Research Article

The Impact of Financial Development on Agricultural Enterprises in Central China Based on Vector Autoregressive Model

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China is a large developing country, and there is no doubt that it is a large developing agricultural country. Agriculture has played a vital role in the development of the national economy since ancient times, and it serves as the foundation of China’s national economy. As agricultural modernization is the fundamental way of agricultural development, its source of funds must come from rural finance. The financial support of rural finance for agricultural modernization is the material basis and prerequisite for ensuring the healthy and rapid development of agricultural modernization. If there is no financial support from rural finance, the process of agricultural modernization will be hindered, and it will not benefit our country’s socialist modernization. Although our country’s rural financial system has been constantly changing and improving, our country’s current financial system still has many shortcomings and defects. In the process of supporting agriculture, rural finance has insufficient capital supply, which has become a "bottleneck" in the development of agricultural modernization, and to a certain extent has severely restricted the development of agricultural modernization. On the basis of existing literature research, this article systematically studies the influence of rural financial market structure on the development of agricultural enterprises in central China. The content includes agricultural total factor productivity and agricultural emission reduction. When analyzing the impact of rural financial market structure on agricultural development, this article also pays attention to its specific impact on agricultural development under the conditions of different types of enterprises.

1. Introduction

Every year, China issues documents stipulating preferential policies to support the development of leading agricultural enterprises, and the Agricultural Development Bank formulates corresponding loan measures for leading agricultural industrialization enterprises in accordance with relevant national policy documents. The national policy has initially taken specific measures to support the loans of leading enterprises and then transformed them into relevant regulations. The Agricultural Development Bank is formulated in accordance with relevant national policy documents. Correspondingly, it provides loan methods for leading enterprises in agricultural industrialization. In addition, the scope and intensity of support have been expanded this week, reflecting the state’s emphasis on and strong support for the development of leading enterprises. The national policy has changed from the initial specific measures to support leading enterprise loans to the relevant provisions to expand the scope and intensity of support, which reflects the state’s emphasis on and strong support for the development of leading enterprises [1–3]. The Agricultural Development Bank’s loan methods for leading enterprises are gradually supplemented and improved, and the loan amount has been increasing year by year. With the support of China’s policies and the strong support of the Agricultural Development Bank, most of our country’s leading agricultural enterprises have developed rapidly.
There are more and more leading agricultural enterprises, and the economic benefits created are increasing. As the world’s largest agricultural country, the development of China’s rural financial market structure has evolved from a complete monopoly of the People’s Bank of China to a monopolistic competition that tends to be more competitive [4–7]. The Agricultural Development Bank has gradually supplemented and improved the loan methods for leading enterprises, and the loan amount has increased year by year. Every year, China issues documents stipulating preferential policies to support the development of leading agricultural enterprises. With the support of national policies and the strong support of the Agricultural Bank of our country, most of China’s leading agricultural enterprises have developed rapidly. With the deepening of the reform of the country’s financial system, China’s rural financial market is changing in terms of market structure types, rural financial market’s main asset investment scale, operating performance, regional network layout, and the impact of rural financial market structure on agricultural development. And there are strong regional development differences [8–10].

The impact of the development and adjustment of the rural financial market structure on agricultural development is closely related to the resource endowment structure and development level of agricultural production factors in rural areas in China. These agricultural production factors’ resources are related to the country or region’s openness, agricultural development policies, and agricultural functions [11–13]. The regional and regional development environment and other influencing factors jointly determine the type and development characteristics of China’s agricultural industrial structure. Therefore, how to find a matching rural financial market structure under the constraints of the existing agricultural economic structure and the harmonious development of the two will provide a stronger internal economic driving force for the structure of the rural financial market to positively influence the sustainable and efficient development of China’s agriculture [14–17]. Bank loans are mainly carried out and formulated in accordance with relevant national policy documents. As a key work content, agricultural industrialization has been widely promoted in different regions. In order to further expand the scope and degree of support, the state focuses on the corresponding assistance work for the development leading enterprises identified by the state. The national policy has gone through a series of processes from the proposal, to the promotion of the policy, to the implementation of the policy. Although the proportion of its gross output value in the gross national product has been declining in recent years, its position in the entire national economy is still very important. The development of agriculture has made significant contributions to the development of the entire national economy and social progress in our country. Agriculture occupies an important position in the entire national economy of our country. However, due to our country’s policy of giving priority to the development of industry in the early days of the founding of the People’s Republic of our country, our country’s agricultural development was relatively lagging, and the development of agricultural modernization was naturally relatively backward. So far, agricultural modernization, as a key link in the modernization drive, seems to have become a shortcoming in our country’s modernization drive [18–21].

