

# Financial Capital Deepening, Technological Progress and Industrial Structure Upgrading

Zhongxian Shao\*

Shandong Shanda Huate Technology Co., Ltd., Jinan 250101, Shandong Province, China.

**Abstract:** A necessary condition for realizing macroeconomics is to rationally upgrade the industrial structure. In this process of upgrading, financial capital deepening and technological progress are important ways to promote the upgrading of industrial structure. From an endogenous perspective, this essay explores the internal links between financial capital deepening, technological progress, and industrial structure upgrading. The analysis shows that factors of technological progress have not make a tremendous impact on the upgrading of Chinese industrial structure, nor are they a positive reason for promoting the development of the industry to a higher level. The deepening of financial capital obviously promotes the optimization and upgrading of industrial institutions, which is its main factor.

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**\*Corresponding author:** Zhongxian Shao, shao-zx@126.com

We can know from the growth theory of structuralism that if we want to ensure long-term and stable economic growth, one of the necessary conditions is the optimization and upgrading of the industrial structure. With the rapid economic growth in recent years, the share of employment and output in various industries has changed to a certain extent. As a result, the center of the industry has shifted from the primary industry to the secondary and tertiary industries. That is to say, the industrial structure is optimized and upgraded. The economic development of developed countries in history proves that the industrial structure has two main

characteristics. First, the proportion of the primary industry relative to the secondary and tertiary industries continues to decline, and the number of employees in the secondary and tertiary industries continues to increase; Second, when it reaches a certain stage of development, the proportion of the secondary industry declines. Instead, the tertiary industry, which is the service industry, becomes the dominant economy. Discussing the impact of financial deepening and technological progress on the upgrading of industrial structure is of great significance to Chinese economic development.

## 1 The way of the deepening of financial capital affecting the upgrading of industrial structure

Since the founding of the People's Republic of China, the proportion of China's three major industries has changed dramatically. The quality of economic development has been significantly improved, and the stage where the secondary and tertiary industries account for a relatively high proportion has been completed. Currently, the important goal for optimizing and upgrading the industry structure is to greatly develop the rising information industry. We will eliminate backward high-energy-consuming and highly polluting industries and increase the proportion of tertiary industries in the economy<sup>[1]</sup>. To achieve this goal, there must be enough capital to fuel in meeting the needs of scientific research. Finance, as the core of the modern economy, is to affect the real economy through the continuous penetration of financial capital in the market to promote the development of the real economy, which is the deepening of financial capital. It is not difficult to see that the deepening of financial

capital has a profound impact on the development of the real economy, and it also provides a dynamic support for technological progress, thereby promoting the upgrading of the industrial structure.

## 2 Status of industrial structure upgrading

An important endogenous variable in economic growth is the industrial structure. In order to have better potential for economic growth, it is necessary to promote the optimization and upgrading of the industrial structure. Optimizing the industrial structure, from a dynamic perspective, means that the industrial structure is developing in the direction of high-level and rationalization. And from a static perspective, it is a state in which the industrial structure is in balance with technology, resource supply, and demand. There are some differences between the rationalization of industrial structure and industrial optimization. The rationalization of industrial structure refers to the good coordination and correlation between industries. The advanced industrial structure uses technological progress as a means to promote the overall quality of the industry to a higher level. The rationalization and advancement of industrial structure may not be able to coexist, that is, the structure may not be rationalized when the industrial structure is advanced, and the industrial structure may not be advanced when the industrial structure is rationalized. The emergence and application of new technologies, high-tech industries and information industries is the embodiment of advanced industrial structure. To promote the optimization and upgrading of the industrial structure, it is necessary to rely on the advanced industrial structure and gradually make the industrial structure more reasonable. This is also an important condition for ensuring the sustainable development of our economy<sup>[2]</sup>.

