The Development and Prospect of Economic Growth Theory

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ABSTRACT

The development of economic growth theory has gone through three important stages, namely, classical economic growth theory stage, neoclassical economic growth theory stage and new economic growth theory stage, is now moving in a diversified direction. Economic growth plays an important role in terms of total factor productivity, development (R & D), institutional aspects, economic structure, financial aspects, and convergence of economic growth and so on. At each stage, the theory of economic growth is rich in the results of previous studies, and will combine economic growth with the existing problems in society at that time, trying to solve the problem from economic growth. Through an overview of scholars' theories and examples of economic growth, it has an important role in solving practical problems and has a guiding significance for promoting economic growth.

KEYWORDS

Economic growth theory, development stage, influence factor, case studies

INTRODUCTION

Economic growth is related to the development of a country and the people's living standard, so it has received great attention from all over the world. It can be said to be an eternal topic in social development. The theoretical study of economic growth can be traced back to the book "The Study of the Nature and Causes of National Wealth" published by Adam Smith in 1776. Since then, theoretical research on economic growth has evolved and innovated, including classical economic growth Theory, neoclassical economic growth theory, new economic growth theory and the subsequent emergence of other economic growth theory, and a series of classical theoretical models have emerged, including Harold-Dormer model, Solo-Swan model, and technological progress endogenous model. The problems that these theories and models have studied and explained include: the source of economic growth and motivation, the internal mechanism of economic growth and external impact and economic growth and so on. In addition, economic growth is an important reason for the promotion of national economic development, theoretical research on economic growth can provide theoretical basis for the formulation of corresponding economic policies, previous scholars have studied and analyzed examples of economic growth, the government has formulated and implemented various economic policies, it has an important guiding role. Therefore, it is of great significance to summarize and evaluate the economic growth theories and examples at different stages.
THE CONNOTATION OF ECONOMIC GROWTH

Economic growth, refers to a certain period in a country or region due to the increase in the number of employment, capital accumulation and technological progress and other reasons, the economic scale in the number of expansion, reflecting the speed of economic growth, China's economic growth is measured by GDP growth. With the rapid growth of China's economy, the economic growth at the expense of high investment, high consumption and high pollution has brought low quality, low efficiency and low welfare to some parts of our country. We only rely on "quantity" to measure economic growth, has been unable to adapt to the socio-economic development. Economic growth has been endowed with new connotations, increasing the "quality" as a measure of the speed of economic growth at the same time, quality is used to reflect the extent of economic growth. Since the 80s of last century, China's economic growth in the government under the guidance of the macro, embarked on a transition from extensive management to intensive business-oriented road. The extensive mode of economic growth mainly depends on increasing the input of the productive factors to expand the scale of production and achieve economic growth. Intensive economic growth depends on the progress of science and technology and the improvement of the quality of workers, and the improvement of the quality and efficiency of production factors to achieve economic growth. With the development of China's social economy, people's attention to the living environment and the increase of the value of the labor force, the transformation of China's economic growth mode to the intensive mode will contribute to the development of China's economy.

ECONOMIC GROWTH THEORY

The development of economic growth theory has gone through the course of the classical economic growth theory, the neoclassical economic growth theory and the new economic growth theory, and has been developing in a pluralistic direction.

Classical economic growth theory

Classical economic growth theory refers to the classical economics which is represented by Adam Smith, David Ricardo, T.R. Malthus, John Stuart Mill and so on, and puts forward their own views on the issue of economic growth, thus forming the theory [1].

The theoretical study of economic growth can be traced back to the book ‘The Study of the Nature and Causes of National Wealth’ published by Adam Smith (1776), Smith pointed out in the book, the division of labor is the source of wealth growth, division of labor and the degree of specialization depends on the size of the market, There are two main ways to increase wealth: through the division of labor to improve productivity and increase the number of productive labor[2], which means that the establishment of theoretical economic system [3]. At the same time, Ricardo's vision shifted from wealth growth to wealth distribution, the first systematic study of the relationship between income distribution and economic growth, pointing out that the distribution of wages, profits and rents had an impact on capital accumulation, which in turn affected the rate of economic growth and Economic development prospects. John Muller is a master of classical economics, combined with previous research results, adheres to the principle of laissez-faire, against the heavy protection
of mercantilism. For the production, distribution and accumulation of wealth, Muller believes that only the expenditure of production can make the society rich, and the nonproduction expenditure will make the society tend to poverty. Once the socio-economic is at rest, the reform of wealth distribution is the only way for the economy to continue to grow. John Muller developed the theory of classical economic growth to a new stage.

Most of the classical theories of economic growth adopt historical methods, deductive methods, empirical methods, descriptive and abstract methods, logical methods and inductive methods [4], although the lack of relevant data demonstration and support, but it has built the basic framework of economic growth research, to further study the theory of economic growth has laid a good foundation.

