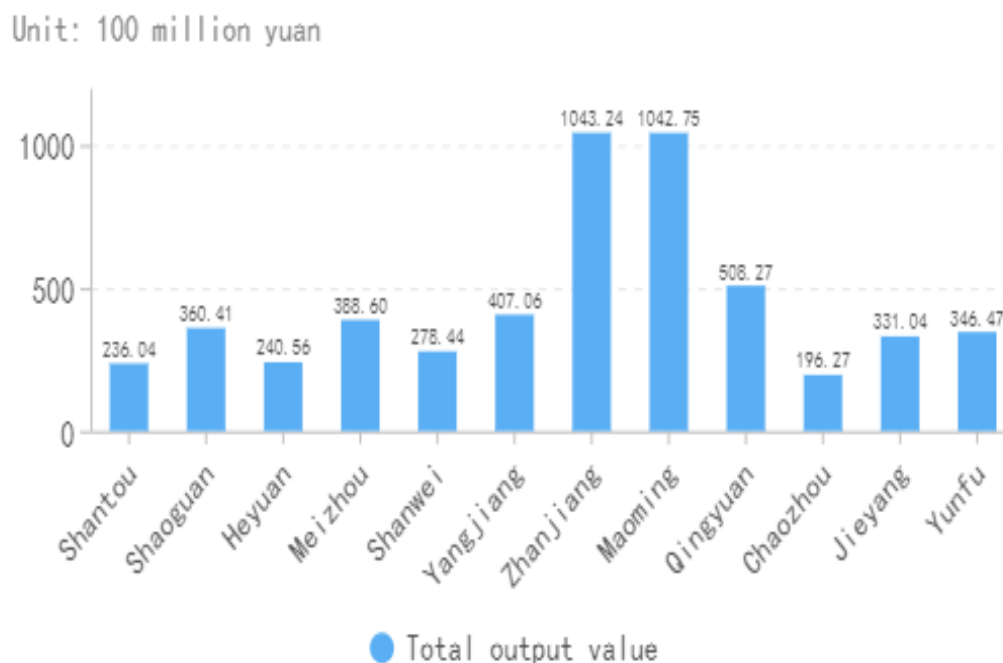


Figure 1. Total output value of agriculture, forestry, animal husbandry and fishery by city in Guangdong Province in 2021

Zhanjiang's agriculture has strong climatic characteristics, belonging to tropical agriculture and producing tropical fruits and species; the flat terrain of the Leizhou Peninsula, where Zhanjiang is located, is suitable for large-scale operation and production; the geographical environment in which Zhanjiang is located guarantees that it can be planted all year round and can be produced in a staggered manner with other regions of China to achieve cross-regional crop complementarity. Zhanjiang's agriculture can be divided into farming and cultivation. Zhanjiang's farming industry, especially in aquaculture and processing, is at the forefront of the country, with outstanding performance in food safety. However, Zhanjiang's farming industry suffers from fragmented operations and incomplete industrial chains, and is in urgent need of a thrust for reform.

By the end of 2020, agricultural supply-side structural reform has been practiced for five years, during which academics have conducted research on China's agricultural supply-side structural reform from various aspects. The research topics focus on "supply-side structural reform of agriculture", "supply-side structural reform", "supply-side reform of agriculture", "supply-side", "agricultural rural development" and so on. As shown in Figure 2, the higher proportion of the subject terms in the research topics is 55.56% for the subject term "supply-side structural reform of agriculture" and 11.11% for the subject term "supply-side structural reform". These reflect the importance of supply-side structural reforms in agriculture in the study.

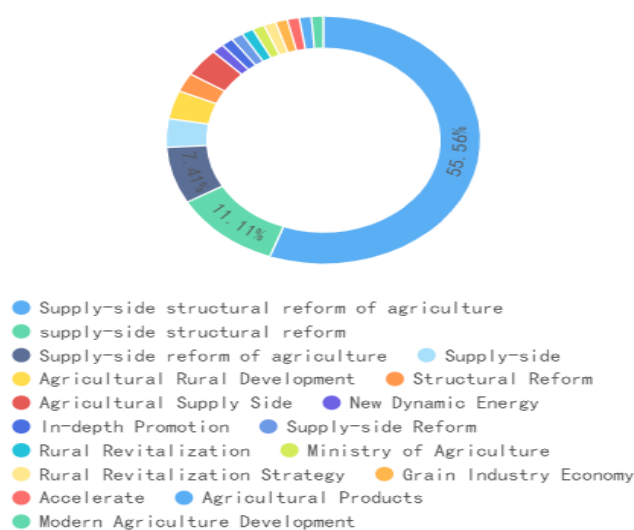


Figure 2. Study Subject Headings (2015-2020)

