

Research Article

An Empirical Study on the Relationship between Economy and Finance in Underdeveloped Areas Based on the VAR Model

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In recent years, the level of local economic, social, and financial development had been greatly improved. However, due to the large gap between regions, the economic and financial industries in underdeveloped regions restricted the further development of the whole national economy to a great extent. It was known from the existing research that economic development was inseparable from the support of the financial industry, but the role of the financial industry in the process of regional economic development had not attracted attention. Therefore, from the perspective of economic development in underdeveloped areas, this paper put forward relevant assumptions by analyzing the relationship between economic growth and financial factors. In view of the development of financial industry in underdeveloped areas, this paper mainly analyzed from three aspects: banking, securities, and insurance, and selected corresponding indicators to observe the changes of banking, security, market and insurance market. Vector autoregressive model and vector error correction model were used to carry out cointegration test and Granger causality test for financial and economic-related indicators in underdeveloped areas. According to the impulse response function and variance decomposition results, this paper analyzed the dynamic relationship between financial development and economic growth, as well as the disturbance and duration of financial factors on economic development. The empirical results showed that the VAR model can better analyze the relationship between financial growth and economic growth, as well as the role of financial factors in the process of economic development. This study can provide reference for formulating financial development policies suitable for economic development.

1. Introduction

For a long time, one of the macropolicy objectives of governments and central banks is to maintain moderate inflation and macroeconomic stability. However, under the background that the financial system plays an increasingly important role in the whole macroeconomy, central banks gradually ensure the coordinated development of the financial market and real economy: on the one hand, it requires the financial system to operate normally and stably. On the other hand, the financial system can effectively resist the negative impact of external instability on the domestic financial system [1–3]. Therefore, ensuring and promoting financial stability have gradually become one of the important objectives of the central bank to control the stability of the

macroenvironment [4]. Since the 1990s, some international financial organizations and central banks have begun to build a financial stability monitoring system to evaluate the stable operation of finance and warn of the potential risks of the financial environment [5–8]. At the beginning of the founding of China, China's financial system was more administrative planning system, which meant that China's unstable factors and financial risks were small. First, the planned economic system monitored the financial system strictly, which made it difficult to produce greater financial risks and instability in China. Secondly, the administrative planning system of the financial system makes it difficult for foreign financial risks to affect the domestic financial market and reduce external financial risks. However, with the reform and opening up, in the process of marketization

and internationalization of China's financial system, the unstable factors and even the impact of financial risks caused by the original imperfect financial system in the process of financial development are becoming more and more prominent [9]. In addition, due to the internationalization of the development of the financial system, speculative international hot money and financial risks of other countries are more likely to affect China's financial system, which further increases the risk of the domestic financial system. Therefore, it is urgent to build a financial stability evaluation and monitoring system suitable for China's national conditions.

However, for every country, this may also be the trigger for its economic downturn. Economic globalization makes countries interact more frequently, have closer relations, and strengthen economic interdependence [10]. It promotes rapid economic development. Economic globalization makes countries more and more open to the outside world, and some uncertain factors are injected into the domestic financial system more or less, even financial risks that affect the global economic situation. The currency crisis in the 1990s soon spread to the whole of Asia. At the same time, the share of total financial volume in GDP is increasing day by day, and the role of the financial industry in the process of economic development is becoming increasingly prominent. If the finance is done well, one move will make the whole game live [11–14]. But the reality is that compared with the rapid economic development, the development of the financial industry is slightly slow, and its role in promoting the economy has not been brought into full play. Therefore, the theoretical and empirical research on the relationship between the two, the action mechanism between finance and economy, and the contribution of finance to the economy has certain guiding significance and reference value for enriching the financial and economic theory and giving better play to the promoting role of finance in the process of economic growth. It also has corresponding practical guiding significance for the further improvement of China's current financial market and the transformation of economic development mode [15]. Financial growth will promote economic growth to a certain extent, which can also activate people's investment and wealth management boom. To a certain extent, it will promote the growth of the national economy, which is a favorable thing.

Financial development is a key variable affecting economic growth, which has been affirmed by most economists [16]. On the premise of recognizing the importance of financial development, the discussion on the contribution of financial development to economic growth has gradually become the forefront and core of economic research. The existing theoretical and empirical studies show that the financial industry plays a great role in mobilizing social savings, promoting the optimal allocation of resources, reducing transaction costs, disseminating effective market information, giving full play to the information advantages of professional organizations, reducing economic losses caused by information asymmetry, and dispersing market risks. However, for a region or a city, it is still unclear what role financial development plays in economic growth [17].

Therefore, we must start from reality and test it through practice. The level of financial development and economic development across the country is different, and the gap is quite large, and the role of financial development in promoting economic growth is also different [18]. To study the relationship between financial development and economic growth, the conclusion may have no practical guiding significance. Therefore, to draw a practical guiding conclusion according to the relationship between financial development and economic growth, we must make an empirical analysis for a specific region [19].