As the world’s largest agricultural country, China’s rural finance has developed from the initial monopoly of a financial institution to the current diversified development of multiple rural financial institutions. The development of the rural financial market structure has experienced a trend from a complete monopoly of the People’s Bank of China. The type of monopolistic competition with strong competition evolves. With the deepening of the reform of the country’s financial system, China’s rural financial market is changing in terms of market structure types, rural financial market’s main asset investment scale, operating performance, regional network layout, and the impact of rural financial market structure on agricultural development. And there are strong regional development differences [22–24]. There are more and more leading agricultural enterprises, creating higher and higher economic benefits. As the world’s largest agricultural country, China’s rural financial market has rapidly expanded and evolved from the complete monopoly of the People’s Bank of China to competition among the more intensely competitive subunits. With the deepening of the national financial system reform, our country’s rural financial market has changed in the type of market structure. The impact of the development and adjustment of the rural financial market structure on agricultural development is closely related to the resource endowment institutions and development levels of agricultural production factors in rural areas in China. Development policies, agricultural functional areas, regional development environment, and other factors jointly determine the types and development characteristics of China’s agricultural structure. Therefore, to find a matching rural financial market structure under the constraints of the existing agricultural economic structure? The harmonious development of the two will provide the internal economic driving force for the rural financial market structure to influence the sustainable and efficient development of China’s agriculture.

From the triumphant advancement of China’s agricultural development since the reform and opening up to the current sound development trend of steady progress, it has provided a solid foundation for the steady development of the country’s economy and society. The agricultural structure has been further optimized, the agricultural development mode has continued to change, and the agricultural development efficiency has been steadily improved. However, China’s agricultural development is currently facing some severe challenges, such as the slowdown of the overall economic growth, the imbalance of the supply and demand structure of agricultural products and the low quality of agricultural products, the difficulty of increasing the income of the main agricultural operators, and serious agricultural pollution. As shown in the 2017 National Economic and Social Development Statistical Communique, the added value of the primary, secondary, and tertiary industries increased by 3.9%, 6.1%, and 8.0%, respectively; the primary, secondary, and tertiary industries accounted for the respective proportions of GDP. They were 7.9%, 40.5, and
51.6%. Therefore, regardless of the agricultural growth rate and the contribution to the national economy, there has been a serious weakening. On the one hand, it is related to the inherent weakness of agricultural development and the impact of more natural resources, climate, and other uncertain factors. On the other hand, this is also related to the long-term focus on high-input and extensive development of agricultural production factors [25–28]. High consumption, high pollutant discharge, low efficiency, and low output are directly related. Therefore, based on the existing basic conditions and factual characteristics of the rural financial market structure and agricultural development, it will be more beneficial to analyze the key factors or focus of rural finance that affect agricultural development and to combine the regional differences between China’s rural financial market and agricultural development. The article makes a detailed analysis of the research block diagram. The research framework of this paper contains two aspects. On the one hand, policies related to agricultural development mainly involve external environmental factors such as natural resources and climate resources; on the other hand, the withdrawal of agricultural-related bank loan policies is also related to the long-term production factors. High investment is related to the development of extensive expansion forms. The main influencing factors involved include high pollution, high energy consumption, low output, and low efficiency. The optimization and adjustment of rural financial market structure and agricultural industrial structure, and it is of great significance to explore the best force point for the rural financial market structure to affect agricultural development [29]. The research logical structure of this paper is shown in Figure 1.

2. Existing Research Results and Theoretical Basis

2.1. Financial Deepening and Financial Repression Theory

Research on the relationship between financial development and economic growth. Some scholars pointed out that the sound development of a country or region’s financial sector is an important factor in promoting the country’s economic development. Some scholars also believe that in studying the correlation between finance and economic growth, there are two analytical directions: “demand following” and “supply leading”. The former emphasizes the service demand of economic entities on the financial market, and the development of the financial market is the inevitable result of economic growth, while the latter emphasizes the issue of supply priority related financial service support, and the support of financial services promotes economic growth. These two different development models are also closely related to the economic structure at different growth stages. In the economic society in the early stage of development, the supply-leading financial industry is in a leading position in the market, and the demand-following financial model is at the core when the economy grows to a high-level development stage. Therefore, the two development models of “demand following” or “supply leading” indicate that the interactive influence of financial and economic development has not formed a virtuous circle. Based on the macroeconomic data of 35 countries, some scholars have concluded that “there is a roughly parallel development link between economic growth and financial market development”, but this conclusion does not have a relationship between various factors [30–32].

The core viewpoints of financial deepening and financial repression theory are as follows.

