

# The Impact of Financial Development on the Substantial Economy Development and Its Mechanism of Action

Wenjing Li

Zhongnan University of Economics and Law  
Wuhan, China

**Abstract**—This paper uses the panel data of 31 provinces in China from 2001 to 2015 as a sample to construct a semi-logarithmic model of substantial economy development. Finally, the mediating effect model is adopted to test the transmission mechanism between financial development and real economic regional differences. The research shows that financial development has an obvious promoting effect on the development of regional substantial economy, and the transmission mechanism of financial development affecting the development of substantial economy is the scale of direct financing, which plays a mediating effect in the process of financial development promoting the development of substantial economy. The conclusion of this paper has certain reference significance for deepening the reform of financial supply side.

**Keywords**—*financial development; substantial economy development; mediating effect*

## I. INTRODUCTION

Finance services the substantial economy that is the basic requirement of China's financial work in the new era. In recent years, China's financial initiatives to support the substantial economy have continued in order to better enable finance services to the substantial economy. With the strong support of finance, enormous achievements have been made in the development of China's substantial economy. However, in term of serving the substantial economy, finance also highlights a lot of problems. For example, most of the funds do not really go into the substantial economy, but circulate within the financial system, which give rise to the distortion of the allocation of financial resources and forms "financial idling". The strategic guidelines of the financial supply-side reform implemented in China are to improve the efficiency of financial resource allocation, give full play to the role of finance in the field of market clearance and allocate financial resources more reasonably and effectively. Through combing the existing relevant literature, it is found that scholars have by and large affirmed the role of financial development in the development of China's substantial economy after the reform and opening up, and have carried out empirical tests on its economic effects. However, there are few literatures that directly test the mechanism of action between financial development and substantial economy.

As for the mechanism of action of the impact of financial development on the substantial economy, the existing literature mainly researches the ways in which financial development acts on micro-enterprises, and dwells on from two aspects: firstly, financial development is conducive to improving the efficiency of capital allocation. Wurgler (2000) first proposed the measurement model of capital allocation efficiency, and directly tested the relationship between financial development and capital allocation efficiency. Meanwhile, it was found that the degree of development of financial markets is positively correlated to the efficiency of capital allocation. Since then, Almeida and Wolfenzon (2005), Li Qingyuan (2013) and others carry out empirical studies based on Wurgler (2000) capital allocation model, their conclusions without exception are that financial development is conducive to improving the efficiency of capital allocation; secondly, financial development is conducive to alleviating the financing constraints of enterprises. Diamond (1984) believes that financial institutions can reduce the wrong information in financial markets by giving play to their scale advantages in information collection, thereby alleviate the financing constraints faced by enterprises. Zhang Fan (2015) found that financial development is conducive to the development of financial intermediaries and financial markets and then acts on the capital structure of micro-enterprises, thus alleviating the degree of financing constraints of enterprises. This paper strives to explain the development of regional substantial economy from the perspective of financial development, and further research the mechanism of action of financial development affecting regional differences of substantial economy.

## II. THEORETICAL ANALYSIS OF THE IMPACT OF FINANCIAL DEVELOPMENT ON THE DEVELOPMENT OF SUBSTANTIAL ECONOMY

### A. *Financial Development May Alleviate the Financing Constraints of Enterprises*

With the development of China's financial industry, a greater number of higher financial services and diversified financial products can be provided for real enterprises and more and more financing channels can be provided for enterprises, which relieve the capital bottlenecks in the process of development of real enterprises and the financing

constraints of enterprises. No matter the increase of the number of financial institutions serving the real enterprises and the improvement of the quality of financial services both can effectively promote the development of substantial economy. At the same time, when the financial industry develops to a certain scale and level, regions with financial regional advantages will form financial agglomeration spatially and geographically, and provide stronger support for the real economic development through financial agglomeration effect, financial diffusing effect and financial function effect (Liu Jun etc. 2007). As for the developed economic areas in eastern coastal, better results have been produced in promoting the development of substantial economy through financial agglomeration, which enjoys the dividends brought by financial agglomeration. However, as for the financial relatively backward regions in the Central and Western regions, financial resources are relatively dispersed and the degree of financial agglomeration is relatively small, which is difficult for substantial economy to enjoy the economic promotion effect brought by financial agglomeration. Due to the difference of financial development level in different regions, this leads to differences in financial agglomeration, which in turn leads to regional differences of substantial economy.

