Frontiers in Economics and Management Volume 6 Issue 1, 2025
ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

Study of the Impact of Financial Development on Economic Growth in the Western Region

Xuehu Wu*

Anhui University of Finance and Economics, Bengbu, Anhui 233000, China

*Corresponding Author

Abstract

Finance, as the core and hub of modern economy, has a crucial role in economic growth and development. This paper addresses the impact of financial development on economic growth in the western region. Firstly, it is the theoretical analysis of financial development and economic growth, and then it adopts the panel threshold model, collects and organizes the panel data of 12 provinces in the western region from 2000 to 2019, and selects the relevant indexes to carry out an empirical research based on the role of the scale, efficiency and structure of financial development on the economic growth of the western region. The empirical results show that: in the early period, the financial scale inhibited the economic growth of the western region, and with the expansion of the financial scale beyond a certain threshold, it began to promote the economic growth of the western region; for the enhancement of financial efficiency, due to the diminishing marginal efficiency, its promotion of the economic growth of the western region is gradually weakening; however, there has always been a financial structure of the western region that inhibits the economic growth of the western region, which is consistent with the This is directly related to the fact that the proportion of direct financing in the financial structure, which is mainly based on the capital market, is too low. Whether it is to expand the financial scale or to play the financial efficiency, it is only the premise and foundation for promoting the economic growth of the western region, only the optimization of the financial structure can qualitatively improve the financial development of the western region to a higher level, so as to promote the economic growth of the western region. In this regard, the author suggests that the governments of the western provinces can optimize the financial structure of the western region and promote the economic growth of the western region by establishing and improving the multi-level capital market system in the western region as well as increasing the proportion of direct financing.

Keywords

Western Region; Financial Development; Economic Growth; Panel Threshold Model; Financial Structure.

1. Introduction

In today's economy, financial development plays a huge role in economic growth, and whether financial development is good or bad has a direct impact on the regional economy, or even on the whole country's economic development, whether it is fast or slow, stable or unstable. the financial crisis that erupted in 2008 is a very good proof of this, the abnormal development of finance at that time made the bursting of the economic bubble that had been generated was the source of the financial crisis. The bursting of the economic bubble created by the abnormal financial development at that time was the source of the outbreak of the financial crisis. After the outbreak of the financial crisis, countries around the world gradually began to explore

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

financial development and economic growth in depth, looking for specific optimal factors and conditions conducive to financial development to promote economic growth, which is very important for the financial development and economic growth of a country and region, and this is also a concern of the academic community as well as other sectors of the community, all areas of concern, and gradually set off a wave of academic research. The academic research has gradually become more and more popular. Our country is deeply aware of the very important relationship between the two and attaches great importance to the issues of financial development and economic growth. Like the reform of the financial system, since it was put forward, has been China's financial development and economic growth of the issue of the most important, and in the financial system reform was just put forward to establish a clear goal, and then the country continues to deepen the reform of the financial system. From this financial situation in China, it can be seen that the country attaches great importance to financial development and economic growth.

It has been thirty years since the reform and opening-up, during which China's economic and social development has been very rapid, and the country's status in the international arena has been greatly enhanced, while winning the attention of countries around the world, which can be called a miracle. However, over the past three decades, although the core of China's economic development has always been the coordinated development of the economy between regions, but there is still the problem of unbalanced economic development between regions, especially in the western part of China and the eastern coastal region of the imbalance in economic development and a huge gap, which involves a variety of factors, such as historical reasons, national policy, industry, capital, etc., which is a very important reason for the development of financial services. is a very important reason. Based on this, the study of the relationship between financial development and economic growth in less developed regions, especially in the western region, as well as further consideration of the scale, efficiency and structure of financial development, the impact of economic growth in the western region, and empirical analysis, to provide reference value for the role of financial development in the western region's contribution to economic growth.

2. Literature Review

First is the study of the impact of financial development on economic growth.Sajid et al. (2011) show that financial development promotes the growth of capital stock within Malaysia, however, statistically this impact of financial development on economic growth is not worth mentioning.Dilek et al. (2016) show that debt in the credit market and equity in the stock market had a GDP per capita positively.Janice & Serge (2017) showed that in the short run, bank deposits, private investment and monetary indicators have both positive and negative effects on economic growth in Cameroon, but in the long run, all have a positive contributing effect. Wang Guangqian (1997) studies the actual contribution rate of financial development to economic growth in the process of monetization of the economy, which reaches 20%, argues the key role of financial efficiency in economic growth, and puts forward the policy proposition of promoting the reform and development of China's financial system centered on improving financial efficiency. Zhang Ke et al. (2009) point out that in regions with high economic development, financial development promotes economic growth; in regions with low economic development, financial development hinders economic growth; in regions with medium economic development, financial development cannot be used to explain economic growth. The results of Wen and Zhang (2020) show that financial deepening in the countries along the Belt and Road significantly promotes economic growth, while FDI strengthens the role of financial development in economic growth through technology spillover effects and capital accumulation effects. Chen Yuyan et al. (2022) use the empirical method of double fixed test to

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

analyze the impact of financial development on reducing the urban-rural income gap under the two channels of “direct inclusion” and “indirect inclusion”.