Considering the influence of population and price factors, this paper selects the per capita real GDP growth rate as the index to measure economic growth and adds the control variable of per capita fixed asset investment in the whole society to ensure the comprehensiveness and reliability of the test results. At the same time, in order to analyze the role of finance in the process of economic growth, this paper studies the deposit and loan balance of financial institutions at the end of the year. In addition to the stock market, the research on the security market also brings the financing amount of the bond market into the security market, so as to ensure that the financing amount of the security market will not be omitted. The research results of this paper not only have certain reference significance for other regions but also provide reference for the economic development of underdeveloped regions in China to formulate corresponding financial policies.

2. Related Works

Focusing on the role of financial market in economic growth, scholars and research institutions have conducted a series of empirical studies on financial and economic development in different regions. At the same time, different analysis methods are used to pay close attention to the relationship between them. Regional governments and economists also attach great importance to the specific relationship between the two. Some scholars have carried out relevant research on the relationship between financial development and economic growth. For example, through the research, it is found that economic growth stimulates financial development to a certain extent, while financial development promotes economic growth. At the same time, there is a certain interaction mechanism between the two. The different roles played by various departments of the financial industry in the process of economic development have become the focus of many scholars.

The process of financial development is mainly reflected in the sustained growth of financial aggregate and the innovation and optimization of financial structure. Among them, the total financial volume mainly reflects the overall development of the financial industry and the improvement of the financial market in a country or region. Generally, it has a positive correlation with the local economic development level. In areas with high economic development levels, the overall situation of financial industry development is naturally better; on the contrary, it is worse. The financial structure mainly reflects the specific situation of the

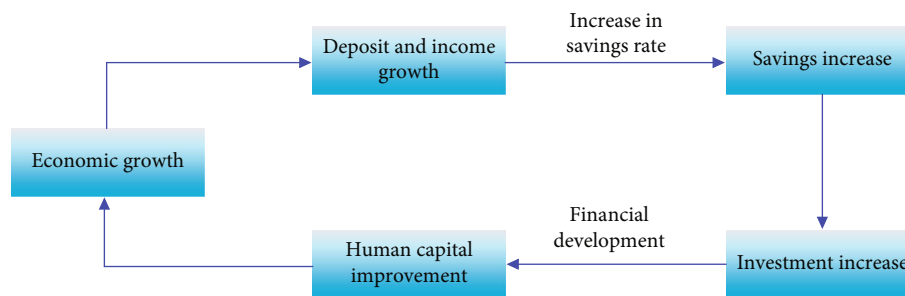


FIGURE 1: Relationship between financial development and economic growth.

composition, scale, and operation of each part of the total financial volume. The financial structure of a region will change with the change of financial aggregate, which is also related to the internal mechanism in the process of financial development. The total amount of financial development and the optimization of financial structure can be understood as different stages of the development of the same thing. Financial aggregate is the primary stage of the development of the financial industry because it more reflects a continuous accumulation process of financial assets and the basis of financial structure optimization. The optimization of financial structure is increasingly enriched and improved based on the continuous increase of the total financial volume in the early stage because the change of financial structure always occurs when the various components of the total financial volume change, which can be regarded as the advanced stage of financial development. From this, we can know that there is a dialectical and interdependent relationship between the continuous growth of financial aggregate and the continuous optimization of financial structure [20–23]. A large number of practical research results show that vector autoregressive (VAR) model is a special algorithm to deal with financial factors. It can not only better integrate financial influencing factors but also mine the factors affecting the relationship between finance and economic growth. As shown in Figure 1, the balanced development of regional economy plays a fundamental role in building a socialist harmonious society.

From the perspective of economic theory, the improvement of financial industry is an important driving force of economic growth. In order to realize the balanced development of regional economy, we must pay attention to the role of financial industry. As an underdeveloped region, the existing financial system has not been improved and its role in promoting economic development has not been effectively played. In the context of this rise, the corresponding discussion on the relationship between finance and economy plays a corresponding guiding role in promoting the reform of the financial system, giving full play to the role of the financial industry in economic development and realizing “leapfrog development”. As can be seen from Figure 1, there is a certain degree of interaction between finance and economic growth, and the financial industry can promote economic growth. Economic growth can also promote the vigorous development of the financial industry.

According to the above analysis, it can be clear whether the region should focus on financial development or economic growth in its future development. The research shows that the relevant policies issued by local governments to promote economic development have important guiding significance. Compared with other surrounding areas, underdeveloped areas have certain similarities in financial and economic development. In the choice of economic growth indicators, domestic scholars either choose GDP or per capita real GDP. However, there are many factors affecting economic growth. In addition to the financial industry, population, investment, and price factors will also affect economic growth.

3. Research Assumption and Model Construction

3.1. Research Assumption. The financial structure of most regions is dominated by banks, and the banking system plays a leading role in economic growth. In the security market, the development of stock and bond markets is relatively slow, and they have not played their due role, and their driving role in the economy has not yet appeared. As a social stabilizer, the insurance market also plays a certain role in the process of economic development.