(1) There is a positive interaction between the structure of the financial market and economic development. Due to the lack of institutions and the inadequacy of government supporting policies, the development of underdeveloped countries and regions may be completely another result: the underdeveloped countries have excessive market intervention in all aspects of economic and social activities; excessive financial systems and regulations affect the sustained and healthy development of the financial market structure. Research on the relationship between financial development and economic growth exists. Existing research shows that the healthy development of the financial industry is an important factor in promoting the economic development of a country or region. In addition, some scholars believe that, at the current stage, we are conducting research on the correlation between finance and economic growth, including two main details and directions of “demand following” and “supply leading”. The lagging development of the financial industry will inhibit economic growth, and the lagging economic growth will hinder the sustained development of the financial market, which in turn creates a vicious circle of lagging financial market development and economic development difficulties [33].

(2) To give full play to the positive role of the financial market structure in promoting economic development, the problem of “financial repression” must be resolved and the process of “financial deepening” must be promoted. Galba’s and other scholars supplemented and perfected the core content of McKinnon and Shaw’s financial repression and financial deepening from different research perspectives. On the one hand, the demand for services emphasizes the service demand of economic entities for the financial market. The entire operation route framework mainly includes the following three aspects. The focus is on the supply and demand of various economic entities to the financial market. First of all, the study believes that the initial development of the financial market is the primary prerequisite for economic growth, and economic growth emphasizes the priority supply support of financial services. The development of financial services has also indirectly contributed to the growth of the entire economic entity. In the technical scheme, three different modes of economic expansion will also be linked with the stage of economic development and the structure of economic
development. In the initial stage, the supply-led financial industry has always been in a leading position, which in turn provides support for relevant supporting policies in the financial sector. The development of financial markets is an important part of economic growth. On the other hand, supply priority and financial service support are also issues that we need to focus on. The support of financial services promotes economic growth. They pointed out that the implementation of low market interest rates will lead to the excessive pursuit of funds such as rural credit by fund demanders, which will lead to financial markets. Nonprice rationing causes double price distortions in the financial market and economic market; raising market interest rates can reduce the unnecessary demand of nonefficient investors for agriculture-related funds and increase the marginal rate of return on investment demand. Model analysis results are shown in Figure 2.

2.2. Agricultural Finance Constraint Theory. In the 1990s, some countries such as East Asia did not adopt financial market liberalization policies but achieved significant economic development achievements, while countries such as Latin America did the opposite. However, the fragile financial market system made economic development difficult. Even if the “financial deepening” theory is perfected and revised, there are still many flaws. Unreasonable financial liberalization measures are excessively taken against developing countries, regions, and transition economies. As pointed out by the “financial deepening” theory, the government states that product pricing and quantity control in the financial market are the direct causes of distortions in the allocation of resources in the financial market, which is exactly the opposite of the successful experience of some East Asian countries. Regardless of East Asian developed countries such as Japan and South Korea, or underdeveloped countries such as China and Malaysia, although there are varying degrees of financial repression, they have all achieved rapid economic development. On the contrary, due to countries that have adopted excessive financial liberalization, such as Chile and Argentina, the results are exactly the opposite of the expected results [34].

The mechanism of financial restraint theory is as follows. First, the prerequisites for the realization of financial restraint theory are that a country or region has an overall stable economic policy environment, low price levels, and positive real market interest rates for deposits and loans. The important difference between financial restraint and financial repression is that the government does not grab rents from the private sector but creates rents for the private sector. Second, financial constraints complete rent transfer through government rent creation and competitive activities of economic entities. Rent is the link between the government and the private sector. The government in the theory of financial restraint only creates opportunities for private sectors to obtain rents. To obtain rents, competition among economic actors is required. Third, in the theory of financial constraints, the government ensures that financial market operators obtain stable returns through institutional arrangements such as reasonably floating interest rate interventions on deposits and loans, setting entry barriers, conditional asset substitution, and creating a predictable investment and financing environment. Inhibition is that government departments harvest rents so that the nominal interest rate is below the inflation rate and maintains a negative real interest rate. The economic structure of different growth stages is also closely related to a variety of different development models. In the early stage of development, the economy and society need more help from supply-led financial enterprises, which will help them enter a market-leading position. Taking into account the fact that the financial model adapted to the enterprise is the core competitiveness of the economic growth to a high level of

Figure 1: The research logical structure of this paper.
development, therefore, we comb through the two development models of "demand follow" or "supply lead" and find that the interactive impact of finance and economic development has not yet formed a virtuous circle. The purpose of government departments' financial constraints is to create more rental opportunities and incentives for the financial sector and capital demanders. Banks and other financial institutions provide sufficient credit funds for the "agriculture, rural areas, and farmers" capital demanders while obtaining more development opportunities, thereby reducing a series of uncertain issues caused by information asymmetry [35].