Then, there is the literature research on specific financial structure, Goldsmith explicitly put forward the concept of financial structure, and put forward that the change of financial structure is the essence of financial development.Khoutem et al. (2014) study the development of Tunisia's stock market and the bank's intervention in the stock market, and found that both of them do not have a positive impact on Tunisia's economic growth, and even have a dampening effect in the short run. also have a dampening effect in the short run. Chengsi Zhang and Guanchun Liu (2016) pointed out that in different stages of economic development, the optimal financial structure shows an exponential dynamic evolution trend and has a decisive role in economic growth, and that the optimal financial structure is not absolutely market-dominated or bank-dominated, but depends on the needs of a country's real economy. Liu Guanchun and Liu Yuanyuan (2016) point out that raising the ratio of direct financing is conducive to alleviating income inequality at both the rural and overall levels, but there is no positive effect at the urban level. Huang and Jiang Zelin (2019) constructed a new economic geography model that includes financial structure, and found that the critical value of the financial structure indicator is 0.7366, and if the financial structure indicator is lower than this value, industrial specialization agglomeration has a greater effect on China's economic development, and if the indicator is higher than 0.7366, the effect will decay. Liu et al. (2019) pointed out that the market-led financial structure can promote resource allocation more effectively and has a stronger ability to disperse risks. Zhou Yue and Dong Zhu (2020) analyzed both macro-financial structure and financial industry structure to show that financial market structure, financial openness structure and securities industry structure directly affect economic growth. Niu Baochun et al. (2020) find that macro-risk shocks attenuate economic growth, and an increase in the level of bankable financial structure can effectively inhibit this attenuation, but with the increase in the level of economic growth, this inhibition tends to diminish. Jing Guangzheng and Sheng Bin (2022) point out that in the context of building a new development pattern of double-cycle, improving the efficiency of economic resource allocation by optimizing the financial structure has increasingly become an important direction and strategy for achieving high-quality economic development.

Combing through the existing literature, it can be found that, regarding the domestic and international research on financial development and economic growth, there are huge differences in research perspectives, methods, objects, and data selection, etc. The number of research literature is also very large, and the conclusions of the research are also different, and most scholars' research objects are examined to focus on the national level. With regard to the study of specific financial structure and economic growth, it can be seen that different scholars use different empirical research methods and means, the entry point is also different, and the conclusions reached are not the same. The focus of this paper is on the research object is China's underdeveloped western region, based on the impact of financial development on the economic growth of the western region, specifically the use of the panel threshold model, the collection and collation of data from 2000 to 2019 in 12 provinces in the western region of China, the selection of financial development scale, efficiency and structure of the three aspects of the indicators of the economic growth of the western region of the theoretical and empirical research.

3. Theoretical Analysis

3.1. Financial Size and Economic Growth

Financial capital, as a major factor in economic growth, can easily limit investment when capital is scarce and the cost of financial intermediation is too high. This is because when there is a

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

shortage of capital, financial institutions such as banks provide financial capital only for specific sectors or enterprises, yet other sectors or enterprises are hampered by the lack of financial support and their development is limited. Therefore, if the financial scale is low for a long time, economic growth will also be limited to a certain extent. And only by breaking through a certain threshold value can financial development promote economic growth. However, the financial scale should not be expanded blindly, but should be based on the quality and effectiveness of development and maintain a moderate scale. Only if the expansion of financial scale is based on high quality and high efficiency, then it will promote economic growth. Otherwise, such expansion will hide huge risks. This is because as the level of financial development gradually rises, excessive financial transactions will lead to higher systemic financial risks and an increase in the catastrophic impact of financial transactions, which will inhibit or even undermine economic growth. For example, when the monetization of the economy exceeds a certain scale, the economy may generate bubbles, which will make the potential inflationary pressure increasingly serious.