Industrial structure upgrading includes two processes: rationalization of industrial structure and advanced industrial structure, in which the optimization of industrial structure must meet the goal of optimal economic growth. However, when the industrial upgrading in the process of practice is a spiral, the economic growth has great uncertainty, and the optimal economic growth mode needs to gradually explore its own set of development models in the continuous practice process. The continuous development of the financial sector for economic benefits, through the

continuous circulation of capital, can indirectly promote the upgrading of the technology industry between the production sectors of the physical industry, which not only promotes the development of the physical industry, but also obtains economic benefits. Funds can promote the development of various industries. Through the allocation of funds, they can achieve the purpose of affecting the division of labor in the society. In the course of continuous practice, they can continuously lead the upgrading of the industry. Therefore, the financial sector can indirectly promote the continuous upgrading of industries by expanding loaning.

According to relevant survey data, technological progress has not had a significant impact on the industrial structure at the national level, nor is it a key factor in promoting the upgrading of the industrial structure<sup>[3]</sup>. The mutual circulation of funds among various industries has the greatest impact. Bank capital can play a positive role in promoting the continuous deepening of the industrial structure, which is a key factor to promote the upgrading of the industrial structure, but it is not an influencing factor for the industrial advancement. The reason why it has a significant influencing factor on advancing industry is the gradual deepening of securities capital. However, as my country's financial industry has not yet matured, the subjective initiative of using financial capital to promote industrial structure optimization is far from being formed.

From a regional perspective, the impact of technological progress on the region is relatively significant. It plays a very important role in the central region, which is at the critical stage of technological development, and plays an important role in promoting the development and transformation of industrial structure when technology is most needed. In the eastern and western regions where technological development is relatively backward, it has played a role in inhibiting the advanced industrial structure. The reasons for regional differences lead to the same influencing factors playing different roles in different regions. In the eastern region of China, the gradual deepening of bank capital can prompt the continuous upgrading of the local industrial structure, tending to a more advanced direction. However, due to the lack of understanding of the progress of related technologies, the industrial structure has not done enough in rationalization in the process of continuous development.

### **3 Recommendations for upgrading capital, technology and industrial structure**

The goal of the financial industry is to pursue benefits. In essence, the financial industry improves its productivity and technical level by providing capital to the real economy industry, and also participates in the industrial division of labor to play a role in industrial upgrading.

#### **3.1 National level**

From the perspective of the overall situation in the country, technological progress has failed to promote the advancement of the industrial structure. There are two possible reasons. First, the second industry is the one that make the biggest progress in China's three major industries, while the progress in the tertiary industry is relatively slow; Second, since the 1990s, the lack of internal demand in the economy has always been a problem. This is the reason why various industries across the country have stepped up efforts on scientific research to promote industrial upgrading. The deepening of banks' capital in securities has an obvious effect on the industrial structure, which is relatively in line with theoretical expectations, which shows that the deepening of capital in both direct and indirect finance has great significance for the upgrading of industrial structure. The impact of urbanization level, scientific research input, and foreign investment on China's industrial structure is not obvious. In the process of urbanization, many problems of industrial emptiness have emerged. In addition, due to the technical barriers imposed by developed countries on China, it has failed to give full play to the technology spillover effect of foreign investors.

#### **3.2 Regional level**

The strategy of giving priority to the development of heavy industry has enabled the country to have a better industrial foundation. The technological progress mainly affects the secondary industry, while the technical level of the tertiary industry is still not high. The deepening of securities and banking capital has a greater impact on the upgrading of industrial structure in the eastern region of China, while it has a relatively smaller impact in the central and western regions. This shows that in the eastern region where the financial industry is developed, the financial industry pays more attention to the investment in the tertiary industry. The central and western regions serve as a supply area for

minerals and agricultural and sideline products, which makes the financial industry invest most of the capital in the first and second industries. The deepening of capital in the western region failed to promote the development of the industrial structure to a higher level. Research in science and technology has a significant impact on the upgrading of the industrial structure in the eastern and central regions, but has little effect on the western region. Foreign capital has little impact on industrial upgrading in the eastern and western regions, but has a negative impact on industrial upgrading in the central region. The reason is that most of the foreign investment in the central region is in the primary and secondary industries, while the investment in the eastern region is relatively balanced. The western region is less open than the central and eastern regions, resulting in less foreign capital investment, so the degree of impact is limited.