From existing research, most regional financial intermediaries are mainly large state-owned banks, which account for a high proportion of the whole financial intermediaries, and their service subjects are relatively single [24]. They mainly provide relevant services for some large state-owned enterprises, which leads to difficulties in financing for some private enterprises other than state-owned enterprises. It is difficult for them to finance through these banks, weakening the allocation function of the financial market, which will weaken the role of the banking industry in promoting the economy to some extent. Although such financial institutions as securities, insurance, trust, and leasing can provide loan support to some small and private enterprises, their development speed and level are far from those of banking financial institutions. This situation not only hurts the further development and improvement of the financial market but also leads to the uneven distribution of the financial structure, making banking financial institutions face higher financial risks. The service demand of the financial industry has the characteristics of complexity, multilevel, and diversity. Simple large-scale banking financial institutions are unable to meet the diversified

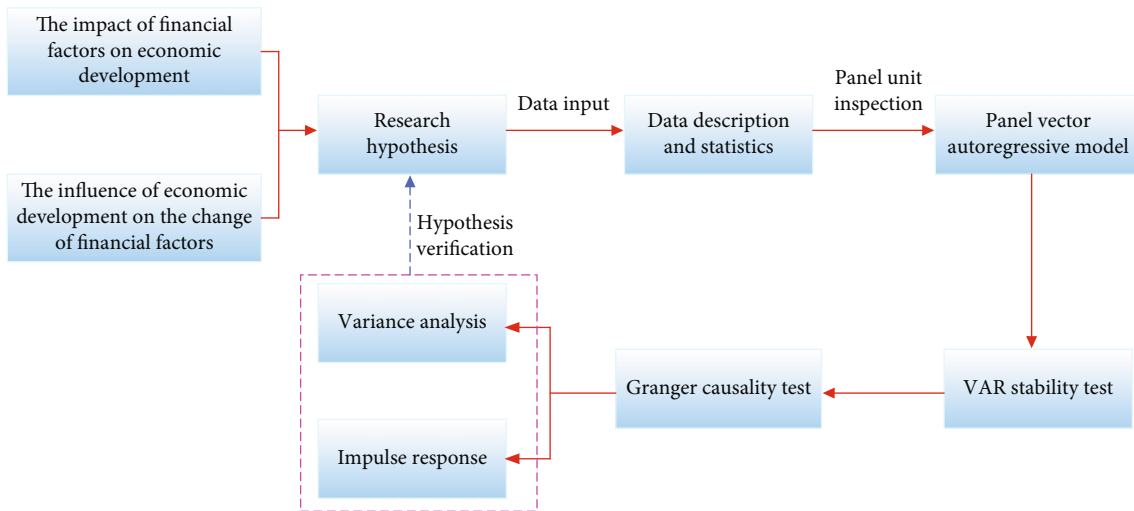


FIGURE 2: Flow chart of research assumption and model testing technology.

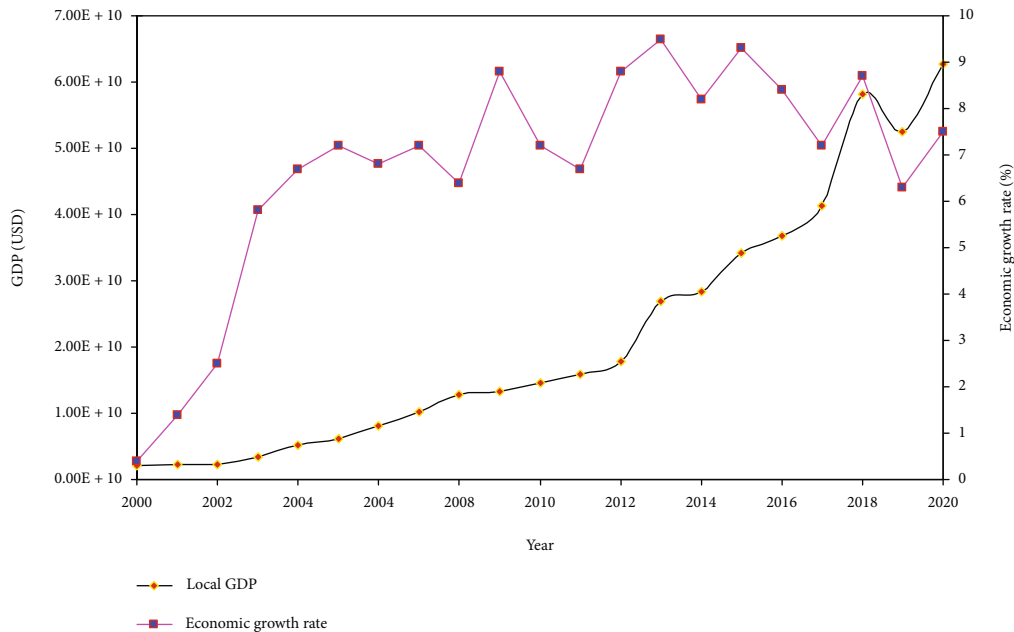


FIGURE 3: Relationship between GDP and economic growth rate in the past 20 years.

financial needs of all kinds of personnel [25, 26]. Therefore, this requires us to pay attention to the diversified development of financial institutions and pay more attention to the development of non-state-owned and nonbank financial institutions, which can not only enrich the current state of financial structure but also alleviate the current problems that are difficult to meet the diversified financial service needs of all kinds of personnel, to promote benign competition among financial institutions, reduce financial risks, improve the competitiveness of financial institutions, and give better play to their role in economic development.