In recent years, with the development of capital market, financial disintermediation has become an irresistible trend. The proportion of bank loans in the source of enterprise funds is becoming smaller and smaller and the proportion of off-balance-sheet banking and direct financing is becoming larger and larger, which is conform to the basic law of financial development. The improvement of financial development level objectively provides more diversified financing structures for the substantial economy, such as bank loans, bond financing, stock financing and off-balance sheet banking and so on, which play different roles in different stages and regions of the substantial economy development. Although these financing methods can provide financial support for the substantial economy, there are great differences in financing cost, financing efficiency and financing complexity. Media small and micro-sized enterprises and innovative enterprises are those that are facing the most serious financing constraints in the process of real economic development. Meanwhile, they are often difficult to obtain bank loans smoothly because of the restrictions of bank approval mechanism and collateral. Whereas, in the coastal areas with developed finance, they can solve their fund demands through stock and bond markets. However, in areas with underdeveloped capital markets, such enterprises are ultimately unable to develop and grow due to capital constraints, which restrict the development of the substantial economy of the whole region. In addition, because the cost of capital of direct financing is relatively low compared with indirect financing, and the financial burden of enterprises is relatively light, which is conducive to the development of the substantial economy. According to estimates, the issuing rate of inter-bank bond market is generally about 2 percentage points lower than the actual bank loan rate in the same period. Due to the difference of financial development level in different regions, this leads to differences in financing structure, which in turn leads to regional differences in substantial economy.

### *B. Financial Development May Improve the Efficiency of Capital Allocation*

Financial development is conducive to reducing the degree of information asymmetry and improving the efficiency of capital allocation. With the development of finance, especially the development of direct financing market, market mechanism plays an increasingly important role in the process of resource allocation. In the process of mutual competition and marketization, the ability of financial institutions to gain and process information has been continuously improved, which reduces the degree of information asymmetry in financial markets and improves the ability to identify projects. Meanwhile, it also provides financial support for enterprises with brighter prospects for development and high growth and promotes investment and technological innovation of enterprises, which is conducive to improving the marginal productivity of capital, thus leading to capital flows to more efficient regions and industries. With the improvement of financial development level, the rational flow of financial resources among various industries in different regions is possible, and capital flows to industries or regions with high marginal efficiency, which the efficiency of resource allocation in China will also be improved. However, the improvement of resource allocation efficiency will inevitably lead to the development of investment and technological innovation and the growth of the substantial economy. The difference of financial development level leads to the regional difference of substantial economy by influencing the efficiency of resource allocation. The market mechanism is more sound and the efficiency of resource allocation is much higher in the more financially developed regions, at the same time, the more obvious the role of finance in promoting the development of substantial economy. The less financially developed regions are more affected by administrative instructions, which causes the efficiency of resource allocation is much lower and the role of finance in the substantial economy is much less.