3.2. Financial Efficiency and Economic Growth

In the context of expanding financial scale, it is particularly important to improve financial efficiency in order to better promote economic growth. Financial efficiency can be categorized into micro and macro efficiency. Micro-efficiency refers to the efficiency of inputs and outputs in the financial sector, reflecting the effectiveness of the use of financial resources, while macro-efficiency refers to the ability of financial intermediaries such as banks or financial markets to invest financial resources in financial sectors that can promote economic growth, and is therefore also known as the efficiency of financial resource allocation. The effective use of financial resources means that a certain amount of financial resources input and output efficiency, representing more rapid economic growth, indicating that financial resources are first allocated to sectors or enterprises with high production efficiency, thus promoting more rapid economic growth. So whether it is the micro financial resources use efficiency, or macro financial resources allocation efficiency, the higher the efficiency, the more favorable economic development. However, there is a need to pay attention to the point that as one of the factors affecting economic growth, the promotion of financial efficiency on economic growth will also have the characteristic of diminishing marginal efficiency, that is to say, with the continuous development of finance, to reach a certain level, to improve the financial efficiency will weaken the promotion of economic growth of this role.

3.3. Financial Structure and Economic Growth

Combined with the previous theoretical analysis of the role of financial scale, financial efficiency on economic growth, it can be seen that the financial expansion to a certain scale, when the financial scale will reach a saturation point, if the blind expansion of financial scale will play a counterproductive role in economic growth, which is not conducive to economic growth, and the promotion of financial efficiency on economic growth there is a characteristic of diminishing marginal efficiency, so after economic growth reaches a certain level, the financial structure needs to be optimized to qualitatively improve a level for the development of finance, so as to promote economic growth. Therefore, after economic growth reaches a certain level, the impact of financial efficiency on economic growth will be weaker and weaker, at this time it is necessary to optimize the financial structure to improve the quality of financial development from a level, so as to promote economic growth. The financial structure can be divided into the indirect financing financial system with banks and other financial institutions as the main body and the direct financing financial system with the main body of the capital market such as stocks and securities. However, there is no definite conclusion as to which financial structure is more favorable to economic development.

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

Now look at the banking system and the capital market each has its own advantages, the banking system in the loan business on the collection and classification of information on the borrowing enterprise has an advantage, can be the lowest cost to get the information of the borrowing enterprise, has the best capital supervision function, can be through the mortgage and liquidation system, forcing the commitment to disclose the information in a timely manner, timely repayment of the loan, and is conducive to the risk of default as well as the cost of financing the greatest degree of Reduction. The capital market can play an even greater advantage over the banking system in terms of high-risk innovative projects and in promoting technological progress and economic transformation. Well-established capital markets can finance the most competitive and innovative firms in the market. The optimal financial structure is not static, but is always in a state of flux. For the financial structure to be effective in promoting economic growth, the financial structure must be linked and adapted to the stage of economic development. And there is a pattern of change in the financial structure, which is generally a transition from bank-led to capital market-led. Because with the sustained growth of the economy and the increasing number of innovative activities, the demand for financial services in the capital market will increase, which can also be explained by the dynamic changes in the mode of enterprise financing, the development of enterprises to a certain extent, the main bank as the main way of financing to raise funds, however, with the enhancement of the strength of the enterprise, the enterprise will be issued shares and bonds for direct financing, so that the mode of financing from the indirect financing to direct financing. Indirect financing has changed to direct financing, reflecting the change of financial structure.

The specific local situation of each country or region is very different, even in the same period of economic growth, the optimal financial structure may be different. Moreover, in the western part of China and even in China as a whole, there is serious discrimination in bank credit in terms of ownership, and banks are more willing to lend to state-owned enterprises, but more efficient private enterprises often do not get enough loans, which may make the low-productivity enterprises in the state-owned enterprises get a large amount of external financial support more than they need for their own development, and lead to inefficient use of capital, which is not conducive to economic growth. . Therefore, after a certain period of economic development, the financial structure dominated by indirect financing methods such as banks will lead to a decline in financial efficiency, which will not be conducive to economic growth, and it will then be necessary to optimize the financial structure, establish a sound financial system for the capital market, and increase the proportion of direct financing in order to promote further economic growth.