General Secretary Xi Jinping pointed out that "supply-side structural reform, the focus is on the liberation and development of productive forces, using the reform approach to promote structural adjustment, reduce ineffective and low-end supply, expand effective and medium and high-end supply, enhance the adaptability and flexibility of the supply structure to the demand structure, and improve total factor productivity"[2]. It is necessary to play the role of traction of structural reform as well as the role of promotion of supply-side structural reform[3]. Supply and demand are corresponding and interdependent relationships. It is necessary to conduct antecedent group performance research and identify the defects of the supply-side institutional reform in Zhanjiang agriculture through the correlative roles of supply market, demand market and labor market, so as to propose improvement measures.

2. The Importance of Antecedent Group State Performance Research in the Supply-Side Structural Reform of Zhanjiang agriculture

(1) Beneficial to the promotion of agricultural development and rural industrial revitalization in Zhanjiang

Deepening the supply-side structural reform of agriculture is a task that China must focus on promoting when implementing the new rural revitalization strategy. The concrete implementation of the rural revitalization strategy should not only take the prosperous development of the rural economy as the main goal, but also take the direction of driving the overall improvement of the agricultural economy, and promote the flourishing development of rural education, health, science, cultural progress, society, ecology and other construction work in an integrated manner[4]. Zhanjiang agricultural supply-side structural reform antecedent group state performance study is conducive to the government's clear development positioning, integrated grasp of Zhanjiang agricultural industry, especially the shortage of planting industry development direction, and the selection of its planting industry development path; conducive to the clarification of Zhanjiang agricultural planting industry development priorities, and the development of diversification programs to provide reference; help the government to grasp the focus of policy formulation, consolidate the foundation of Zhanjiang agricultural planting industry, to It helps the government to grasp the focus of policy formulation, strengthen the foundation of Zhanjiang agricultural plantation industry, and promote the implementation of macro design with goal-oriented organization, so as to coordinate the allocation of resources, introduce intelligent analysis tools, formulate diversified

implementation plans, drive the deep development of rural revitalization strategy, and promote the development of Zhanjiang agriculture and rural industrial revitalization.

(2) The path of agro-industry impact on agricultural performance to contribute to the supply-side structural reform of agriculture in western Guangdong

Based on the group view, the study adopts the fuzzy set qualitative comparative analysis method to analyze and summarize the relationship between the antecedent group state and performance of supply-side structural reform in Zhanjiang agriculture. It provides an explanation for the internal logic of path formation and the interaction between factors, and enables the study of agricultural industry performance to move from the study of the one-way influence of a few factors to the study of the interactive influence of factors, to expand from the study of the power change perspective to the study of the group state perspective, and to change from the study of the stages of agricultural industry development to the study of the whole process of intelligent design, organizational adaptation and environmental protection, so as to contribute the experience of western Guangdong to the agricultural supply-side structural reform[5].

3. Deficiencies in the Supply-Side Structural Reform of Agriculture in Zhanjiang

Using the qualitative comparative analysis method of fuzzy sets, we study the antecedent histories of the supply-side structural reform of agriculture in western Guangdong and its performance using agricultural data and total statistical index data from the Zhanjiang Bureau of Statistics, and find through preliminary research that, on the one hand, the consistency of individual conditions, whether industrial conditions or product conditions, is low and does not constitute a necessary condition for increasing the disposable income of rural residents; on the other hand, the sufficiency analysis of the industry condition and the sufficiency analysis of the product condition indicate that agriculture does not contribute much to the increase of disposable income of rural residents[6]. The following deficiencies exist in the supply-side structural reform of Zhanjiang's agriculture.