**Neoclassical economic growth**

The completion of the industrial revolution makes the accumulation of social wealth continues to increase, wealth distribution contradiction increasingly sharp, a new generation of economists to focus on resource allocation and product exchange and other micro-areas of the problem, based on the research thought of classical mechanics, using the marginal analysis method and the equilibrium analysis method, a general equilibrium system with equal product and factor is determined by the output and price [5], from this point of view, the study of economics has gradually shifted from classical economic theory to new classical economic theory.

As the "Harold - Thomas model" with particular emphasis on the ratio of capital and output to remain unchanged, it is difficult to achieve a balanced employment growth conditions. In the mid-1950s, American economist Robert Solo questioned the ‘Harold-Dorma model’ and published a paper entitled ‘Contribution to the Theory of Economic Growth’ in 1956, introducing capital and labor, a key variable to describe their new ideas. In the condition that ‘the scale of income does not change, but the marginal productivity of capital or labor diminishes’ and ‘all products are produced by capital and labor, this variable is temporarily not considered’ [6], according to "Cobb-Douglas production function"

\[
Y = AK^\alpha L^{1-\alpha}
\]

It can be obtained from the above function

\[
\Delta Y = f (\Delta K, \Delta L)
\]

That is, the increase in output depends on the increase in capital input and the increase in labor input, ‘\(\Delta Y\)’ represents the increase in national income, ‘\(\Delta K\)’ represents the amount of capital, ‘\(\Delta L\)’ represents the increase in labor volume, \(\alpha\) represents the share of capital, ‘1-\(\alpha\)’ represents labor Yield share. As a result, the national economic growth rate was deduced,

\[
G = \frac{\Delta Y}{Y} = \alpha \frac{\Delta K}{K} + (1 - \alpha) \frac{\Delta L}{L}
\]
The formula can be called the core formula of neoclassical economic growth theory, by adjusting the ratio of ‘K’ and ‘L’, that can achieve a balanced economic growth.

It can be said that the Solow model is the benchmark form of the theoretical model of modern economic growth, and then the various theoretical models of economic growth are developed on the basis of the Solow model.

**New economic growth theory**

In the middle of the 1980s, a group of economists led by Romer and Lucas, on the basis of rethinking the neoclassical growth theory, abandoned the core hypothesis of neoclassical growth theory, published a group of "endogenous technology changes" as the core of the paper, put forward a new set of economic growth and development ideas, explores the possible prospects for long-term growth, and economic research has since entered the stage of ‘new economic growth theory’ [7]. The core idea of the new economic growth theory is that the economy can achieve growth without relying on external forces, and endogenous technological progress is the decisive factor to ensure sustained economic growth [8].

The main contents of the new economic growth theory are:

"Learning by doing" theory. Romer inherited Arrow (1962) "learning by doing theory" [9], the knowledge as a direct introduction of a variable, in the process of research, it is found that long-term endogenous economic growth can be achieved even if there is a certain degree of externalities, that is, under the condition of learning by doing, even if the marginal rate of return of capital falls to 0 [10].

The external effect of knowledge. In 1986, Romer published the article "Incremental remuneration and Long-term Growth", pointing out that 'knowledge' is another important factor in economic growth, in addition to "labor and capital", that knowledge has an external effect and a by-product of economic activity. Luo's 'learning by doing' theory has been some changes. Under the assumption of externalities of knowledge, Romer proves that there is a stable and balanced growth path under the continuous growth of the economy, considering the general competition equilibrium and the increasing returns of the elements [11].

Endogenous model of technological progress. In 1990, Romer published an article on "endogenous technological change", pointing out that "specialized inputs" were another important factor in economic growth and that technological change was treated as an endogenous variable in the economic system. Technological change is the result of market stimulus, new products are patented, and manufacturers can obtain monopoly interests, the interests of access to stimulate technological progress, for long-term economic growth provides a driving force. In the economic growth model, the establishment of research and development technology dedicated ‘production function’,

\[ y = A k^\alpha K^{1-\alpha} \]

After processing, we can get the economic growth rate:

\[ \frac{\Delta y}{y} = \frac{\Delta k}{k} = \frac{\Delta c}{c} = \frac{\alpha An^{1-\alpha} - \rho - \delta}{\gamma} \]
Endogenous technological progress can strongly explain the source of long-term economic growth and enhance the explanatory power of mainstream economics on economic growth [12].