## III. CONSTRUCTION OF THE SUBSTANTIAL ECONOMY DEVELOPMENT MODEL

This paper takes the panel data of 31 provinces as samples, and all the data are from China Statistical Yearbook, China Financial Yearbook and WIND database. The paper carries on the corresponding price adjustment to the data collected. The current price index is adjusted to the actual price index of 2001 as the base period, and the relevant variables are selected as follows:

### *A. Variable Selection*

1) *Development level of substantial economy*: Substantial economy is a concept that is corresponding to fictitious economy. Referring to the practices of Zhang Lin (2014) and Zhang Yichun (2015), this paper measures the development level of substantial economy of each province by the part after deducting the output value of financial industry and real estate industry from the gross domestic product of each province and region. In order to eliminate the influence of price, this paper uses the current price of substantial economy over the years to adjust the price according to the gross domestic

product index of 2001 as the base period, and converts it into the real economic output value of 2001 fixed price. Because the per capita real economic output value takes into account both population size and economic basic factors, it can better reflect the level and scale of regional real economic development than the real economic output value index, so this paper takes per capita real economic output value as the measurement index of regional real economic development, which is expressed by Y.

2) *The level of financial development*: This paper chooses the financial assets correlation ratio to measure the financial development level of each province according to the practice of most literatures. However, due to the lack of financial assets data in various provinces in China, it is impossible to use Goldstein index directly. Considering China's national conditions, because banks concentrate the most leading financial assets in various provinces in China, indirect financing is also the main financing way for Chinese enterprises at present. Therefore, when measuring financial assets in provinces, bank deposit and loan data for replacement is directly used. The financial correlation index of each province is equal to the ratio of the sum of deposit and loan of financial institutions to GDP, which is expressed by F.

3) *Capital intensity*: Capital intensive has an extremely important impact on the level of economic development. Capital intensity is proportional to risk, so the higher the capital intensity is, the higher the capital cost is, which the higher risk of capital is needed to be undertaken, and the greater possibility creates high labor productivity. Industries with high capital intensity often need to introduce advanced production technology and equipment, so they need high-tech and high-quality practitioners, which create conditions for enterprises to carry out technological research and development, and objectively improve the labor productivity of the whole industry. This paper chooses the proportion of the fixed capital stock of the substantial economy and the number of employment population of the substantial economy to measure the capital intensity. Since the real economic capital stock is equal to the capital stock of the whole society, excluding the capital stock of the financial industry and the real estate industry, the calculation of the real economic capital stock should be carried out in two steps: the first step is to calculate the capital stock of the whole society; the second step is to calculate the capital stock of the real estate industry and the financial industry. This paper calculates the stock of real economic capital by referring to the practice of Shan Haojie (2008).

4) *Human capital level*: According to Lucas' theory of human capital spillover, human capital has both internal and external effects. External effects contribute to technological upgrading and social progress, thus promoting economic growth. As for the measurement and calculation of human capital, this paper adopts the calculating method based on educational indicators to indirectly measure the level of human capital through the results made by education or the

educational level of residents. Generally speaking, the results made by education are proportional to the input of human capital. Therefore, the educational level of residents can be used to measure the level of human capital. This paper chooses the number of college students per 10,000 populations in each province to measure the level of regional human capital, which is expressed by H.

5) *Industrial structure*: Because reasonable industrial structure can effectively allocate resources, boost production efficiency and promote economic growth. The unreasonable industrial structure makes it difficult to use resources effectively, which is not conducive to the development of the substantial economy. This paper uses the proportion of added value of secondary industry and tertiary industry to GDP to express industrial structure, which is expressed by Second and Three, respectively.

6) *The level of opening-up*: Open-door to the outside world is conducive to making full use of international resources for enterprises in China, introducing advanced technology, promoting the upgrading of domestic technology level, further expanding imports and exports, and promoting the development of China's substantial economy. This paper uses the proportion of total volume of foreign trade to GDP to measure the level of opening-up of each province, which is expressed by Open.

7) *Social financing scale*: The social financing scale is an innovative financial statistics created and compiled by the People's Bank of China in 2011. It refers to the total amount of funds that the substantial economy acquires from the financial system in a certain period of time. The social financing scale can not only reflect the total amount of financing that the substantial economy acquires from the financial system, but also reflect financing structure carried through by the substantial economy adopts different financing instruments. The social financing scale can be divided into direct financing and indirect financing. The former consists of bond financing and stock financing and other financing ways, the latter consists of bank loans and off-balance sheet banking and other ways. This paper uses the scale of direct financing and indirect financing to indirectly reflect the degree of financing constraints and source allocation efficiency faced by enterprises from macro perspective.