The research shows that the insurance market has a certain impact on the stability of enterprise operation and the healthy development of people’s life [27]. In economic and social development, insurance plays an important role in

reducing social disasters and promoting economic development. However, there is still a big gap between regions with different levels of economic development, and there are still problems in the development of insurance market in some regions. For example, it is difficult for insurance varieties to meet the diversified needs of the people, and the use level of funds in the insurance market is not high. The total number of talents in the insurance market is insufficient, and there is a lack of corresponding high-quality management talents and professional and technical talents. Therefore, the integrity and market order of the insurance market need to be improved and further standardized.

In the current financial market, the potential of the security market to promote economic growth has gradually exceeded the traditional financial intermediary. In terms of

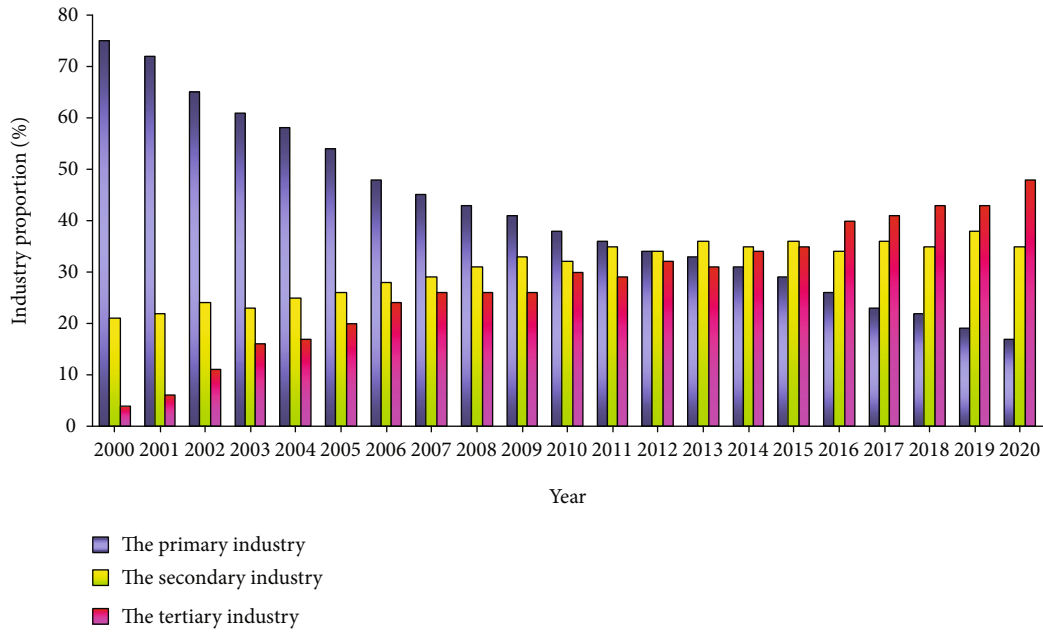


FIGURE 4: Development trends of the three major industries in the past 20 years.

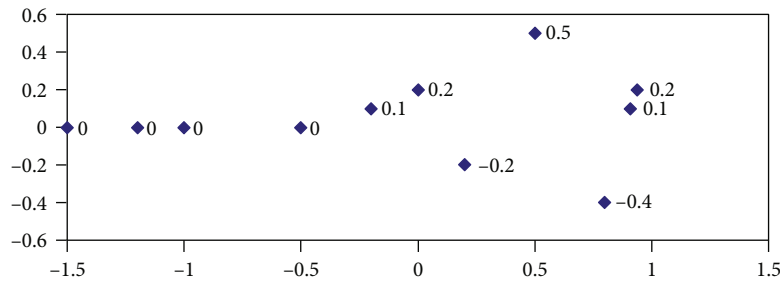


FIGURE 5: Model stationarity test.

the number of listed companies and the amount of stock and bond financing, the development of the security market is relatively low [28, 29]. Due to the complexity of financial demand and financial services, relying solely on formal state-owned financial institutions cannot fully meet the needs of all kinds of investors. Only by relying on various special state-owned and non-state-owned financial institutions can we provide all-round financial services. In order to ensure the long-term development of economy and society, the separate business model of banking, securities, and insurance has changed the traditional concept of “emphasizing banks, neglecting the stock market and weak insurance.” It can not only promote the relationship between direct financing and indirect financing but also give play to the role of insurance and security institutions in promoting the economy, and its contribution to economic development is greater than that of traditional banking [30].

From the research progress on the relationship between financial development and economic growth at home and abroad, as well as the research results on the relationship between financial elements and economic growth, this paper puts forward the following research hypotheses:

Hypothesis 1. Financial development in underdeveloped areas has a significant impact on economic development. When other conditions remain unchanged, there is a certain positive correlation between them.

Hypothesis 2. Financial factors in underdeveloped areas have a certain impact on economic development and change. When other conditions remain unchanged, there is a certain mutual restriction relationship between various elements of finance and economic growth.