The breakthroughs of the theory of financial constraints are as follows. First, it is believed that the government's moderate intervention and market regulation can be coordinated. The government must create rental opportunities for the various operating entities of the financial system through various effective institutional arrangements to encourage the efficient operation of the entire financial system. Second, the theory is based on the particularity of financial deepening in developing countries, while intervening in interest rates in an orderly manner. At the same time, some scholars have come to the following main conclusions by analyzing the macroeconomic data of 35 countries; "there is a roughly parallel developmental relationship between financial market development and economic growth". However, these conclusions show that there is no relatively significant comparative relationship among the factors. In addition, both financial deepening and financial repression theories have corresponding core views, which are reflected in the positive interaction between financial market structure and economic development. To open up the financial market locally is not to blindly promote interest rate liberalization. Third, compared with the theory of financial repression, it is clear that the government's moderate intervention is to create rents for the private sector, not to extract rents. The interrelationships between model elements are shown in Figure 3.

2.3. Rural Financial Development Theory. With the continuous deepening of research on rural finance-related issues, three representative theories have emerged in the rural financial development theory, namely, the theory of rural financial regulation, the theory of the rural financial market, and the theory of imperfect competition in rural finance. Suppose there are agricultural operators, especially poor farmers who do not have the ability to save, and the supply of agricultural development funds is insufficient. Due to the low profitability of agriculture, the long-term nature of the demand for agricultural credit funds, and the uncertainty of agricultural income, it indicates that agriculture cannot become the financing object of commercial banks. However, due to the lack of institutions and government support
policies, the development of less developed countries and regions may be completely different results. There are excessive market interventions in all aspects of economic and social activities in less developed countries. Excessive financial systems and regulations affect economic development. This ensures the sustainable and healthy development of China’s financial market structure. The lagging development of the financial industry will inhibit economic growth. Therefore, commercial financial institutions with the goal of maximizing profits have insufficient motivation to enter the rural financial market, and they advocate government intervention in the rural financial market and occupy a leading position in the financial market. It is concluded that the government should carry out necessary interest rate control and market access control, and the state should set up special nonprofit rural financial institutions to inject policy-based low-interest-rate funds into rural financial institutions to increase agricultural production input and alleviate rural poverty. In order to support the development of the rural agricultural economy and strictly restrict informal finance in rural areas. A large number of low-interest policy funds should be injected into rural agriculture through rural branches of banks and agricultural credit cooperative organizations.

During the development of a country’s financial system, with the development of the economy, the financial-related ratios tend to increase; the financial-related ratios of economically underdeveloped countries are usually much lower than those of developed countries; the development of financial markets starts with traditional banks. The industry continues to mature and depends on the transmission and circulation functions of paper money in the economy and society; with the development of economy and society, banks, as part of the financial market, will tend to reduce the proportion of the total assets of a country’s financial institutions. And the proportion of other new financial institutions will rise accordingly; for the financial development of most countries, the exemplary role of advanced countries is as important as international capital flows.

According to the cost-benefit criterion, choose the financial market and demand realization mechanism that can meet the economic system’s demand for financial service functions as a platform to realize the functional coupling between the financial system and the external environment. The financial constraint model involves the following aspects. First of all, the theoretical realization of financial constraints is based on the long-term stable economic policy environment of countries and regions. Therefore, compared with other influencing mechanisms, generally lower price levels and positive market storage rates have become the main influencing factors. In addition, the rent factor caused by the country's fiscal restraint policy and the correlation factor between the government and the real economy have also become important influencing factors. The competition among different development entities shall be intervened in deposits and loans through reasonable floating interest rates, setting entry thresholds, conditional asset substitution, and creating a predictable investment and financing environment. It has also become one of the structures of the financial model. The core ideas of the evolution of financial market structure are as follows. First, the financial service function of financial institutions has become more stable, and financial functions have changed relatively little in different periods and different political regions; second, a more efficient financial system is the inevitable innovation of financial institutions and market competition result. In practice, many Asian countries have shown that poor farmers also have savings needs. If savings incentives are implemented, the poor will increase their savings. The way to reduce poverty is to establish an effective and sustainable rural financial market operation mechanism, not to increase loans or savings. If the agricultural credit subsidy policy is implemented, it will be difficult to build an efficient and sustainable rural financial system. Agricultural credit subsidies are only applicable to areas where the rural financial market mechanism is seriously malfunctioning.
3. The Influence of the Financial Market on the Structure of Rural Enterprises

3.1. The Influence of Financial Market Structure on the Growth of Agricultural Enterprise Output Value. Existing rural financial market theories have their own advantages and shortcomings in analyzing the impact of rural financial market structure on agricultural development in different countries or regions. As the economy develops, financial correlation ratios tend to rise, and a country’s financial system also continues to evolve. In addition, financial correlation rates in less developed countries are generally much lower than in developed countries. The development of the financial market begins with the continuous maturity of the traditional banking industry, which relies on the dissemination and circulation of paper money in the economy and society. These theories do not matter about the suppression and deepening of rural finance, the dominant mode of supply and demand in the rural financial market, and the relationship between rural financial structure and rural financial structure. The financial function is still based on the theory of rural credit and modern rural financial market, most of which are based on the development of rural financial institutions or rural financial market structure itself but rarely consider the development of a country or region’s agricultural economic structure and regional spatial structure.