Subsequently, the theory of endogenous economic growth flourished. Yang Xiao kai (1991) and so on inherited Smith and younger (1928) about the idea of division of labor. Yang Ge in his "increasing returns and economic progress," a text of the division of labor thought carried out a whole study, the development of Smith on the "limited by the scope of the market, "the idea of "not only the division of labor depends on the size of the market, The size of the market also depends on the division of labor [13]’ theory, The evolution of the division of labor is the expansion of the market, the trading system changes, the accumulation of specialized knowledge of the root causes, but also to promote economic growth, long-term dynamic factors. On the basis of Yang ge's theory, Yang Xiao kai introduced the division of labor into the economic growth model, and thus put forward a transaction cost reduction and labor division of labor to promote each other's economic growth model, It is concluded that the growth rate of per capita income will be improved under the condition of maintaining the potential of further division of labor, so as to realize the continuous improvement of economic growth rate [14]. New economic growth theory, the economic system of exogenous knowledge and human capital into endogenous, proved that the accumulation of knowledge and technological progress is the decisive factor in economic growth, but also the economic growth momentum and the source of sustained, while clearly explain the facts of some economic growth, and guide the government departments to do the work of economic policy.

Other economic growth theory

Economic growth theory has been from the "classical economic growth theory" to "neoclassical economic growth theory" to "new economic growth theory" mainstream theory evolution, has a very good theoretical system. After this process of evolution, scholars have been developing in different fields in different directions, and the research of economic growth theory has been enriched constantly on the basis of the mainstream theory. Aghion & Howitt (1998) [15] focuses on the analysis of the new growth theory, in which the ‘endogenous growth theory’ contains a kind of endogenous growth model based on R & D model, especially devastating innovation thought. Strulik (2006) [16] introduced the human capital accumulation function in the form of Lucas (1988), concluding that: The accumulation of human capital is also an important engine to promote economic growth, government policy can affect the accumulation of human capital and thus affect economic growth, then in the absence of population growth, the continued economic growth is still possible. Glass and Wu (2007) [17] explained the role of property rights protection would have conflicting conclusions that: In the case of a product with a level of product innovation, strict intellectual property protection is not conducive to foreign direct investment and innovation.

AN OVERVIEW OF CASE STUDIES ON ECONOMIC GROWTH

Economic growth theory of the early, due to the lack of accurate economic growth data for each country, economists on the economic growth of the study biased in favor of theory. With the development of the world economy and the Internet industry,
scholars have gradually strengthened their ability to deal with data, and began to pay more attention to case studies in terms of economic growth.

1) Foreign research

In terms of total factor productivity and economic growth, Denison (1962) [18] calculated and calculated the contribution of various growth factors to the growth of national economic income, decomposed the factors of production input and total factor productivity (TFP). Maddison (1998) [19] has estimated that growth in total factor productivity can explain China's economic growth in 1978-1995 years, 30%-58%. Wu (2004) tested the impact of openness on TFP growth by using stochastic frontier technology as a sample of APEC economies over 1980-1997 years on GDP, capital, labor, and open data.

In the economic structure and economic growth, Kuznets (1949) on the US economic growth and resource allocation of large amounts of data for long-term trend analysis and cross-section analysis, found 1948-1966, the United States 10% productivity increase is dependent on resources and then the conclusion that "the measurement of a national's national income must be measured from the structural point of view, and the structure of an economy is determined by its mode of production" [20].

In terms of financial and economic growth, T. Beck (2004) takes the data from 69 countries in 1980-1997 as samples, examined the relationship between the fragility of the banking system throughout the country, the state system, the concentration of state banks, and the banking rules. The conclusion is that the higher the degree of bank concentration, the less likely the economic crisis is, the stronger the regulatory policy and the fragile the financial system [21].

2) Domestic research

In terms of total factor productivity and economic growth, Zou Zhizhuang (1993) [22] pioneered the study of China's economic growth source, through a large number of data analysis, obtained "China in 1952 to 1980 to achieve the main economic growth because the capital accumulation". Zhang Jun, Shi Shaohua (2003) [23] conducted an in-depth study of the changes in total factor productivity of China's economy from 1952 to 1998. Xu Jiajie (2007) [24] analyzed the time series data of our country in 1978-2006 years, and estimated the total factor productivity of our country.

In the economic structure and economic growth, Liu Wei (2003) will focus on the industrial structure and ownership structure, research and analysis of its impact on Beijing's economic growth. Ren Baoping (2011) [25] from the perspective of the quality of economic growth, the use of international norms of the logic of positivist analysis methods, taking the provincial panel data from 1978 to 2007 as the sample, this paper makes an empirical study on the relationship between the transformation of economic growth and the quality of economic growth in China, the conclusion that there is a significant positive relationship between the structure of economic growth and the quality of economic growth is concluded.

CONCLUSION

Through the overview of economic growth theory and case study, we can find: from the classical economic growth theory to the neoclassical economic growth theory, to the new growth theory of economic growth theory and many other economic growth theory, each economic growth theory has its own. The connotation
is to meet the needs of the times at that time, are a study of the predecessors of an innovation and development of economic growth is also an example of the study to solve some of the specific problems at that time. Therefore, the theory of economic growth is developed with the change of the times, the content is constantly rich, the level is more and more in-depth, and the research object is more extensive. All in all, the study of economic growth theory plays an important role in promoting the sustainable development of the economy.

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