3.2. Model Construction. In order to effectively analyze various factors affecting the relationship between finance and economic growth, this paper uses the vector autoregressive (VAR) model. The cointegration test, impulse response function analysis, and variance decomposition are all carried out based on the vector autoregressive model. The VAR model is a generalization of the AR model, in which each endogenous variable is a lagged function of other endogenous variables. It is an unstructured model based on the statistical properties of data.

Most economic variables with a strong trend, such as GDP, are unstable variables. When the time series is

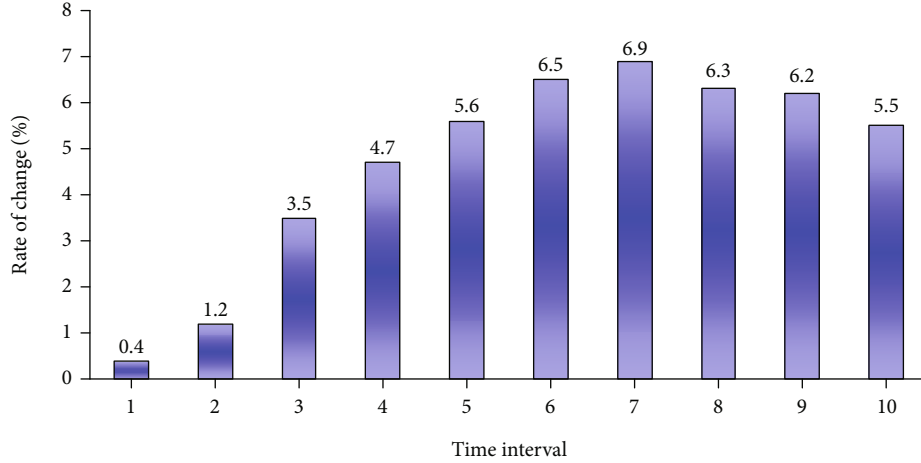


FIGURE 6: Effect of LnFIR on the change of LnRGDP impulse response function.

nonstationary variables, the direct use of OLS regression will often lead to pseudoregression. If pseudoregression occurs, even if the results we get are significant, it has no significance. Therefore, we must test the stationarity of the variables before regression, unit root test. The unit root tests commonly used are the DF test, ADF test, and PP test. In this paper, the ADF test is used to test the stationarity of variables [31, 32].

$$\Delta X_t = a + b_t + rX_{t-1} + \sum_{i=1}^k r_i \Delta X_{t-i} + \varepsilon_i, \quad (1)$$

where ΔX_t is the k dimension column vector of endogenous variables, ΔX_{t-i} denotes a vector of lagged endogenous variables, and ΔX_{t-i} represents the hysteresis order of the exogenous variable. ΔX_{t-i} shows a vector composed of k -dimensional random error terms, which can be correlated with each other simultaneity but not with their respective lag terms and variables on the right side of the equation.

ADF test uses t statistic to test and gives the critical value of t statistic at 1%, 5%, and 10% test level under different samples. If the test t statistic is less than the critical value, reject the original hypothesis, otherwise, accept the original hypothesis. If the original hypothesis is accepted, it means that sequence X contains the unit root; that is, X_t is nonstationary. If the original hypothesis is rejected, then X_t has no unit root and is a stationary sequence.

$$\begin{aligned} a_{t+1} &= a_t + u_t, \\ \sigma_t^2 &= \gamma \exp(h_t). \end{aligned} \quad (2)$$

If the coefficient changes, it can catch the coefficient that does not change linearly, such as gradual or structural change. Because a_t is free to change under random walk, this assumption means that time-varying parameters can capture not only real changes but also the possibility of nonreal changes.

The Bayesian theorem is as follows:

$$\pi\left(\frac{\theta}{y}\right) = \frac{f(y|\theta)\pi(\theta)}{\int f(y|\theta)\pi(\theta)d\theta}. \quad (3)$$

The starting point can be selected as follows:

$$\begin{aligned} \theta^{(0)} &= (\theta_1^{(0)}, \dots, \theta_p^{(0)}), \\ \theta^{(i)} &= (\theta_1^{(i)}, \dots, \theta_p^{(i)}). \end{aligned} \quad (4)$$

The conditional posterior density function of β is shown as follows:

$$\begin{aligned} g(\beta) &= \pi\left(\frac{\beta}{\gamma, a, h, y}\right) \times \exp\left\{-\frac{1}{2}(\beta - \beta_0)' B_0^{-1}(\beta - \beta_0)\right\} \\ &\times \left\{-\frac{\sum_{t=1}^n (y_t - x_t' \beta - z_t' a_t)^2}{2\gamma e^{ht}}\right\} \\ &\times \exp\left\{-\frac{1}{2}(\beta - \hat{\beta})' \hat{\beta}^{-1}(\beta - \hat{\beta})\right\}, \end{aligned} \quad (5)$$

where $\hat{\beta}$ is expressed as follows:

$$\begin{aligned} \hat{\beta} &= \left(B_0^{-1} + \sum_{t=1}^n \frac{x_t \hat{y}_t}{\gamma e^{ht}}\right)^{-1}, \\ \hat{\beta} &= \hat{\beta} \left(B_0^{-1} \beta_0 + \sum_{t=1}^n \frac{x_t \hat{y}_t}{\gamma e^{ht}}\right). \end{aligned} \quad (6)$$

