

# **An Empirical Study on the Relationship between Financial Development and Economic Growth in the Context of Big Data**

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**Abstract:** in Modern Economic Life, Financial Development and Economic Growth Are Mutually Promoting and Interacting. However, Because the Institutional Background and Constraints of Each Stage Are Different, the Transmission Results of Utility Differentiation Will Be Produced. Today, China's Economy in the Big Data Environment Has Entered a Period of Rapid Development and Made Breakthroughs in Development. However, the Unbalanced Economic Development Trend among Regions is Gradually Revealed. Therefore, in the Context of Big Data, It is of Great Theoretical Significance to Explore the Relationship between Financial Development and Economic Growth in Order to Promote the Adjustment of China's Economic Structure.

## **1. Introduction**

### **1.1 Literature Review**

The relationship between financial development and economic growth has attracted extensive attention of scholars from all walks of life in China. Based on this background, this paper analyzes the data relationship between China's financial development and economic growth, and clarifies the impact of China's financial development on economic growth. According to Tao Ying, the financial industry is very important in the economic structure, and the level of financial development is directly related to many links of economic growth (Tao, 2015). Zheng Xingbi scholars believe that since entering WTO, China's economic development has entered a period of rapid development. At the same time, influenced by the international financial model, China's financial reform is also developing rapidly, and then in terms of scale and structure, the financial industry has been further developed (Zheng, 2014). Chen Yuangang and Feng Dan mentioned that the research found that the development scale of the financial market in the Pearl River Delta obviously promoted the spillover effect of FDI, mainly because the efficiency of the financial market had a restraining effect. Combined with the analysis and research, the paper puts forward the improvement strategy, in order to improve the level of regional financial development, and promote the spillover effect of FDI to enlarge, and finally effectively promote economic growth (Chen and Feng, 2015). Liu Jinqun and Long Wei pointed out that there is a significant threshold effect between China's financial development and economic growth. When the level of financial development is lower than the threshold, it has a significant positive effect on economic growth, otherwise, it presents a non significant pulling effect (Liu and long, 2016).

### **1.2 Research Purposes**

The relationship between financial development and economic growth has always been the core difficulty in economic construction, and has also become the focus of economic theory research. In the process of economic construction, China has established a socialist market economy system, and the financial industry has made considerable progress and achieved certain results. Through continuous development, adaptation and integration, financial development and economic growth have formed a close relationship. Therefore, at this stage, China should control the speed of financial development, and improve people's income level, in order to promote financial

development to play its role in promoting economic growth. At present, the relevant research in the theoretical circle mainly proves the relevance of the two through empirical analysis, and there is less research on the transmission mechanism of financial development to economic growth. Based on this, this paper explores the internal relationship between China's financial development and economic growth.

## **2. Function System of Financial Development**

The financial system can mobilize savings and promote the flow of idle funds. The sound trend of financial development will continue to improve the financial system, so as to strengthen the function of mobilizing savings. In other words, the financial system can design a small amount of money saving tool to encourage the public to store idle funds. In addition, funds, stocks and other financial instruments can optimize the flow of idle funds and realize the public's investment in large-scale enterprises, thus greatly enhancing the liquidity of funds (Gu, 2016). From the actual situation, most families or individuals have limited financial strength, so it is difficult to set up enterprises with a large amount of money at one time. The savings and investment financial instruments derived from the financial system can invest idle funds into some enterprises with better development trend. Financial institutions use financial instruments to collect a large number of funds to provide financial support to enterprises in the form of loans to ensure that enterprises can achieve good operation, and thus promote social and economic development.

Since the founding of the people's Republic of China and its reform and opening up, in order to adapt to the global economic situation and social development needs, China's economic system has been maintaining the trend of reform and change. In this process, the non-public enterprises rely on policy encouragement and economic opening, get rapid development and rise, and become an important part of the national economy. From the perspective of investment and savings, the emergence of non-public enterprises, to a certain extent, promotes the separation of investment subjects and savings subjects (Zhao, 2014). As an important link between investment and savings, financial development drives the improvement of financial instruments, so as to promote the transformation rate of savings investment and the level of economic growth.

The efficiency of capital allocation is one of the key indicators to measure the efficiency of capital operation. Under the condition that the total amount of capital remains unchanged, the circulation efficiency of capital among various departments basically represents the allocation efficiency of financial capital (Gu, 2014). The efficiency of capital allocation plays a direct role in the use efficiency of savings funds. The investment benefit of the investor is also affected. Therefore, the efficiency of financial capital allocation will, to a certain extent, affect economic growth.