Without considering noneconomic structural factors such as the natural geographic attributes of a country or region and regional spatial differences, but in terms of the characteristics of the development of the rural financial market structure, the advantages and disadvantages of different types of rural financial market structures in the process of agricultural development coexist. In a country or region, if there is a rural financial market structure with a relatively high degree of market concentration (strong monopoly), it will have a positive impact on agricultural development.

Linear regression mainly reflects the linear relationship between predictive variables and independent variables, which can be expressed as

\[ E(Y) = a + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n. \]  

(1)

Extra relative risk (ER) is used to reflect the effect of environmental factors on sports health risks. The ER value is based on the relationship coefficient in the regression model \( \beta \). The calculation formula is

\[
RR = \exp(\beta x),
\]

\[
ER = (RR - 1) \times 100,
\]

(2)

\[
ER(95\%CI) = [\exp([\beta \pm 1.96se]x) - 1] \times 100.
\]

Among them, \( B_i \) is used as the scale element corresponding to the i-th evaluation in data set B. Through data set B, the data membership vector representing the injury of the athlete can be effectively integrated into a scalar. The formula is expressed as

\[ V = r_j \times B. \]  

(3)

It is mainly reflected in the following. First, rural financial institutions themselves can rely on economies of scale to carry out business (such as bank credit) or through moderate scale expansion can effectively reduce operating costs such as transaction costs and expenses and improve their own operating efficiency. Market performance thereby effectively allocates credit funds. Second, rural financial institutions (such as China’s large state-owned commercial banks and rural credit cooperatives) with high monopoly market power are mobilizing savings and identifying borrowers—the credit rating of agricultural business entities—and to diversify risks, it will be easier to acquire high-end and high-quality borrowers as potential customers and increase credit supply to high-quality borrowers in the market. Third, rural financial institutions that are in a market monopoly position are more likely to take advantage of their financial market power. Not only can it rely on the advantages of scale to convey the higher credibility of the company to potential depositors in the market, but it is also easier to reach long-term cooperation agreements with borrowers such as large agricultural operation organizations, leading agricultural industrialization enterprises, or agricultural operation entities with higher credit. With the development of the economy and society, banks are gradually integrated into the existing national financial market. The proportion of banks will tend to reduce the proportion of the total assets of a country’s financial institutions. However, the proportion of other emerging financial institutions will also increase accordingly. For most countries, the development of the financial industry also reflects the complementarity of financial capital and active development in developed countries. It is conducive to increasing the loan line of agricultural borrowers and then can give full play to the basic financial functions of rural banking and other financial institutions such as mobilizing savings, allocating credit funds, and controlling risks. Model analysis results are shown in Figure 4.

At the same time, the relatively high degree of market concentration (strong monopoly) of the rural financial market structure has adverse effects on agricultural development mainly reflected in the following: Banks (rural credit cooperatives) due to the lack of effective competition and lack of motivation to innovate financial products improve their own service quality and improve business models. According to the cost-benefit criterion, we generally choose financial service functions that can satisfy the economic system. The needs of the financial market are mainly concentrated in the construction of the realization mechanism platform, so as to realize the functional coupling between the financial system and the external environment. Second, in the rural financial structure with a strong monopoly, rural financial institutions are more aggressive. Earnings or avoiding business risks, market behaviors such as lowering service quality, setting higher prices of financial products, and raising credit thresholds are often adopted, resulting in the inability to effectively allocate credit resources to more
agricultural business entities. Large commercial banks are operating in rural agriculture. The market behavior of "credit gracioso" once became the rural financial market.

Shape the general functional relationship between the output $y$ of the injury model and the input $x_1, x_2, \ldots, x_n$. The Kolmogorov-Gabor polynomial is as follows:

$$y = f(x_1, x_2) = a_0 + a_1x_1 + a_2x_2 + a_3x_1^2 + a_4x_2^2 + a_5x_1x_2.$$  \hfill (4)

And treat each of the monomials as $m$ input models in the original structure of the modeling network:

$$v_1 = a_0,$$
$$v_2 = a_1x_1,$$
$$v_3 = a_2x_2, \ldots, v_m = a_5x_1x_2.$$  \hfill (5)

The final information $i_t \times C_i$ is expressed as the value that can be obtained $C_t$ from the output information of the joint forgetting gate:

$$C_t = f_t \ast C_{t-1} + i_t \ast C_t.$$  \hfill (6)