VAR model can be expressed as follows:

$$\begin{aligned} A y_t &= F_1 y_1 + \dots + F_s y_{t-s} + u_t, \quad t = s = 1, 2, \dots, n, \\ y_t &= B_1 y_1 + \dots + B_s y_{t-s} + A^{-1} \sum \varepsilon_t, \quad \varepsilon_t \in N(0, I_k). \end{aligned} \quad (7)$$

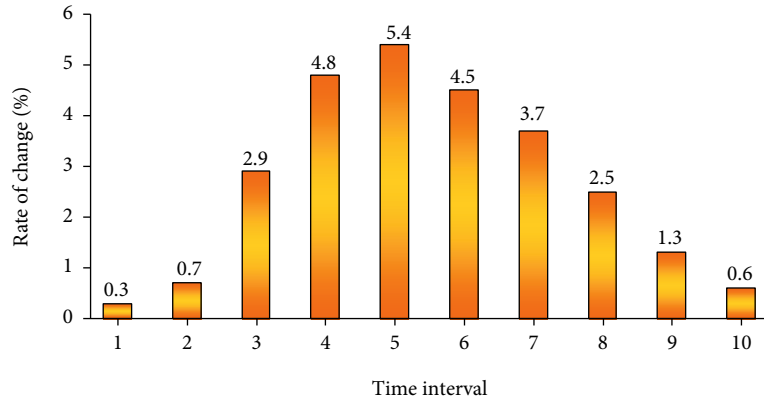


FIGURE 7: Effect of LnFL/FS on the change of LnRGDP impulse response function.

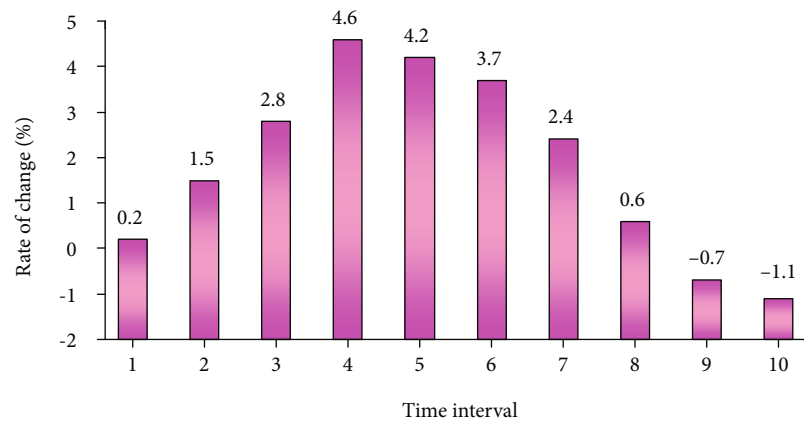


FIGURE 8: Effect of R on the change of LnRGDP impulse response function.

The model can be rewritten as follows:

$$y_t = X_t \beta_t + A^{-1} \sum \varepsilon_t. \quad (8)$$

All parameters and coefficients in the above formula do not change with time. If all parameters and coefficients are allowed to change with time, they can be changed to the following form:

$$y_t = X_t \beta_t + A^{-1} \sum \varepsilon_t, \quad t = s + 1, \dots, n. \quad (9)$$

When an endogenous variable in the model is disturbed by a standard deviation, the impulse response function can not only calculate the changes of other endogenous variables of the system but also predict the impact on these variables [33–36]. Variance decomposition (VD) mainly studies the influence and contribution of each structural impact on other endogenous variables (basically measured by variance) in the system, that is, to study the contribution degree of each new interest's impact to other endogenous variables in the system and then know the relative size of the change effect of each new interest in endogenous variables [37–40]. The impulse response function can reflect the changing relationship between finance and economic growth from a certain angle, as well as the region with relatively

large fluctuations. Through the variance, we can get the factors that lead to the error between the predicted value and the actual value of the VAR model, which provides a basis for financial practitioners to explore the source of error and solve problems.

As shown in Figure 2, the research assumption and model testing technology flow chart of this paper is given.

4. Demonstration and Analysis

4.1. Sample Selection. Aiming at the development of financial industry in underdeveloped areas, this paper mainly analyzes from three aspects: banking, securities, and insurance, and selects corresponding indicators to observe the changes of banking, security market, and insurance market. Among them, the development of the banking industry is mainly expressed by the level of bank loans and bank deposits, the development of the security market is reflected by the sum of bond and stock financing, and the development level of the insurance market is measured by the depth of insurance.