4. Empirical Analysis of the Role of Financial Development on Economic Growth

4.1. Model Setup

This paper is a study of economic growth in 12 provinces in the western region based on financial scale, efficiency and structure, firstly, a general linear benchmark panel regression model is constructed, with the level of economic growth in the western region as the explanatory variable, and financial scale, efficiency and structure as the explanatory variables, meanwhile, the level of population growth in the western region and the government's financial support are taken as the control variables. The specific model is as follows:

$$lnGro=\alpha+\beta_1 lnfda_{it}+\beta_2 lnfde_{it}+\beta_3 lnfds_{it}+\delta lnX_{it}+\varepsilon_{it} \quad (1)$$

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

where i denotes the 12 provinces in the western region and t denotes the year; the explanatory variable Gro denotes the level of economic growth in the western region, and the explanatory variables fda, fde, and fds denote the financial scale, financial efficiency, and financial structure of the western region, respectively; X denotes the control variables for the level of governmental financial support and population growth in the western region; and ε is a random disturbance term. In this paper, in order to examine the impact of financial scale, efficiency and structure on economic growth in the western region to a greater extent, model (1) is divided into the following three models: where model (2) is β2=β3=0; model (3) is β1=β3=0; and model (4) is β2=β2=0;

$$lnGro=\alpha+\beta_1 lnfda_{it}+\delta lnX_{it}+\varepsilon_{it} \quad (2)$$

$$lnGro=\alpha+\beta_2 lnfde_{it}+\delta lnX_{it}+\varepsilon_{it} \quad (3)$$

$$lnGro=\alpha+\beta_3 lnfds_{it}+\delta lnX_{it}+\varepsilon_{it} \quad (4)$$

Combined with the previous theoretical analysis, this paper studies the nonlinear impact of financial scale, efficiency and structure on the economic growth of the western region, so the threshold effect is introduced, and according to Hansen's method, a nonlinear static panel threshold regression model is constructed, as shown in (5), (6) and (7):

$$lnGro=\alpha+\lambda_1 lnfda_{it}I(g_{it}\le\eta)+\lambda_2 lnfda_{it}(g_{it}>\eta)+\delta lnX_{it}+\varepsilon_{it} \quad (5)$$

$$lnGro=\alpha+\lambda_1 lnfde_{it}I(g_{it}\le\eta)+\lambda_2 lnfde_{it}(g_{it}>\eta)+\delta lnX_{it}+\varepsilon_{it} \quad (6)$$

$$lnGro=\alpha+\lambda_1 lnfds_{it}I(g_{it}\le\eta)+\lambda_2 lnfds_{it}(g_{it}>\eta)+\delta lnX_{it}+\varepsilon_{it} \quad (7)$$

where the dummy variable Iit(η)=I(git≤η), indicates that I=1 for git≤η,and vice versa I=0; git is the threshold variable and η is the threshold value. Further consider the dual threshold model as shown in (8), (9), (10):

$$lnGro=\alpha+\lambda_1 lnfda_{it}I(g_{it}\le\eta_1)+\lambda_2\ lnfda_{it}I(\eta_1\le g_{it}<\eta_2)+\lambda_3 lnfda_{it}(g_{it}>\eta_2)+\delta lnX_{it}+\varepsilon_{it} \quad (8)$$

$$lnGro=\alpha+\lambda_1 lnfde_{it}I(g_{it}\le\eta_1)+\lambda_2\ lnfde_{it}I(\eta_1\le g_{it}<\eta_2)+\lambda_3 lnfde_{it}(g_{it}>\eta_2)+\delta lnX_{it}+\varepsilon_{it} \quad (9)$$

$$lnGro=\alpha+\lambda_1 lnfds_{it}I(g_{it}\le\eta_1)+\lambda_2\ lnfds_{it}I(\eta_1\le g_{it}<\eta_2)+\lambda_3 lnfds_{it}(g_{it}>\eta_2)+\delta lnX_{it}+\varepsilon_{it} \quad (10)$$

4.2. Description of Data and Variables

The data sample involved in this paper is the relevant data of 12 provinces in the western region from 2000 to 2019, and the main sources of data are the official website of the International Bureau of Statistics, Wind database, and China Financial Yearbook. The selected variables are explained below:

Economic growth in the western region as an explanatory variable in this paper is one of the key variables, the most commonly used indicators in the literature to measure economic growth are regional GDP and per capita GDP, which is used in this paper is the per capita GDP in the western region to indicate economic growth.

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

Financial scale (fda): to study the impact of financial development on economic growth in the western region from a quantitative point of view, Mckinnon and Shaw use the monetary level of M2 to measure the scale of financial development, that is, the M-S style, but this method is more appropriate for the study of the national level, and for the study of the regional level, such as the western region, the significance of this study is not very large. This paper is based on the panel data of the western region provinces for empirical analysis and research, and the western region is a financial system that is dominated by financial intermediaries like banks, so in view of the object of this paper and the availability of data, the ratio of the loan balances of financial institutions in the western region to the regional GDP is chosen as an analytical indicator of the scale of finance.