The calculation method is

$$O_t = \sigma(W_o \cdot [h_{t-1}, x_t] + b_o),$$
$$h_t = a_t \ast \tanh(C_t).$$  \hfill (7)

Constructing a mathematical model for quantifying quantitative attributes, for the dimensionless value $v'_j$ of attribute $c_j$, it can be expressed as

$$v'_j = \begin{cases} 1, & v_j \leq v_{\min j}; \\ \frac{v_{\max j} - v_j}{v_{\max j} - v_{\min j}}, & v_{\min j} < v_j < v_{\max j}; \\ 0, & v_j \geq v_{\max j}. \end{cases}$$  \hfill (8)

As a generalization of the ordinary linear model, GLM introduces a connection function in the model in order to fit some nonlinear relationships. The model can be expressed as

$$g(\xi) = g(\sigma) + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n,$$  \hfill (9)

where $g(\sigma)$ is the connection function, $\sigma = E(Y)$.

$$g(\xi) = a + f_1(X_1) + f_2(X_2) + \cdots + f_n(X_n).$$  \hfill (10)

The function of the forgetting gate is to determine the part discarded from the input information $h_{t-1}$ and $x_t$ and output a value between 0 and 1. The larger the value is, the more information is retained. The output of the forgetting gate is calculated as follows:

$$f_t = \sigma(W_f \cdot [h_{t-1}, x_t] + b_f).$$  \hfill (11)

The "pumping machine" in the countryside draws on the savings of a large number of agricultural business entities such as farmers and leading enterprises but turns to urban areas to invest credit resources, resulting in a large loss of rural agricultural credit resources, thereby inhibiting the sustainable and effective development of rural agriculture. Third, government departments have strong monopolistic control of the rural financial market structure, and the policy of restricting the price of financial products has caused long-term rural credit rationing problems, which has led to a significant reduction in the credit availability of many rural households and small and medium-sized agricultural operators. The core idea of the evolution of financial market structures is as follows: first, it is manifested in a more efficient financial system, so as to build the effect of financial institution innovation and market competition; second, the financial service function of financial institutions is more stable, and the financial function changes relatively little in different periods and different political regions. Model analysis results are shown in Figure 5.

From the characteristics of the monopolistic competition type of the rural financial market structure, different types of rural financial market structure have pros and cons on agricultural growth. Existing literature research shows that from the perspective of the relationship between finance and industrial development, the two may have mutual influence or one-way influence. But in practice, the financial implementation process in many Asian countries also reflects the savings needs of poor farmers. Therefore, we need to implement savings incentives that increase the savings of the poor. The way out of poverty is to build efficient and sustainable rural financial markets, not simply to increase lending or increase savings. Agricultural credit subsidies are only available in areas where the rural financial market mechanism is seriously out of order. However, different
types of rural banking and other financial market structures are endogenous to the economic structure of a certain region and a certain stage of development. When investigating and analyzing the economic impact of the rural financial market structure, we must consider the rural financial market structure and the specific region in which it is located. Therefore, the matching degree of the rural financial market structure and the corresponding real economic institutions will affect the effective performance of the rural financial system’s basic functions of finance. Model analysis results are shown in Figure 6.

3.2. The Influence of Financial Market Structure on Agricultural Factor Productivity. From the characteristics of the monopolistic competition type of the rural financial market structure, different types of rural financial market structure have pros and cons on agricultural growth. Existing
literature research shows that, from the perspective of the relationship between finance and industrial development, the two may have mutual influence or one-way influence. However, different types of rural banking and other financial market structures are endogenous to the economic structure of a certain region and a certain stage of development. When investigating and analyzing the economic impact of the rural financial market structure, we must consider the rural financial market structure and the specific region in which it is located. Therefore, the matching degree of the rural financial market structure with the corresponding real economic institutions will affect the effective performance of the rural financial system’s basic functions of finance. Model analysis results are shown in Figure 7.

In actual application, there is no “optimal financial structure” applicable to the economic structure of all countries (or regions). Therefore, if the specific characteristics of the real economic structure are used to judge whether the country (or region) financial structure is optimal, the evaluation result may be different. Conclusions can be drawn with the analysis of the difference in the angle of the problem. Therefore, if the specific characteristics of the real economic structure are used to judge whether the financial structure of a country (or region) is optimal. Correspondingly, the evaluation results may draw different conclusions due to different analyses of the problem angle. Although the factors affecting the financial structure of a country or region include laws, political systems, culture, production habits, etc., the characteristics of the agricultural economy’s demand for rural financial services should determine a country (or region) at different stages of economic development. There are an optimal financial endowment structure and the most basic factors of its evolution. Therefore, if the factor endowment of a

Figure 7: The influence of financial market structure on agricultural factor productivity.
country (or region) is labor-intensive, the rural financial structure should be dominated by rural financial institutions represented by regional small- and medium-sized banks that can provide services to small- and medium-sized agricultural business entities. With the improvement of the scale of business entities, technological innovation, and product quality, the proportion of large banks and securities markets that can provide financing services, diversify risks, and allocate resources for large agricultural business entities (such as leading agricultural industrialization enterprises) in the rural financial system has gradually increased. However, in practice, there is no “optimal financial structure” that applies to all countries or regions’ economic structures. However, to a certain extent, the factors that affect the financial structure of a country or region include legal and political systems. At the same time, content such as culture and production habits should also be treasured. Until the advanced agricultural economies, large financial institutions and direct financing markets are in a dominant position. Model analysis results are shown in Figure 8.