(1) Zhanjiang agricultural scale of operation is low

Agricultural scale operation is a necessary condition for stabilizing agricultural production, improving agricultural labor productivity, increasing the output rate of arable land, promoting the income of farm workers, and promoting the modernization of agriculture, as well as the development of agricultural industrialization, which is a mode of operation relative to decentralized operation[7-8]. Zhanjiang agricultural operation is still dominated by the traditional family contract of small-scale decentralized operation, which seriously restricts the strategic adjustment of agricultural structure and the promotion of new production methods and new technologies. The small-scale operation increases the difficulty of supervision of agricultural production, but also can not respond positively to the regionalization of agricultural products and the construction of advantageous agricultural industry belt, resulting in "low efficiency, high cost, and low competitiveness" dilemma. Therefore, according to the actual situation, it is necessary to adopt the appropriate scale of operation to realize the effective allocation of land, labor, capital, management and other rural production and operation of the basic yakuza modernization, reduce the cost of agricultural production and increase revenue[9-10].

(2) Zhanjiang agricultural industry chain synergy development lags behind

Agricultural industry chain is a kind of agricultural industrialized reticulation structure consisting of pre-industrial sectors, intermediate industry sectors and post-industry sectors that are related to agriculture and related to the production of agricultural primary products. Zhanjiang agriculture is not closely linked with the pre-industrial sectors such as scientific research and agricultural materials for preparation of agricultural production, intermediate industrial sectors such as crop

planting, and post-industrial sectors such as processing industry, storage, transportation and sales of agricultural products as raw materials, etc. The construction of the agricultural industry chain is relatively lagging behind, the foundation of the agricultural processing industry is weak, the circulation system is not sound and the sales channels are not smooth, and other problems have seriously affected the added value of agricultural products. Not enough attention to agricultural science and technology, processing of agricultural products, circulation, sales and other links, so that the links of the agricultural industry chain in Zhanjiang are disconnected from each other and can not form a synergistic effect. It is necessary to increase the integration and construction of the agricultural industry chain, promote agricultural supply-side reform, and promote the effective matching of supply and demand for agricultural products at a higher level. Therefore, only by realizing effective coupling among agricultural industries and links can we ensure the high-quality development and efficient supply of agricultural products[11-12].

(3) Agricultural science and technology promotion is difficult

To carry out the construction of efficient, high-quality, ecological and safe socialist modern agriculture, it is inseparable from the mutual coordination and joint role of agricultural science and technology promotion and popularization institutions, agricultural business entities and promotion mechanisms. Agricultural science and technology promotion and popularization is an important factor in promoting the construction of socialist modern agriculture and the key to transforming agricultural science and technology into actual agricultural productivity.

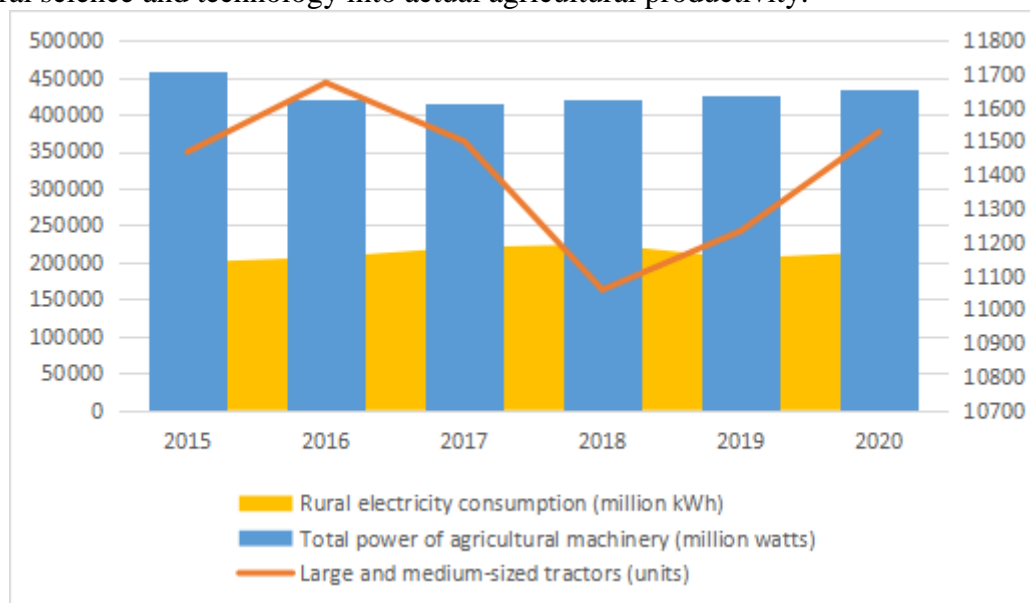


Figure 3. Zhanjiang Statistical Yearbook: Modernization of Zhanjiang's rural areas (2015-2020)