Financial efficiency (fde): to study the impact of financial development on economic growth in the western region from the perspective of quality, since the western region is a financial system dominated by financial intermediaries such as banks, the efficiency of financial development can refer specifically to the efficiency of financial intermediaries, which includes operational efficiency and resource allocation efficiency. Operational efficiency means mobilizing as much savings funds as possible with minimum consumption in the banking system, which can be approximated by the interest rate difference between deposits and loans or the cost of various operating expenses, however, in view of the availability of relevant data and the fact that our country adopts administrative pricing for the level of interest rates and operating and management expenses, this paper does not use the indicators related to operational efficiency. And allocation efficiency is the allocation of capital resources, from the sector of capital resources surplus allocation to other places or into loans. So in terms of measurement, this paper chooses the ratio of loan balance to deposit balance of financial institutions in the western region as an indicator of financial efficiency.

Financial structure (fds): from the perspective of the structure of the study of financial development on the western region economic growth impact, which is also the focus of this paper, the study of the financial structure of the western region has a very important significance, because with the development of finance, the financial structure can only be optimized, finance can be entered into a higher level of development, in order to promote the further growth of the western region's economy. The financial structure can be reflected through the financing mode, which is divided into direct financing and indirect financing, according to the previous theoretical analysis of the financial structure of economic growth, given the availability of data, this paper selects the total market value of the stock market in the western region to measure the direct financing, and selects the balance of loans of financial institutions in the western region to measure the indirect financing, and adopts the ratio of the balance of loans of financial institutions in the western region to the total market value of the stock market in the western region. The ratio of the loan balance of financial institutions in the western region to the total market capitalization of the stock market in the western region is used as an indicator to measure the financial structure.

Population growth level as a control variable, the specific selection of the population growth rate in the western region as a measure of indicators, and China as a socialist country, the impact of economic growth can not be ignored the government this “visible hand”, this paper selects the western region of the government's financial expenditures as a measure of indicators.

4.3. Analysis of Empirical Regression Results

According to the previously set model (2), (3), (4), the benchmark panel model regression, the estimation results are shown in Table 1 below, and in the parameter estimation as well as before the analysis, the first need to determine the intercept term of these models, due to the panel data selected in this paper is the 12 provinces in the western region of China from 2000

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

to 2019 for a total of 20 years of relevant data, the provinces have a certain difference in development, so here the variable intercept term panel regression model is selected, which is divided into fixed effects model (FE) and random effects model (RE), using the Hausman test to determine the intercept term of these models. The development of each province also has a certain gap, so here is the selection of the variable intercept term panel regression model, which is divided into fixed-effects model (FE) and random-effects model (RE), the use of the Hausman test to determine exactly which model is used in this paper, the use of stata15.0 test to obtain the Hausman value of the model (2), (3), (4) as well as the P value, as shown in Table 1 below. P-value, as shown in Table 1 below:

Table 1. Benchmark Panel Model Estimation Results

variables	(2)		(3)		(4)	
	FE	RE	FE	RE	FE	RE
fda	0.418	0.644				
fde			0.029	0.719		
fds					-0.004	0.008
pop	-0.171	-0.173	-0.165	-0.193	-0.165	-0.19
gov	3.189	1.944	4.143	2.875	4.144	2.822
Hausman	22.36		41.37		326.63	
P	0.0001		0.0000		0.0000	
Model Selection	FE		FE		FE	
Note: Regressions are all significant at the 1% level.						

As can be seen from Table 1: the Hausman test results of models (2), (3) and (4) all reject the original hypothesis that the model is a random effects model RE at the 1% significance level, indicating that all three models take the fixed effects model FE; and in the estimation results of the three models, the coefficients of each variable of the fixed effects model of the three models are all significant at the 1% level; It can be seen that the coefficients of the two variables of financial scale and financial efficiency are positive, indicating that financial scale and efficiency promote the economic growth of the western region, and the estimated coefficients of the fixed-effect model of financial scale are much larger than the coefficients of financial efficiency, indicating that financial scale has the greatest impact on the economic growth of the western region, while the coefficients of the fixed-effect model of the financial structure variable are negative, indicating that the financial structure does not promote its The coefficient of the financial structure variable is negative, indicating that the financial structure does not promote its economic growth, but rather inhibits the economic growth of the western region, which will be further explained in the estimation of the panel threshold model and the comparison before and after; it can be seen from the table that the coefficient of the control variable of the government's financial support is the largest, while the coefficient of the level of population growth is the smallest and negative, which is theoretically reasonable, since the development of the western region, the government has given great support to the western region, so its impact on the economic growth of the western region is very large. support, so its role in promoting economic growth is very obvious, but the population growth does not promote economic growth, which may be caused by the relatively backward level of education and culture in the western region, or it may be caused by the aging of the population.