### **4 Proposals to promote the upgrading of industrial structure**

#### **4.1 Banks and securities and other capital deepening should focus on other industries while focusing on investment in science and technology**

Different industries have different characteristics, and there are certain differences in technological innovation capabilities and attractiveness of talents. When providing technical support for bank capital, it is recommended to lean towards industries with low development levels, such as agriculture and manufacturing. And it should expand coverage to enable low-level industries to accelerate the pace of industrial upgrading.

#### **4.2 Develop and improve the capital market**

The continuous improvement of the capital market can make direct financing more and more convenient and can promote the formation of a good financing environment. The continuous deepening of capital in various industries will have an increasingly significant impact on industrial upgrading. The synergy development mechanism between the capital market and various industries will be effectively exerted. In addition, it is necessary to increase the influence of securities capital on the optimization of industrial structure, so that both capital and securitized capital can play a good role in promoting the upgrading and

optimization of the industry.

#### **4.3 The eastern, central and western regions should coordinate the development of various industries**

In the eastern region where the development of industrial structure is not perfect, the development of various industries should be fully taken into account when allocating capital. It is not possible to focus on the development of only one type of industry, which will hinder the upgrading of the industrial structure. When allocating capital, it is necessary to fully investigate the local development. The eastern part of China is in a clear advantage in the storage of natural resources. Natural resources can bring tremendous benefits to the capital market. Therefore, in the allocation of capital, there may be developments that are too biased towards the natural resource industry. At this time, if we want to ensure that the economy in the eastern region maintains the optimal growth situation, it is necessary to coordinate the allocation of industries between various industries. It is not to pursue the highest economic benefits, but to pursue coordination and sustainable development between industries. It is the most healthy development trend only when there is no shortcoming.

#### **4.4 The central region should change its development orientation and seek new industrial allocation**

The continuous upgrading of the industrial structure requires that the development among various industries is balanced. As the region which focuses on the production of raw materials and agricultural products, the central region should seek more diversified development space in terms of capital allocation to allow more capital to flow into rising industries. A new development path should be explored and the formation of endogenous interaction mechanisms among various industries should be promoted in the financial industry structure. Through data investigation and analysis, the source of funds for economic development in the central region is mainly bank credit loans. This mode of seeking funds can play a huge role in a short time, but opportunities and risks coexist in the long run. In order to reduce the impact of risk on the upgrading of industrial structure, the industrial policy should

be directed toward the direct financing market, and the influence of securities capital on the upgrading of industrial structure should be expanded.

#### **4.5 The western region should deepen the reformation of financial marketization**

The development of the industrial structure in the western region is at a disadvantage throughout the country, so the direction of capital flow should be artificially controlled, and capital investment should be increased between industries with vigorous policy development. At the same time, in order to effectively alleviate the difficulty of industrial financing, it should be actively cultivated the emerging direct financing market and financial institutions which will enable capital flows between industries and enhance the vitality of development among enterprises.

### **5 Conclusion**

To sum up, the transformation of industrial structure includes two stages of upgrading and rationalization. In real life, the upgrading of industrial structure is not a straight path, but a spiral process. Although the deepening of financial capital has a positive impact on the upgrading of industrial structure, but its long-term mechanism has not yet been formed. Technological progress has a positive effect on the rationalization of the industrial structure in the central region and a negative effect on the upgrading development of the industrial structure in the east and west. Therefore, there is still much work to be done in the future. How to make good use of the achievements of the fourth scientific and technological revolution to promote industrial upgrading is worthy of our careful consideration.

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