## **3. Empirical Analysis of the Relationship between Financial Development and Economic Growth**

### **3.1 Growth Effect**

Through capital accumulation and technological progress, financial development can effectively promote economic growth. Through the recessive guarantee of the state to the bank and the gradual reform of the financial system, the financial system achieves enough capital accumulation to promote investment expansion and rapid economic growth. In the reform of financial system, we should establish the secondary banking system of the central bank - the state-owned commercial bank, and gradually reform the foreign exchange management system and capital projects to promote the unbalanced development of the capital market. That is to say, in the early stage of economic transformation and reform, we should mobilize savings at a lower cost, and then effectively promote economic growth. Based on this, this paper uses panel data from 1990 to 2018 to analyze the growth effect. When selecting variables, GDP is used to measure the economic growth rate. Financial development level is represented by  $a$ , human capital is  $h$ , actual foreign

investment is FDI, and gov is the degree of government intervention. F test is conducted for panel data (see Table 1 for statistical results). In Table 1, \* is significant at the level of 10%, 5% and 1%. The results show that the coefficient of financial development is 1.1227, which indicates that it has a significant positive impact on economic growth. And the cross coefficient between financial development and FDI is 0.0112, which indicates that financial development can promote the growth of FDI and economic growth at the same time.

Table 1 f Test Result Statistics

variable	F	K
A	1.1227 (0.000***)	0.8147 (0.000***)
FDI	0.0646 (0.000***)	0.0645 (0.000***)
A* FDI	0.1112 (0.000***)	
H	0.6156 (0.000***)	0.6098 (0.000***)
GOV	-0.0423 -0.4216	-0.0552 -0.1847

### 3.2 Structural Effects

The development or inhibition of the financial system will promote the regional economic structure effect. The main positive effects are as follows. First, the improvement of technology absorption capacity and independent R & D can promote the upgrading of industrial structure. Since the reform and opening up, China has achieved rapid economic growth. However, the global financial crisis, the reduction of population dividend and the increase of labor cost make the global growth and external demand unstable. China needs to adjust its industrial structure and development mode to achieve sustainable development. According to the endogenous growth theory of Schumpeter paradigm, in order to tend to the world's technological frontier, the economy supports R & D activities through external financing. However, due to the heterogeneity of industry, the impact of financing constraints is different. Second, the development of real economy can promote the transformation of dual economic structure. In the process of transformation from traditional labor-intensive sectors to modern sectors, financial development can improve the capital supply and new technology options. Third, upgrading resource allocation and technical structure can optimize regional economic structure. By improving the technology absorption capacity, financial development increases the probability of successful technology introduction, not only provides financial support for technological innovation, but also promotes the dissemination and popularization of high-tech achievements, thus effectively improving productivity. In addition, by reducing transaction costs and information costs, financial development can also help to optimize the allocation of technical cooperation and resources, and ultimately promote economic growth.

### 4. Suggestions for Financial Development to Promote Economic Growth

The endogenous relationship between financial development and economic growth demands financial repression in China. Excessive financial restraint will reduce capital efficiency and increase financial risk. At present, there is a big gap in financial development between eastern China and central and Western China. In the financial system, there are many financial institutions and businesses with high service level, but few in low-level and low-level areas. Therefore, in order to effectively promote economic growth, China's financial development can be improved from two aspects, so as to play an active role in promoting.

On the one hand, systematic discrimination should be eliminated at different levels. As a potential subject of technological innovation, due to widespread ownership discrimination, SMEs in China can only obtain financing outside the system, such as private finance or endogenous financing, which leads to a great restriction on their R & D activities. Therefore, we should first

reduce the market access mechanism of private capital, and achieve the elimination of institutional discrimination. Through the elimination of institutional discrimination in the financial market, many enterprises can be relieved of their financial constraints, thus realizing technological innovation and improving market competitiveness. To some extent, the massive inflow of foreign direct investment has replaced bank credit, eased the financing constraints of enterprises, and promoted industrial exports. However, the scale expansion of foreign direct investment means that domestic financial repression policies exist widely. Therefore, it is necessary to eliminate the restraining policies and distorted investment and financing mechanisms in order to improve China's international competitiveness.

On the other hand, we should pay attention to the optimization of structure and efficiency. At present, the main way for China to develop high and new technology is to attract enterprises with proprietary technology or technology spillover in developed countries and regions, and realize technology upgrading through cooperation between local manufacturers. However, for investment in the underdeveloped countries, the frontier enterprises need to be equipped with a good investment environment, including macro infrastructure, economic stability, and private and government savings. The savings rate is very important for economic growth. With the approach to the technology frontier, the core role of technology imitation in economic growth is gradually weakened, as well as the importance of savings rate. Therefore, with the development of economic level, we should pay attention to the improvement of structure and efficiency, and realize the transformation of quality mechanism.

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