As far as China is concerned, the level of development of “agriculture, rural areas, and farmers” has been continuously improved. However, the endowment of rural (or agricultural) factors determines that the main body of agricultural economic management is still mainly small- and medium-sized. Substantial changes have been made to the “small peasant” model of managing land resources with “family” as a unit. New agricultural business entities such as leading agricultural industrialization enterprises and large farmers have not replaced “small peasants” in the dominant position of the agricultural economy. However, the agricultural economy is also very important to the demand for rural financial services. The main feature of this behavior is that financial services need to adapt to the different stages of economic development of a country or region. There exist an optimal financial endowment structure and the most basic factors in its evolution. But relatively speaking, the characteristics of this factor endowment structure have regional differences in the level of evolution in different regions of China and at different stages of economic development in the same region. Therefore, in terms of agricultural growth, on the whole, the highly monopolistic rural financial market structure determined by large state-owned commercial banks or rural credit cooperatives that once dominated China’s rural financial market is clearly not conducive to

**Figure 8:** The impact of financial market structure on agricultural enterprise pollution.
agricultural growth. In terms of specific economic regions or agricultural subindustries, different regions and different subindustries are heterogeneous. If the average business scale of agricultural business entities in a region or industry is relatively large, financial institutions such as large banks should be used as rural areas. Therefore, if a region or country’s production factor resources are labor-intensive, then the rural financial structure should be able to provide appropriate services for small and medium agricultural enterprises. Therefore, it is suitable for rural financial institutions represented by small- and medium-sized banks in the service area. The main body of the financial market, on the contrary, the rural financial market, should be the main body of the small- and medium-sized financial industry represented by the new rural financial institutions. At the same time, with the evolution of the factor endowments that determine the structure of the agricultural economy, the structure of the rural financial market will also be adjusted accordingly, and its impact on agricultural growth will also undergo a corresponding change. Model analysis results are shown in Figure 9.

3.3. The Impact of Financial Market Structure on Agricultural Enterprise Pollution. Agricultural total factor productivity and agricultural production input factors together constitute the source of power to drive agricultural growth in a country or region. In terms of agricultural economic growth, TFP measures the agricultural growth achieved due to agricultural technological progress, technical efficiency, scale efficiency improvement, organizational innovation, and management innovation, in addition to the input factors of agricultural production. Therefore, the total factor productivity of agriculture is as follows. Improvement plays a vital role in the process of agricultural modernization in a country or region. Agricultural development is essentially a process in which agricultural total factor productivity replaces agricultural factor inputs and its contribution continues to increase. Since the reform and opening-up, China’s macro agricultural production has achieved sustained and rapid growth. Financial institutions are also very important to the development of the real economy. With the improvement of the scale of business entities, technological innovation, and product quality, it can provide financing services for large agricultural business entities (including leading agricultural industrialization enterprises). However, at present, China’s workforce of the right age is showing a downward trend, the overall population growth rate is lowered, and there are a transfer of rural labor force and deployment of rural land for urbanization construction. Therefore, if China’s agricultural growth still follows the extensive development model, it will be affected by existing resources. Elements and environmental constraints are as follows. The sustainable development of China’s agriculture will inevitably rely on the improvement of total factor productivity (TFP) in agriculture to move toward a connotative agricultural development model. At present, the existing literature has explored the basic conditions and changing characteristics of China’s agricultural total factor productivity (TFP), emphasizing the importance of TFP’s impact on agriculture and the overall economic development. Model analysis results are shown in Figure 10.
The “China Statistical Yearbook” and “China Rural Statistics Yearbook” provide more comprehensive data for measuring agricultural total factor productivity. Figure 11 shows the overall time change of China’s agricultural total factor productivity. It can be seen from the figure that China’s agricultural total factor productivity has shown a tortuous and weak upward trend, especially in the past five years. At present, China’s agricultural total factor productivity lacks vitality, indicating China’s agricultural development in an important transition period, the transition from traditional agriculture to modern agriculture needs to rely on the rural financial market and other channels to provide continuous financial support for agricultural development. Model analysis results are shown in Figure 11.

