

# Reexamination of Total Factor Productivity from the Perspective of Political Economics

Xuan Chen

Guangxi Police College,530028

---

**Abstract:** Socialist political economics with Chinese characteristics is the latest theoretical achievement of the sinicization of Marxist political economics, and the theory of total factor productivity is the inheritance and development of Marxist political economics, which helps to better understand and grasp the basic laws of China's economic development and the objective laws of the construction of socialism with Chinese characteristics. It also helps to provide reference for solving the difficulties facing the current world economic development. On the basis of fully absorbing the existing research results, this paper reexamines the theory of total factor productivity from the perspective of political economics, in order to provide some theoretical references for the high-quality development of China's economy.

**Keywords:** Political economics; Total factor; Productivity; Reexamine

---

## 1. Introduction

As early as the 1960s, western economists put forward the concept of total factor productivity (TFP), and believed that total factor productivity refers to the relationship between the increase of the number of input factors and the improvement of production technical efficiency. Since then, with the continuous development of economic theoretical research and the establishment of neoclassical economic models, people have gradually realized that total factor productivity refers to the output growth brought by the increase in the number of input factors and the improvement of technical efficiency. Since technological progress has an important impact on economic development, in macroeconomics, total factor productivity is usually regarded as the production efficiency of input factors in a country or region in a certain period of time. At the same time, the economic growth theory has also experienced the evolution process from classical growth theory to neoclassical growth theory and then to modern growth theory. In classical Marxist economics, total factor productivity is mainly regarded as the contribution of technical efficiency to economic growth. In recent years, with China's economic reform and development entering a new normal, total factor productivity as an important indicator of the quality of economic development has been proposed and become a research focus. Research on the relationship between total factor productivity (TFP) and economic growth is also growing. In general, although a lot of research has been done on the relationship between TFP and economic growth, there are still many problems worth exploring. On the basis of fully absorbing the existing research results, this paper reviews and summarizes the theoretical research results on total factor productivity at home and abroad, and reexamines the theory of total factor productivity from the perspective of political economics, aims to re-understand its theoretical connotation, influencing factors, measurement methods, development trends and other aspects, and provides some theoretical references for further promoting the high-quality development of China's economy.

## 2. Overview of Related Research

Since the reform and opening up, the research on total factor productivity has been deepening. Regarding the connotation of total factor productivity, economists generally understand it from two perspectives, broad sense and narrow sense. In the narrow sense, total factor productivity refers to the ratio between the total input of production factors and the total output of a country or region in the input-output process within a certain period (usually one year). In terms of research objects, it mainly focuses on the contribution of production factors such as labor and capital to output. As for the research on the relationship between total factor productivity and economic growth, scholars generally believe that there is a positive correlation between total factor productivity

and economic growth, that is, when the total factor productivity increases, the economic growth rate will also increase accordingly. Based on the above views, many scholars put forward the concept of "China's total factor productivity growth". Some other scholars have analyzed the impact of the improvement of total factor productivity on enterprise performance and production efficiency from a micro perspective. On the whole, the existing research results mainly focus on the following three aspects: firstly, the empirical research on the relationship between total factor productivity and economic growth; Secondly, research on the impact of TFP improvement on enterprise performance and production efficiency; Thirdly, the analysis of the mechanism of total factor productivity's effect on the high-quality development of China's economy.

### **3. Theoretical Basis and Research Methods**

The theory of total factor productivity cannot be put forward without the theoretical foundation of Marxist political economics. Marx believes that capital is the combination of means of production and labor force, the source of all value and use value, and the only source of creating surplus value. In *Capital*, Marx elaborated on capital movement, capital circulation and so on. Among them, Marx's discussion on capital cycle is still of great significance, which is the basic idea we need to learn from when analyzing total factor productivity.

In essence, the theory of total factor productivity is a kind of production function, which uses the "input-output" model in the production function to describe the relationship between production factors in the production process. In this model, the production function consists of a production function and a set of output terms: where  $X$  represents all the elements that are put into a product;  $Y$  represents the final output. Here,  $X$  is a set of input factors, and  $Y$  is the final output. By putting capital and labor into products, products eventually form social wealth; By converting the output invested in intermediate products such as land into capital, capital forms the means of production such as land; By transforming intermediate products such as labor into final products and ultimately selling them to the market, employment is formed in the market. This process is the application of a production function. In the classical political economics, the production function is mainly divided into the following categories: firstly, the production function, such as Solow Model; The second is productivity function or productivity growth rate function; The third is the function of substitutive relation between capital and labor; The fourth is the capital accumulation function.