In this paper, we use stata15.0 for threshold estimation, and the specific threshold estimation results as well as 95% confidence intervals are shown in Table 2 below:

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

Table 2. Threshold Estimates

variables	model	estimated threshold	95%	
fda	Single Threshold Model	1.2244	1.2133	1.2244
	Double Threshold Model	0.7731	0.7281	0.7744
fde	Single Threshold Model	0.5561	0.538	0.5613
	Double Threshold Model	0.6784	0.6765	0.6864
fds	Single Threshold Model	2.948	2.8331	2.9484
	Double Threshold Model	1.5094	1.498	1.5222

The table gives the threshold estimates and 95% confidence intervals for the single-threshold and double-threshold models corresponding to the three variables of financial size, efficiency, and structure, and there is no crossover in the confidence intervals for any of the above threshold estimates.

In this paper, the method of Hansen threshold effect test is adopted, and Bootstrap is used to repeatedly draw samples 500 times to get the asymptotically valid P-value of large samples, and the specific results are shown in Table 3 below.

As can be seen from Table 3: the F statistic of the single-threshold model corresponding to the financial scale fda is 37.95, with a P value of 0.034, so it passes the test at the 5% significance level, which means that it rejects the original hypothesis that there is no threshold, but the F statistic of the corresponding double-threshold model is 10.05, with a P value of 0.522, which does not pass the test, so there is only a single threshold; the F-statistic of the corresponding single-threshold model for financial efficiency fde is 49.66, with a P-value of 0.001, which passes the test at the 1% significance level, indicating that the original hypothesis of no threshold is rejected, and there is a threshold, and the F-statistic of the corresponding dual-threshold model is 49.66, with a P-value of 0.022, which passes the test at the 5% significance level, indicating that financial efficiency fde exists a double threshold; the F-statistic of the corresponding single-threshold model for financial structure fds is 9.24 with a P-value of 0.038, which passes the test at the 5% significance level and rejects the original hypothesis that there is no threshold value, but the F-statistic of the corresponding double-threshold model is 3.9 with a P-value of 0.482, which does not pass the test, and thus there is only a single threshold in the financial structure fds as well .

Table 3. Threshold effect self-sampling test

variables	model	F	P	BS	threshold value		
					10%	5%	1%
fda	Single Threshold Model	37.95	0.034	500	29.076	32.216	53.571
	Double Threshold Model	10.05	0.522	500	22.799	30.222	44.46
fde	Single Threshold Model	49.66	0.001	500	24.034	30.546	44.94
	Double Threshold Model	25.73	0.022	500	17.313	21.895	26.455
fds	Single Threshold Model	9.24	0.038	500	7.4403	8.4816	11.015
	Double Threshold Model	3.9	0.482	500	7.0215	8.5095	11.823

Combined with the estimation of the previous threshold value and the test results of the threshold effect, then the threshold model parameter estimation is carried out, and the specific estimation results are shown in Table 4 below.

From the estimation results of the parameters of the panel threshold model in Table 4, it can be seen that: first of all, when the financial scale fda is smaller than the threshold value of 1.2244, the estimated coefficient is negative, which indicates that the financial scale inhibits the

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

economic growth of the western region at this stage, which may be due to the fact that the level of financial development in the western region is too low at this stage, with a lower financial scale, and the financial resources are very insufficient and difficult to meet the western region's economic growth Demand, so instead of the western region's economic growth played a dampening effect, but when the financial scale for a certain expansion, that is, the financial scale fda is greater than the threshold value of 1.2244, the estimated coefficients become positive, indicating that the expansion of the financial scale can indeed promote economic growth, which is consistent with the previous theoretical analysis of the financial scale of economic growth. The previous theory also analyzes that when the financial scale expansion to a certain extent will reach a saturation point, at this time, if blindly and then the expansion of the financial scale will play a counterproductive role in economic growth, which is not conducive to economic growth, it is clear that the expansion of the financial scale in the western region has not yet reached the saturation point, the financial scale has not yet inhibited the growth of the economy.

Secondly, observing the parameter estimation results of financial efficiency, when the financial efficiency fde is less than the threshold value of 0.5561, the estimated coefficient is 2.941, when the financial efficiency fde is greater than 0.5561 and less than 0.6784, the estimated coefficient is 1.616, and when the financial efficiency fde is greater than the threshold value of 0.6784, the estimated coefficient is 0.896, from which we can see that the financial efficiency has always had a positive impact on economic growth in the western region, and the estimated coefficient of financial efficiency is larger relative to the financial scale and financial structure, so it produces a greater role in promoting, but it is also clear from this that the estimated coefficient is becoming smaller with the improvement of the financial efficiency, indicating that the impact of financial efficiency on the economic growth of the western region is weakening, which is also consistent with previous theoretical analyses, due to marginal efficiency This is also consistent with the previous theoretical analysis, due to the diminishing marginal efficiency, the marginal impact of financial efficiency on economic growth is gradually decreasing.