As shown in Figure 3, from 2015-2020 in Zhanjiang, there is no growth in the use of total agricultural machinery power, the use of large and medium-sized tractor units has fallen back in 2018, and rural electricity consumption remains stable. From the trend, the application of agricultural science and technology achievements in Zhanjiang is slow, and the level of agricultural science and technology needs to be improved. The development of rural modernization in Zhanjiang is slow, the overall professional quality of agricultural practitioners in grassroots units is not high, the knowledge structure is aging, lack of theoretical knowledge related to agricultural production, and the ability to accept new technologies is not high; most agricultural extension agencies in Zhanjiang are in poor condition and underfunded; agriculture in Zhanjiang presents a small-scale decentralized business model, and the application of agricultural science and technology is not enough and the benefits are not significant. Therefore, it is necessary to improve the quality

of agricultural operators, increase the promotion of agricultural science and technology, change to a large-scale business model, and actively apply agricultural science and technology[13-15].

4. Suggestions for Deepening the Supply-Side Structural Reform of Zhanjiang Agriculture to Promote Rural Revitalization

(1) Accelerate the orderly transfer of land and develop moderate scale operations

The rural land transfer enables the new agricultural operation subjects to be perfected, and is the basis for the promotion of agricultural industrialization and scale, and plays a great role in the revitalization of rural industries. Without the transfer of land elements, there is no large-scale operation of land, and we cannot promote agricultural mechanization, industrialization and realize the modernization of agriculture and rural areas[16-17].

Zhanjiang City needs to speed up the orderly transfer of land, take various forms to form moderate scale operation according to local conditions, reuse idle and deserted land, and improve the efficiency of rural land resource allocation and agricultural labor productivity. First, improve the rural land transfer system. To standardize rural land transfer, it is necessary to improve the specialized service institutions and service stations for rural land transfer. The rural land service stations are used to provide information on land transfer, and do a good job in filing land transfer, handling procedures and mediating disputes, thus promoting the healthy and standardized flow of rural land. Secondly, on the basis of a sound transfer system, innovate and explore the mechanism of large-scale operation of agricultural land. Through the government as, organization and coordination, the idle land of farmers who go out to work and other business income to transfer, through the transfer of the land to improve, with the corresponding water conservancy facilities, construction of production roads, etc., to improve their production conditions, to create conditions for the development of Zhanjiang agricultural scale, and then realize the scale of Zhanjiang agricultural operation. Third, improve the industrial system to support the scale of agricultural operations. By guiding and encouraging similar industries to realize concentrated and contiguous planting in the same area, and setting up professional cooperatives to form an integrated pattern of products, processing, logistics and sales, the scale of the industry will be continuously expanded and employment in the vicinity will be promoted[18-19].

(2) Promote the integration of "three industries" and enhance the added value of agricultural products

The integration of rural industries is an upgrade of agricultural industrialization and an agricultural development strategy with Chinese characteristics, the essence of which is to improve the added value of the original agricultural products and make farmers get more income and greater returns in agricultural development. As an effective countermeasure to enhance the added value of agricultural products and broaden the channels of farmers' income, promoting the integration of one, two and three rural industries must be arranged and deployed in terms of promoting the transformation and upgrading of the agricultural products processing industry, strengthening the construction of agricultural products circulation facilities and markets, vigorously developing leisure agriculture and field tourism, and developing the new rural industrial chain and the mechanism of linking farmers' economic interests.