### B. Model Setting

This paper makes a comparison among the linear model, the double logarithmic model and the semi-logarithmic model, and finally chooses the semi-logarithmic model in order to determine the model. The semi-logarithmic model that is constructed by this paper of the impact of financial development level on real economic development is as follows:

$$LN Y_{it} = \alpha + \beta_1 F_{it} + \beta_2 Second_{it} + \beta_3 Three_{it} + \beta_4 K/L_{it} + \beta_5 H_{it} + \beta_6 T_{it} + u_{it}$$

#### IV. ANALYSIS ON THE TRANSMISSION MECHANISM OF FINANCIAL DEVELOPMENT AFFECTING THE DEVELOPMENT OF SUBSTANTIAL ECONOMY

The prominent problem encountered in the process of substantial economy development is financing difficulty, and the main role of finance is to provide financial support for substantial economy development, and to alleviate the financing constraints faced by enterprises through the fund allocation. With the development of capital market, the proportion of bank credit as a direct financing mode in the source of enterprise capitals is increasingly smaller, and the proportion of direct financing such as stock financing is increasingly larger. That is, the proportion of direct financing in the financing structure is gradually increasing, while the proportion of indirect financing is gradually decreasing. In the economically developed eastern coastal areas, the differences of such financing structure are becoming more apparent, which is not only conducive to providing diversified financing ways, but also can reduce the financing cost of enterprises and ease the financing constraints of enterprises. Therefore, this paper argues that financial development promotes the development of substantial economy through the mediating variable of financing constraints, and leads to give rise to regional disparities of substantial economy.

Financing constraints refer to the limitation of enterprise's investment when there are differences between internal and external costs. Owen Lamont (2001) pointed out that financing constraints refer to the influence of imperfect capital market, which enterprises can not obtain funds for expected investment. Although financing constraints reflect the micro-characteristics of enterprises, from a macro perspective, it can be measured from capital scale provided to entities by the whole social financial system. This paper adopts the social financing scale as the proxy variable of financing constraints, and the social financing scale is a comprehensive index of the total amount of financial support to the substantial economy, which can reflect the financing constraints faced by enterprises from a macro perspective. It consists of not only the financing obtained by enterprises from the banking industry, but also the financing obtained from the securities and insurance industries, which comprehensively reflects the financial support obtained by the substantial economy from the financial system. With the development of China's financial industry, the biggest support made by finance for the substantial economy is to provide greater financial support for the substantial economy, which is manifested in the continuous innovation of financial products and instruments, diversified development of financing structure, rapid expansion of social financing scale, and increased financial support for the substantial economy by securities and insurance financial institutions. The substitution effect of off-balance-sheet business of commercial banks on new loans is obvious, and the role of bank loans as a traditional financing mode is gradually weakening. In that way, in the process of real economic development, does financial development affects the level of real economic development by affecting the scale of social financing, that is, does the scale of social financing play a mediating role in the process of financial development affecting the development of substantial economy? Since direct financing and indirect financing play

different roles in promoting the substantial economy, can they both play a mediating role?

In order to test the mediating effect of social financing scale as a mediating variable, this paper refers to the practices of Wen Zhonglin (2014) and Dai Kuizao (2018), and sets up the following recursive model to verify step by step.

$$LNY_{it} = \alpha + \beta_1 F_{it} + \delta X_{it} + u_{it} \quad (1)$$

$$M_{it} = \alpha + \beta_2 F_{it} + \gamma X_{it} + u_{it} \quad (2)$$

$$LNY_{it} = \alpha + \beta_3 F_{it} + \varphi M_{it} + \theta X_{it} + u_{it} \quad (3)$$