Finally, regarding the impact of financial structure on economic growth in the western region, it can be seen that regardless of whether the financial structure fds is less than the threshold value of 2.948 or the financial structure fds is greater than the threshold value of 2.948, the estimated coefficients are all less than 0, which is the same as the previous benchmark panel model estimation, which suggests that all along the financial structure of the western region is inhibiting the economic growth of the western region, and moreover, this paper The selected financial structure indicator fds is expressed as the ratio of the loan balance of financial institutions to the total market capitalization of the stock market, so when fds is smaller than the threshold value of 2.948, it means that the total market capitalization of the stock market, which measures direct financing, accounts for a higher proportion, and when fds is larger than the threshold value of 2.948, it means that the loan balance of financial institutions, which measures indirect financing, accounts for a higher proportion, and the two threshold intervals of the fds The estimated coefficient changes from -0.1515 to -0.0185, which means that the proportion of loan balances of financial institutions measuring indirect financing increases, and the inhibitory effect of the financial structure on the economic growth of the western region is weakening, even though, the estimated coefficient has been less than 0, which indicates that the financial structure of the western region and its imbalance and irrationality, and that the optimization of the financial structure of the western region should not be delayed.

Whether examining the financial scale, financial efficiency, or financial structure alone, the estimated coefficients of the control variables pop and gov in the model (5)-(10) are very close, and all of them have passed the significance test at the 1% confidence level, indicating that the impact of these two variables on the economic growth of the western region is relatively stable and significant. This indicates that the impact of these two variables on the economic growth of the western region is relatively stable and significant. Among them, the estimated coefficient of

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

government financial support is relatively large compared with other coefficients, indicating that it has the most significant role in promoting economic growth in the western region, while the estimated coefficient of population growth level is negative, indicating that it has a certain inhibitory effect on economic growth in the western region. This is also consistent with the estimation results of the general linear benchmark panel model, which further validates the reliability of the estimation results.

Table 4. Panel Threshold Model Regression Results

variables		ratio	pop	gov
fda	$g_{it} \leq 1.2244$	-0.39** (-2.2)	-0.156*** (-4.98)	3.12*** (7.39)
	$g_{it} > 1.2244$	0.114* (0.88)		
fde	$g_{it} < 0.5561$	2.941*** (3.52)	-0.162*** (-4.78)	4.458*** (11.83)
	$0.5561 \leq g_{it} < 0.6784$	1.616** (3.07)		
	$g_{it} > 0.6784$	0.896** (2.25)		
fds	$g_{it} \leq 2.948$	-0.1415** (-2.71)	-0.169*** (-4.92)	4.108*** (11.76)
	$g_{it} > 2.948$	-0.0185* (-1.22)		

Note: t-values in parentheses, ***, **, * represent significant at the 1%, 5%, and 10% levels, respectively.

5. Conclusion and Policy Recommendations

5.1. Conclusion

Based on the panel data of 12 provinces in the western region from 2000 to 2019, this paper adopts a static fixed-effects panel threshold model to theoretically and empirically analyze the impact of financial development from three perspectives, namely, financial development scale, efficiency and structure, on the economic growth of the western region. The results of the study show that: in the early stage, the financial scale inhibits the economic growth in the western region, and as the financial scale expands beyond a certain threshold, it starts to promote the economic growth in the western region. Financial efficiency has always played a role in promoting economic growth in the western region, and the estimated coefficient of financial efficiency is large relative to the financial scale and financial structure, so it produces a relatively large promotional effect. However, with the improvement of financial efficiency, its role in promoting economic growth in the western region is weakening, indicating the existence

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

of the impact of diminishing marginal efficiency. All along, the financial structure of the western region has been inhibiting the economic growth of the western region, and the proportion of the loan balance of the financial institutions of indirect financing has increased, and the inhibiting effect of the financial structure on the economic growth of the western region is weakening. This may be due to the fact that the proportion of the direct financing system, which is mainly based on the capital market, in the financial structure of the western region is too low, which leads to the fact that it not only fails to promote the economic growth of the western region, but also plays the opposite role, indicating that the financial structure of the western region is extremely unbalanced and unreasonable.