According to the existing research, the economy of underdeveloped areas is growing rapidly, the level of social development is improving day by day, the total economic volume is expanding, and the industrial structure is becoming more and more reasonable, but the economic development is still

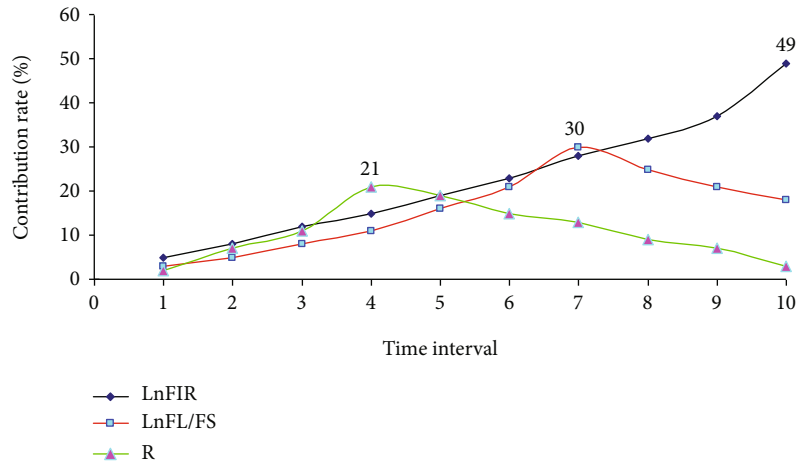


FIGURE 9: Comparison results of contribution rate changes of different factors in LnRGDP changes.

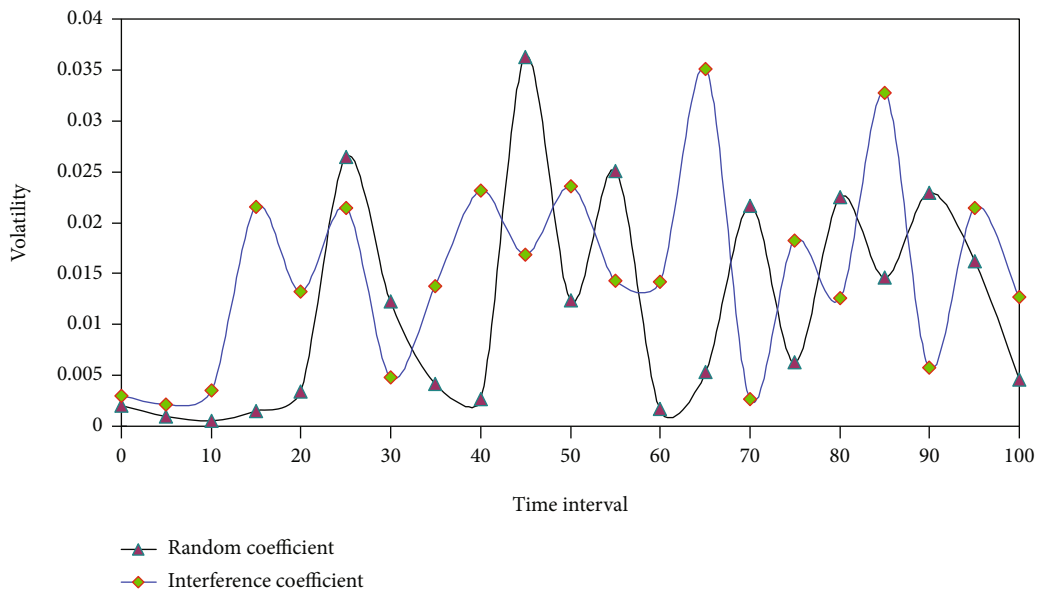


FIGURE 10: Influence of model coefficients on the change of LnRGDP impulse response function.

relatively extensive, and there are still many problems in the industrial structure [41–43]. At present, investment is still the first driving force driving economic growth, and the proportion of service industry is far lower than that in developed regions. Therefore, the goal of economic development is to adjust the industrial structure and realize the common development of urban and rural areas while maintaining the total growth.

4.2. Data Description and Statistics. As shown in Figure 3, it reflects the change trend of real GDP and economic growth rate in underdeveloped areas. Although the economic growth rate continues to rise, there is no obvious linear relationship between GDP growth and economic growth rate. As shown in Figure 4, the development trend of the three major industries from 2000 to 2020 is described. With the passage of time, the secondary industry and the tertiary

industry show a good state of development and occupy the main position of economic growth, while the primary industry shows a declining trend. Therefore, with the development of the financial industry, we can know the impact of the financial industry on the economic changes of different industries and also show the close relationship between economic growth and finance.

In the VAR model, if the value is less than 1, it means that the VAR model has better adaptability to the research object. This also shows that this model has good adaptability in the financial field. The stationarity test of the VAR model was carried out. As shown in Figure 5, there is no root greater than 1 in this VAR model, so it is a stable system. The results obtained by VAR analysis are valid.

4.3. Model Test and Result Analysis. Considering the lack of stability of the VAR model, this paper selects the impulse

response test of LnRGDP and tests the impulse response function. Among them, the influencing factors mainly include LnFIR, LnFL/FS, and R. In order to explore the influence of different factors on LnRGDP, we can observe the results of pulse test in different time periods. As shown in Figure 6, it reflects the influence of LnFIR on the change of LnRGDP.

It can be seen from Figure 6 that the value of financial impulse response function continues to rise over time, but it will gradually decline when the impulse value reaches a certain peak. Because the second derivative of financial impulse response function is less than zero, it shows a certain downward change after rising rapidly over time, but the downward trend is relatively slow. From this, we can know that the relationship between financial development and economic growth is not a simple linear change. In the long run or short term, the improvement of financial relevance has a positive impact on the growth of per capita GDP.