With regard to the test of mediating effect, this paper uses the model of mediating effect to analyze the process and mechanism of action of the impact of financial development on real economic differences. The specific test method refers to the new test method of mediating effect mentioned by Wen Zhonglin (2014), and adopts the combination of step-by-step method and Bootstrap method. The test principle is that the total effect is divided into mediating effect and direct effect, and the mediating effect is tested by directly testing the significance of the product of coefficients<sup>1</sup>. The test steps are as follows: firstly, the coefficients  $\beta_1$  of the financial development variables in equation (1) are estimated, if  $\beta_1$  is significant, which indicates that financial development does affect the real economic development; secondly, the coefficients  $\beta_2$  and  $\varphi$  of equation (2) and equation (3) are estimated, respectively, if both are significant, which indicates the existence of mediating effect, and then move to the fourth step, if coefficients  $\beta_2$  and  $\varphi$  at least one is not significant, then carry out the third step; thirdly, the Bootstrap method is used to test the hypothesis of  $\varphi\beta_2 = 0$ , if  $\varphi\beta_2$  is significant and is not zero at the same time, which indicates the mediating effect exists, and carry out the fourth step, if  $\varphi\beta_2$  is significant and is zero at the same time, which indicates the mediating effect is false and the test ends; fourthly, the significance of the coefficients  $\beta_3$  of equation (3) is tested. If  $\beta_3$  is significant, which indicates the direct effect is significant, then carry out the fifth step, if  $\beta_3$  is not significant, which indicates that the direct effect is not significant, only the mediating effect exists; fifthly, carry out contrast between the sign direction of  $\varphi\beta_2$  and  $\beta_3$ , if they are the same, which indicates that there is a partial mediating effect, if not the same, which indicates that there is a concealment effect. The results obtained by the mediating effect model are as follows:

According to the preceding theoretical mechanism analysis, financial development promotes the development of substantial economy by alleviating the financing constraints of enterprises and boosting the efficiency of resource allocation, that is, the financing constraints of enterprises are alleviated through direct financing and indirect financing. At the same

<sup>1</sup> In many early literatures, the Sobel method was used to check the mediation effect, but later scholars found that the method has a large defect. For example, provided that the assumption that  $\varphi\beta_2$  subjects to the positive distribution,  $\varphi\beta_2$  can often hardly meet the requirement for positive distribution and there were many problems in using the Sobel method. Consequently, Zhao et al.(2010) put forward more reasonable method and recommended to use Bootstrap method to check the mediation effect. Wen Zhonglin (2014) believed that the Bootstrap method is by far the method available to replace the Sobel method in checking the mediation effect.

time, because of its own characteristics of the two financing modes, and then the way of producing effect on substantial economy is different. This paper further tests whether the mediating effect of direct financing and indirect financing exists. The estimated results of the first regression equation of the recursive model have been estimated by the real economic development model. Model 1 and model 3 that are the estimated results of second equation and the third equation are the results of the second regression equation of indirect financing scale and direct financing scale as mediating variables, respectively. Model 2 and Model 4 are the estimated results of the (3) regression equation of the indirect financing scale and the direct financing scale as mediating variables, respectively.

The benchmark model in Table 1 shows that the regression coefficients of each explanatory variable in the semi-logarithmic model pass the statistical test of 10% significance level. The coefficient of financial development level is significantly positive at 1% level, which shows that financial development has a significant role in promoting regional substantial economy development. According to the interpretation of regression coefficient of semi-logarithmic model, the level of substantial economy development will increase by 13.6% for every one unit increase in financial development level. This is because the improvement of the level of financial development is conducive to reducing the financing cost of enterprises, optimizing the financing

environment, improving the quality of financial services and improving the efficiency of capital allocation, which provides more financing opportunities for a large number of small and medium-sized private enterprises to a certain extent, solves the problem of difficult financing of real enterprises, thus promoting the development of substantial economy in our country. According to Pangjinyu (2012), financial institutions accelerate capital accumulation and technological innovation of substantial economy through savings mobilization, capital formation and capital operation and other ways so as to promote economic development.