5.2. Policy Recommendations

First, continue to expand the financial scale. According to the theoretical and empirical analysis, the financial scale in the western region is still to be further developed, and it is suggested that the governments of the western provinces can vigorously introduce various financial institutions such as banks, securities, insurance, futures, trust and investment, fund management, equity and futures, financial leasing, etc., as well as various financial intermediary service organizations such as credit guarantee, asset evaluation, insurance brokerage, etc., and the government gives certain subsidies to these financial institutions, so as to develop the financial scale of the western region. The government should subsidize these financial institutions so as to develop the financial scale of the western region and improve the level of financial services. However, the financial scale should not be expanded blindly, but should be based on the quality and efficiency of development, and maintain a moderate scale.

Second, give full play to financial efficiency. Provincial governments in the western region can give full play to financial efficiency and promote economic growth in the western region by improving the support policies for deposits and loans of financial institutions and strengthening the supervision and control of the preparation and utilization of funds in the enterprise sector, so as to do a good job of allocating financial capital resources in the western region.

Third, continuously optimize the financial structure. Whether it is to expand the financial scale or to play the financial efficiency, are only the premise and basis for promoting economic growth in the western region, the financial scale expansion to a certain extent, if the blind expansion of the financial scale will play an inhibiting role in economic growth, the financial efficiency of the economic growth of the promotion of the role of the diminishing marginal efficiency of this feature. Therefore, only the optimization of financial structure can qualitatively improve the financial development of the western region by one level, and promote the economic growth of the western region. In this regard, provincial governments in the western region can optimize the financial structure of the western region by establishing a sound multi-level capital market system and increasing the proportion of direct financing, thereby promoting economic growth in the western region.

References

[1] Sajid Anwar, Sizhong Sun. Financial development, foreign investment and economic growth in Malaysia, Journal of Asian Economics, Vol. 22 (2011) No. 4.

[2] Dilek Durusu-Ciftci, M. Serdar Ispir, Hakan Yetkiner. Financial development and economic growth: Some theory and more evidence, Journal of Policy Modeling, (2016).

[3] Janice Tieguhong Puatwoe, Serge Mandiefe Piabuo. Financial sector development and economic growth:evidence from Cameroon, Financial Innovation, Vol. 3 (2017) No. 1.

[4] Khoutem Ben Jedidia, Thouraya Boujelbène, Kamel Helali.Financial development and economic growth: New evidence from Tunisia, Journal of Policy Modeling, Vol. 36 (2014) No. 5.

ISSN: 2692-7608 DOI: 10.6981/FEM.202501_6(1).0008

[5] Wang Guangqian. The contribution and efficiency of finance in economic development, Renmin University of China Press, (1997).

[6] Ke Zhang,Dan Yan,Yong Fu. Study on the effect of financial development and economic growth in China-Empirical evidence from parallel data of Chinese provinces and cities, Shanghai Finance, (2009) No. 10, p. 11-15.

[7] WEN Shuhui, ZHANG Atibo. Financial development, FDI spillovers and economic growth efficiency: An empirical study based on the countries along the Belt and Road, World Economic Research, (2020) No. 11, p. 87-102+136-137.

[8] CHEN Yuyan,ZHANG Qiaoyun,XIONG Deping. The role of China's financial development in narrowing the urban-rural income gap - based on the perspective of direct versus indirect inclusion, Contemporary Economic Research, (2022) No. 11, p. 117-128.

[9] ZHANG Chengsi,LIU Guanchun. Existence, dynamic characteristics and economic growth effects of optimal financial structure, Management World, (2016) No. 01, p. 66-77.

[10] LIU Guanchun,LIU Yuanyuan. Evolutionary analysis of the marginal effect of financial structure on income inequality, Economics Dynamics, (2016) No. 05, p. 49-61.

[11] Huang YM,Jiang ZL. Financial structure, industrial agglomeration and economic high-quality development, Scientific Research, Vol. 37 (2019) No. 10, p. 1775-1785.

[12] Liu Xiaoguang,Gou Qin,Jiang Tianyu. Financial structure, economic volatility and economic growth-An analysis based on the optimal industrial allocation framework, Management World, Vol. 35 (2019) No. 05, p. 29-43+198.

[13] Zhou Yue,Dong Zhu. Research on the spatial spillover effect of financial structure and real economic development--an analysis based on spatial Durbin model, Exploration of Economic Issues, (2020) No. 05, p. 134-148+159.

[14] NIU Baochun,CUI Guanglian,ZHANG Xiling. Financial Structure, Macro Risk and Economic Growth: An Empirical Analysis Based on 41 ADB Members, Financial Forum, Vol. 25 (2020) No. 04, p. 38-48.

[15] Jing Guangzheng,Sheng Bin. How does financial structure affect the domestic value added of Chinese firms' exports? Economic Science, (2022) No. 05, p. 59-77.