Further, we analyze the decomposition of China’s overall agricultural total factor productivity and its influencing factors. From the data in the table, it can be seen that the improvement of China’s agricultural total factor productivity is mainly achieved through agricultural technological progress, which is basically consistent with the measurement and evaluation of most scholars. The basic growth surface of China’s agricultural total factor productivity fluctuates on the “1” level, and its highest value did not exceed 1.20, indicating that China’s overall agricultural total factor productivity still has a lot of room for improvement. In addition, financial institutions are also concerned with diversifying risks and allocating resources. As the proportion of large banks and securities markets in the rural financial system gradually grows, the development of China’s current financial system is already similar to that of developed
4. Conclusion

The basic conclusions summarized in this article are as follows: the rural financial market structure has a systematic and profound continuous impact on China’s agricultural development. The rural financial market structure that matches the agricultural industrial structure can not only provide basic financings such as continuous credit funds and risk diversification for agricultural development. Functional support, at the same time, can also provide differentiated financial services for the improvement of agricultural total factor productivity and agricultural emissions reduction and guide more construction funds to flow to the rural financial market for the optimization and upgrading of agricultural industrial structure and the optimal allocation of resources such as production factors.

Through analysis, this article draws the following basic conclusions:

(1) Since the reform and opening-up, the structure of China’s rural financial market has undergone four evolutionary stages. The People's Bank of China dominates the world, the Agricultural Bank of China is in a dominant position in the rural financial market, and the rural credit cooperatives have a monopoly position, including small- and medium-sized rural financial institutions and rural banks. The structure of China’s rural financial market has gone through different stages of evolution. The People's Bank of China is the top financial institution. The Agricultural Bank of China also dominates the rural financial market. Rural credit cooperatives are also in a monopoly position, including rural small- and medium-sized financial institutions and rural banks. There is a development stage of the coexistence of diversified rural financial business entities, including new rural financial organizations such as rural commercial banks, and rural financial institutions. In terms of the concentration of China’s rural financial market, whether from the overall level of the country or from the provinces, cities (districts), east, middle, and west from the perspective of large economic areas or different functional areas of grain production (main grain production areas, main sales areas, production, and sales balance areas), over time, the concentration of rural financial markets is declining. New rural financial institutions such as rural commercial banks are still in the stage of coexistence and development of diversified rural financial business entities. From the perspective of the concentration of our country’s rural financial market, whether it is from the overall level of the country or from the economic development of each province and city, the improvement of the financial system plays an important role. The structure of the rural financial market is still oligopolistic or highly oligopolistic. The rural financial market in economically backward areas is less competitive. From a regional perspective, there are large regional differences in the structure of China’s rural financial market. There are significant regional differences no matter in the three major economic belts of the east, central, and west or in the functional areas of grain production and marketing.

(2) In terms of the overall development of China’s agriculture, from the perspective of industrial growth, during the selected sample data period (2005–2016), China’s agriculture has achieved worldwide agricultural development achievements. The added value and growth rate of agriculture, forestry, animal husbandry, and fishery are both a big improvement. From the perspective of the improvement of agricultural total factor productivity, China’s agricultural total factor productivity has been on a slow upward process since 1997, but there have been large fluctuations between 2003 and 2011. The different functional areas of grain production (including the main grain production area, the main sales area, and the production and sales balance area) have their own main functional orientations. Over time, the concentration of rural financial markets has shown a downward trend. However, the structure of our country’s rural financial market is still dominated by a single oligopoly. After that, agricultural total factor productivity even has a downward trend. There are regional differences in total factor productivity and the decomposition components of influencing factors. A phenomenon worthy of attention is that regions with a higher agricultural total factor productivity index are not regions with a higher overall economic development level. From the perspective of agricultural pollution reduction, agricultural pollutants (agricultural source total phosphorus,
total nitrogen, and ammonia nitrogen) emissions and emission intensity are still relatively high. Although the emission intensity is showing a downward trend, the issue worthy of attention is our country’s major agricultural production provinces; in particular, food production areas are areas with large pollutant emissions and high emission intensity, which provide a basic reference for the implementation of differentiated agricultural pollution reduction intervention policies.

(3) Through the analysis of the mechanism of the rural financial market structure influencing China’s agricultural development, it is shown that the rural financial market structure that does not match the basic economic structure (with greater market concentration) will not be conducive to the growth of China’s agricultural industry. In other words, the higher concentration of rural financial markets hinders agricultural growth. The rural financial market in economically backward areas is less competitive. From the overall regional perspective, there are large regional differences in the structure of our country’s rural financial market. There are significant regional differences in the three major economic belts of the east, the middle, and the west, as well as the functional areas of grain production and sales. At the same time, the higher concentration of the rural financial market is also not conducive to the improvement of agricultural total factor productivity. Agricultural pollution reduction has a certain negative impact.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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