The regression results of model 1 in Table 7 show that the regression coefficient of financial development to the indirect financing scale is significantly positive at 1% level (coefficient is 0.109), which indicate that financial development promotes the increase of the indirect financing scale. From model 2, when both financial development and indirect financing scale are introduced into the substantial economy development model, we can see that the coefficient of financial development is still significantly positive (0.219), which is significantly larger than that of the benchmark model, but the coefficient of indirect financing scale becomes negative, which indicates that the scale of indirect financing has not played a role in promoting the substantial economy. That is, the indirect financing scale has not played a mediating role in the process of financial development promoting the development of the substantial economy.

TABLE I. TEST RESULTS OF MEDIATING EFFECT OF SOCIAL FINANCING SCALE

Variable	Benchmark Model	Indirect Financing Scale		Direct Financing Scale	
		Model 1	Model 2	Model 3	Model 4
Financial development level	0.136*** (0.0253)	0.109*** (0.0089)	0.219*** (0.0283)	0.0145** (0.0059)	0.122*** (0.0247)
Second industry proportion	0.0410*** (0.0046)	-0.0031* (0.0016)	0.0387*** (0.0044)	0.0015 (0.0011)	0.0395*** (0.0044)
Tertiary industry proportion	0.0570*** (0.0053)	-0.0095*** (0.0019)	0.0497*** (0.0053)	0.0041*** (0.0012)	0.0528*** (0.0052)
Capital intensity	0.0094*** (0.0006)	-0.0002 (0.0002)	0.0092*** (0.0006)	0.0003** (0.0001)	0.0091*** (0.0006)
Level of Human capital	0.0037*** (0.0003)	0.0006*** (9.95e-05)	0.0041*** (0.0003)	-5.91e-05 (6.59e-05)	0.0038*** (0.0003)
Level of opening up	0.126* (0.0745)	-0.0171 (0.0263)	0.113 (0.0719)	0.0660*** (0.0174)	0.0585 (0.0737)
constant	3.917*** (0.355)	0.299** (0.125)	4.145*** (0.344)	-0.260*** (0.0829)	4.182*** (0.349)
Mediating variable			-0.762*** (0.132)		1.017*** (0.201)
Observed value	465	465	465	465	465
R-squared	0.897	0.359	0.904	0.188	0.903
Sample number	31	31	31	31	31

<sup>a</sup> Note: \*\*\*, \*\*, \* indicate that the two-tailed t-test is significant at 1%, 5%, 10% significant level, respectively; the numbers in brackets are robust standard errors.

From model 3 of Table I, we can see that the impact coefficient of financial development is significantly positive at 1% level (coefficient is 0.0145), which indicates that financial development promotes the increase of direct financing scale. The regression results of model 4 indicate that the coefficients of financial development and direct financing scale are significantly positive, and the coefficients of financial development are 0.122 that are less than the coefficient of benchmark model that is 0.136, which indirectly verifies that direct financing scale plays a part of the mediating role, and indicates that financial development effectively promotes the development of regional substantial economy by increasing the scale of social direct financing, thus resulting in the difference of inter-regional substantial economy. The data display that with the improvement of financial development level, the scale of stock financing increased from 62.8 billion yuan to 759 billion yuan in 2002-2015, with an average annual growth rate of 21%. At the same time, the level of real economic development has been greatly improved, which can be seen from the change of the status of China's manufacturing industry in the world. Meanwhile, this indirectly verifies that with the improvement of the level of financial development, the scale of social direct financing will be increased, and then improve the development level of the substantial economy. The data from various provinces also validate this conclusion. The eastern coastal areas boast a higher level of financial development, more developed direct financing markets such as stock financing, lower financing costs and larger scale of direct financing, which play a more prominent role in promoting the substantial economy. However, the central and western regions mainly depend on indirect financing, such as bank loans and so on, which not only the financing cost is high, but also the promotion effect to the substantial economy is limited. As a result, from this point of view, the scale of direct financing not only plays a mediating role in the process of financial development promoting the development of substantial economy, but also causes regional differences of substantial economy. According to the 2012 China Regional Financial Operation Report, financial development has boomed the direct financing market, promoted the diversification of financial structure. By acting on the substantial economy in two ways, financial development firstly improves the efficiency of capital allocation, which enables funds to flow to more efficient regions and industries, and is conducive to optimizing the financial resource allocation of the whole society, and secondly reduces the financing cost of enterprises, which adds new financing channels for small- and medium-sized enterprises, and improves the quality of financial services the substantial economy.