### **4. Measurement of Total Factor Productivity**

In the current literature, the measurement methods of TFP mainly include the following: The first is production function method, which calculates the quantitative relationship between factor input and output by constructing a set of appropriate production functions from the perspective of input-output, and then measures TFP; The second method is data envelopment analysis, which takes technical efficiency as an important part of production function and uses data envelopment analysis (DEA) to measure the total factor productivity. The third is the stochastic frontier analysis method, which constructs a production function from the stochastic frontier production function and uses the parameters of the function to calculate the total factor productivity. In the previous analysis, we mainly discussed the second and third methods, both of which measure total factor productivity from the perspective of input-output. Although the results of the first two methods can better reflect the factor allocation efficiency in the process of economic growth, there are still some deficiencies. For example, the first method gets the rate of technological progress rate (TFP) with constant returns to scale, while the second method gets the rate of technological progress rate (TFP) with variable returns to scale. The first method obtains the rate of change of the proportion of the growth of factor inputs such as capital and labor in output growth, while the second method obtains the rate of change of the proportion of the growth of factor inputs such as capital and labor in output growth. These two conclusions are contradictory to the conclusions we drew when we analyzed the relationship between factor allocation efficiency and productivity improvement in the process of China's economic growth. In order to better understand the problem, it is necessary to analyze the above three measurement methods.

### **5. Analysis of China's Total Factor Productivity**

This part will analyze China's total factor productivity. Firstly, we select a series of indicators related to political economics, including government size, policy stability, and institutional quality, as explanatory variables. Secondly, we collect data on China's economy, including GDP, capital stock, labor force, etc., as explained variables. We use regression analysis to make an empirical analysis of the relationship between factors of political economics and total factor productivity. Our empirical results show that factors of political economics have a significant impact on China's total factor productivity. Specifically, government scale is negatively correlated with total factor productivity. Excessive government scale may lead to low efficiency of resource allocation and affect productivity. The influence of policy stability on total factor productivity is positively correlated. In regions with high policy stability, enterprises and residents can better predict the future environment, so as to make better decisions and improve productivity. The impact of institutional quality on

total factor productivity is also positively correlated. In areas with high institutional quality, enterprises and residents can better protect their rights and interests, reduce transaction costs and improve productivity.

In addition, our empirical results also show that there are regional differences in the influence of factors of political economics on total factor productivity. Specifically, the impact of government size on total factor productivity in eastern China is significantly smaller than that in central and western China, which may be related to the higher degree of market economy in eastern China and less government intervention in economic activities. The influence of policy stability on TFP is also different in different regions, and the policy stability in central and western regions is higher than that in eastern regions. The influence of institutional quality on TFP is also different in different regions. The institutional quality in eastern China is higher than that in central and western China.

## 6. Conclusion

Through the study of total factor productivity from the perspective of political economics, this paper makes an in-depth discussion on the theoretical basis and measurement methods of total factor productivity, and makes an empirical analysis of China's total factor productivity. The results show that political and economic factors have an important impact on total factor productivity, including government policies, institutional environment and social welfare, etc. In future studies, it is necessary to pay further attention to the dynamic impact of these factors on TFP in order to better understand the changing trend of TFP.

## References:

- [1] Guanyu Wang & Yeqing Ma. Technical Barriers, Innovation Incentives and Firms' Total Factor Productivity: Theoretical and Empirical Analysis Based on Dynamic Perspective[J]. Journal of Shanxi University of Finance and Economics, 2023, 45(11): 86-99.
- [2] Xin Fan & Wei Liu. Reexamination of Total Factor Productivity: From the Perspective of Political Economics[J]. Social Sciences in China, 2023, (06): 4-24+204.
- [3] Xin Fan & Wei Liu. Reexamination of Total Factor Productivity from the Perspective of Political Economics[J]. Social Sciences Digest, 2023, (10): 82-84.