In order to test the influence of LnFL/FS on LnRGDP, the corresponding results are obtained through the impulse response experiment of LnRGDP, as shown in Figure 7.

From the action relationship of LnFL/FS on LnRGDP reflected in Figure 7, when LnFL/FS rises, LnRGDP first rises at a certain degree of uniform rate, and the driving effect of the fourth stage on LnRGDP is the largest. However, with the passage of time, the impact of LnFL/FS on LnRGDP shows a downward trend and has almost no impact on LnRGDP in the eighth stage, indicating that LnFL/FS will have a certain reaction to LnRGDP in the later stage. This shows that the loan deposit ratio can effectively promote the change of LnRGDP in theory, but only controlling LnFL/FS within a reasonable range is conducive to the development of LnRGDP.

Finally, in order to test the influence of R on LnRGDP, the corresponding results are obtained through the impulse response experiment of LnRGDP, as shown in Figure 8.

According to the relationship between R and LnRGDP reflected in Figure 8, when R increases, LnRGDP first increases rapidly and then decreases. With the passage of time, the positive effect of R on LnRGDP showed a downward trend. Whether in the long term or short term, interest rate has a positive impact on LnRGDP to a certain extent. However, when the value of LnRGDP is negative, the impact of R on LnRGDP will be negatively correlated. Therefore, although R can promote LnRGDP to some extent, it is necessary to deal with the stable relationship between finance and economic growth.

In order to reflect the role of different factors in the change of LnRGDP, the variance decomposition of LnRGDP can be carried out and the corresponding comparison results can be obtained, as shown in Figure 9.

From the comparison results in Figure 9, without considering the contribution rate of LnRGDP itself, the contribution of LnFIR to LnRGDP is the largest and increases with the passage of time, reaching 49% in the 10th cycle. LnFL/FS and R also contribute significantly to LnRGDP. The contribution rate of LnFL/FS to LnRGDP reached the maximum in phase 7, accounting for 30%, while the contribution rate of R to LnRGDP reached the maximum in phase 4, accounting for 21%.

In order to test the influence of correlation coefficient in the VAR model on the change of LnRGDP impulse response function, the random coefficient and interference coefficient in the model are tested. As shown in Figure 10, it reflects the influence of different coefficients on the change of LnRGDP impulse response function over time.

Because the correlation coefficient in the VAR model is estimated based on sample data, it generally does not change with time. From the influence results of different coefficients on the change of impulse response function reflected in Figure 10, it can be seen that with the passage of time, the random coefficient and interference coefficient in the model have an impact on the impulse response function to a certain extent. Therefore, the impulse response function will fluctuate with time, but it will not have a great impact on the test of relevant indicators.

From the above empirical analysis results, we should put the development of capital market before the banking industry, strengthen the financing of security market, give full play to the important role of security market in the rational allocation of existing social resources, and better promote economic growth. The development of financial institutions should not only expand the scale but also focus on improving efficiency and giving better play to the role of banks in economic development. At the same time, we will strengthen cooperation and complementarity among banking, securities, and insurance businesses; coordinate the healthy development of the three; and provide more perfect and diversified financial services for the people. Strengthen the construction of relevant laws, regulations, and systems to provide legal and policy support for the development of financial markets. Improve the service and supervision level of financial markets and financial intermediaries, give better play to the resource allocation function of financial markets, and promote economic development.

In addition, from the empirical results, we can see that in the current financial market, the potential of the security market to promote economic growth has gradually exceeded the traditional financial intermediary. In terms of the number of listed companies and the amount of stock and bond financing, the development of the security market is relatively slow. Due to the complexity of financial demand and financial services, relying solely on formal state-owned financial institutions cannot fully meet the needs of all kinds of investors. The empirical analysis further shows the importance of the VAR model in financial services. In order to realize a comprehensive financial service model, we must consider all kinds of financial industries, whether state-owned enterprises or non-state-owned enterprises.

5. Conclusion

Although some studies have shown that financial development has a certain impact on economic growth, the research on the relationship between financial factors and economic growth in underdeveloped areas is not clear enough. On the basis of summarizing the connotation of the relationship between financial development and economic growth, this paper analyzes the interaction mechanism between financial

development and economic growth. In order to further explore the internal relationship between financial development and economic growth in underdeveloped areas, this paper proposes to use the vector autoregressive model and error correction model to study the relationship between financial factors and economic growth in underdeveloped areas. Using the VAR model, financial development, financial stability, and economic growth are brought into the unified equation, and the dynamic relationship between the three is analyzed. By selecting relevant indicators, this paper tests and analyzes the impulse response function and variance decomposition that affect the relationship between financial factors and economic development. Empirical analysis and results show that in a short period of time, the impact of financial development on economic growth is small and not obvious enough. In the long run, the impact of financial development on economic growth has undergone structural changes. At the same time, economic growth also has a certain positive impact on financial development, and this impact will become more and more significant with the passage of time. Through the above research and analysis, it can be seen that the VAR method can better reflect the relationship between various factors of finance and economic growth. This research has a certain reference value for financial practitioners.

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 known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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