## V. CONCLUSION AND SUGGESTIONS

Substantial economy is the foundation of financial development. To promote the development of substantial economy is the foundation of finance and serve the substantial economy is the essential requirement of finance. In recent years, China's financial industry has developed rapidly and has achieved positive results in serving the substantial economy. However, the difference of financial development level among different regions enlarges the imbalance of real economic development among regions to a certain extent. This paper

takes 31 provinces in China as samples to constructs a semi-logarithmic model of regional substantial economy development, verifies the relationship between financial development and regional substantial economy development by the use of provincial panel data and establishes a regression model of substantial economy development. Meanwhile, it also tests the transmission mechanism of financial development affecting substantial economy, and the conclusions are as follows: Firstly, financial development has a significant role in promoting the development of regional substantial economy. Industrial structure, human capital level and opening-up level are also important factors affecting the development of regional substantial economy; secondly, the transmission mechanism of financial development affecting regional substantial economy is analyzed, which is found that financial development leads to regional differences of substantial economy by influencing the direct financing scale.

At present, China's economic development has entered a new normal, whose basic feature is that the economy has changed from high-speed growth to high-quality development. In order to realize the economic transformation smoothly and ensure the sustained and healthy development of China's economy, it is necessary to change the development model, optimize the economic structure and transform the driving force of growth as soon as possible. Meanwhile, it is also imperative to guide more financial resources to serve the substantial economy, deepen the reform of the financial supply side, establish modern financial system that is suitable for China's substantial economy, and enhance the ability of financial services to the substantial economy. The research enlightenment of this paper is that in order to achieve the coordinated development of regional substantial economy and narrow the difference of regional real economic development, the reform can be strengthened in the following aspects: Firstly, deepening the reform of financial system should focus on narrowing the difference of inter-regional financial development, and speeding up the financial system construction in underdeveloped areas. Meanwhile, it also needs to upgrade the level of financial development, narrows the difference of financial development with developed regions, creates a good financial order for serving the substantial economy, and effectively plays the supporting role of finance in the substantial economy; secondly, guiding the rational flow of financial resources and the flow of financial resources to the substantial economy, which makes the funds really invest in the substantial economy, supports the development of substantial economy and comprehensively improves the efficiency and level of financial services to the substantial economy; thirdly, the development of direct financing market should be vigorously strengthened, which enhances the ability of financial services to the substantial economy.

## REFERENCES

- [1] Goldsmith, R. Financial Structure and Economic Development [M]. New Haven: Yale University Press. 1969: 155-213.
- [2] Mckinnon, R.I. Money and Capital in Economic Development [M]. Washington DC: Brooking Institution, 1973: 121-145.