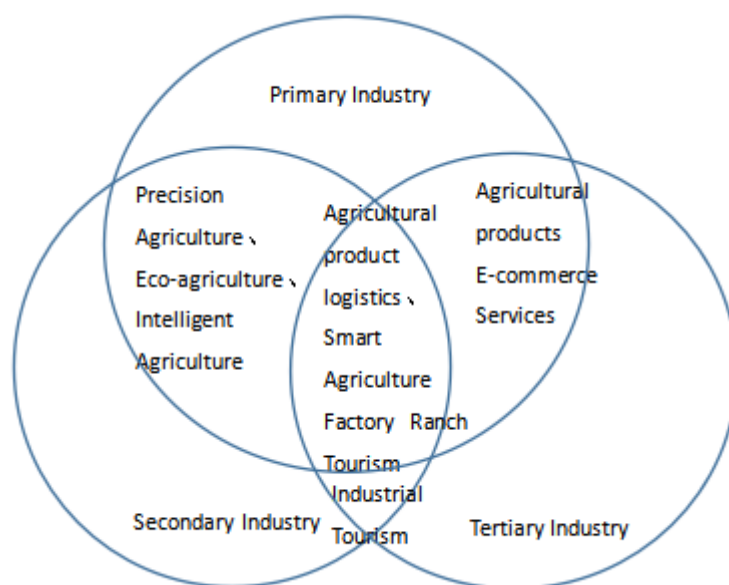


Figure 4. Integration of three industries to enhance competitiveness

Promoting the integration of rural industries promotes the intersection of agriculture and other industries, i.e., the expanded integration of agricultural functions. In the process of agricultural supply-side structural reform, it is necessary to broaden the multiple attributes of agriculture. As shown in Figure 4, combine the primary industry with the secondary industry to create precision agriculture, ecological agriculture and smart agriculture; combine the primary industry with the tertiary industry to form tourism and sightseeing agriculture, agricultural products e-commerce service industry, etc.; at the same time, drive the combination of the secondary industry and the tertiary industry to take industrial tourism as a model; combine the primary industry, the secondary industry and the tertiary industry to provide new logistics for agricultural products, smart agricultural production base, agricultural sightseeing tourism, etc. industry. Make full use of big data and e-commerce platform, innovate online sales channels, cultivate new industries and new industries, continuously build a new pattern of balanced development and synergistic development of industrial links, take the construction of modern agricultural industrial park as a major platform, enhance modern agricultural products processing industry with characteristics of western Guangdong, and promote the modernization of the whole industrial chain such as production, processing, storage and preservation, and cold chain logistics[20].

(3) Increase agricultural science and technology innovation, promote the deep integration of industry, academia and research

Improving the quality of agricultural supply must give agriculture the wings of science and technology, digital agriculture, intelligent agriculture, big data agriculture and precision agriculture is based on the application of information technology and the development of new forms of agriculture, which is conducive to improving agricultural competitiveness, alleviating the pressure on resources and the environment, and achieving safe and efficient development of agriculture.

Promote resource-saving agricultural technologies and new varieties to build intensive and sustainable agriculture that conserves resources, reduces pollution and improves production efficiency, and strengthen scientific and technological support for sustainable agricultural development. To realize the transformation of agricultural production from low-quality and inefficient products to high-efficiency and high-quality products.

Firstly, a diversified agricultural research investment system led by the government and with the universal participation of social organizations should be formed. Second, strengthen agricultural science and technology education and training, and cultivate agricultural research talents. Give full play to the national base and the integration of agricultural research resources and forces in each region to promote the deep integration of industry, academia and research. Zhanjiang relies on the strength of Zhanjiang Bay Laboratory, Guangdong Ocean University, China Academy of Tropical Agriculture, Guangdong Academy of Agricultural Sciences, Zhanjiang University of Science and Technology and other research institutes and universities to establish strategic partnerships, use existing enterprise research platforms, work on weaknesses and shortcomings in the seed industry, processing industry, marine equipment manufacturing, etc., accelerate integrated innovation in agricultural science and technology, and build a solid platform for the transformation of agricultural science and technology achievements. Finally, strengthen the link between scientific research institutions and extension agencies. Build a platform for innovation, application and service of new technologies. Through timely communication with farmers and timely feedback, we will make an effective connection between scientific research and actual demand, encourage scientific research, development and promotion for the whole agricultural industry chain, continuously improve various links of agricultural production and circulation as well as storage, transportation and processing, and improve the networked construction of grassroots agricultural technology promotion. For example, through the training of technical personnel of township enterprises and farmers' professional skills, etc., we will continue to promote agricultural science and technology into villages and households.

5. Conclusion

As the main way to crack the current deep-seated structural contradictions in China's agriculture, the supply-side structural reform of agriculture needs to be deepened and promoted in the context of the rural revitalization strategy in order to become the new driving force of the rural revitalization strategy. In this context, Zhanjiang's agricultural supply-side structural reform further pioneers innovation and requires continuous efforts to explore and practice.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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