- [3] Shaw, E.S. Financial Development in Economic Growth [M]. New York: Oxford University Press, 1973:211-278.
- [4] Levine R, Zervos S. Stock Markets, Banks and Economic Growth [J]. *The American Economic Review*, 1998, Vol.88 (3):537-555.
- [5] Arestis, p., and Demetriades, p.o., and Luintel, Financial Development and Economic Growth: The Role of Stock Markets [J]. *Journal of Money, Credit and Banking*, 2001 (2):16-41.
- [6] Beck T, Levine R. Stock markets, banks, and economic growth: panel evidence [J]. *Journal of Banking and Finance*, 2004(28).
- [7] B.Oleg,R.Diego, Financial Development and the Sources of Growth and Convergence [J]. *International Economic Review*, 2013(2):629-663.
- [8] Deidda L G. Interaction between economic and financial development [J]. *Journal of Monetary Economics*, 2006(53): 233-248.
- [9] Christopoulos,D.K. and Tsionas, E.G. Financial Development and Economic Growth: Evidence from Panel Unit Root and Cointegration Tests [J]. *Journal of Development Economics*, 2004(73):55-74.
- [10] Odedokun MO. Alternative Econometric Approach for analyzing the role of the Financial Sector in Economic Growth: Time-Series Evidence from LDCs [J]. *Journal of Development Economics*, 1996(51):119-146.
- [11] Zhang Lin, Ran Guanghe and Chen Qiu. Regional Financial Strength, FDI Spillover and Real Economic Growth [J]. *Beijing: Economic Science*. 2014, (6): 76-89.(in Chinese)
- [12] Zhang Yichun and Wang Guoqiang. Study on the Non-Equilibrium Relationship between Financial Development and Real Economic Growth based on the Empirical Analysis of Double-Threshold Regression [J]. *Nanchang: Contemporary Finance and Economics*. 2015, (6): 45-54. (in Chinese)
- [13] Wurgler,j. Financial Markets and the Allocation of Capital. *Journal of Financial Economics*, 2000,58,187-214.
- [14] Almeida,H.,and D.Wolfenzon, The Effect of External Finance on the Equilibrium Allocation of Capital. *Journal of Financial Economics*, 2005,75,133-164.
- [15] Li Qingyuan, Li Jiangbing, Jiang Chun, Kevin X. D. Huang. Financial Development and Regional Substantial economy Capital Allocation Efficiency: Evidence from Provincial Industrial Data [J]. *Beijing: Economics (Quarterly)*, 2013, (2), 527-548. (in Chinese)
- [16] Diamond, D.W. Financial Intermediation and Delegated Monitoring [J]. *The Review of Economic Studies*, 1984, 51(3): 393-414.
- [17] Zhang Fan. Financial Development, Enterprise Financing Behavior and Relief of Financing Constraints: An Empirical Analysis Based on Micro Structural Theory [J]. *Research on Financial and Economic Issues*. July 2015. (in Chinese)
- [18] Liu Jun, Huang Jieyu and Cao Lijun. Research on the Mechanism of Financial Agglomeration Affecting Substantial economy [J]. *Management world*. 2007, (4), (in Chinese)
- [19] Xu Kangning, Ni Ningning. Four Questions and Interpretation of Substantial economy [J]. *Nanjing. Modern Economy Discussion*, 2017, (10): 1-6. (in Chinese)
- [20] Shan Haojie. Re-estimation of China's Capital Stock K: 1952-2006 [J]. *Beijing: Quantitative Economic and Technology and Economic Research*. 2008, (10): 17-31. (in Chinese)
- [21] Pang Jinyu. Real Economic Analysis of Finance Services to Substantial economy [J]. *Beijing: Management World*. 2012, (5): 170-171. (in Chinese)
- [22] Lamont, O. , C. Polk, and J. Saa-Requejo, 2001. "Financial Constraints and Stock Returns", *Review of Financial Studies*, Vol., 14( 2),529-554.
- [23] Wen Zhonglin, Ye Baojuan. Mediating Effect Analysis: Method and Model Development [J]. *Progress in psychological science* 2014, (5): 732-745. (in Chinese)
- [24] Dai Kuizao. The effect and Mechanism of Action of technological market development on export technological complexity [J]. *Beijing: China's industrial economy*. 2018, (7), 117-135. (in Chinese)