Literature Review of Income Distribution Research

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Abstract

With the rapid development of China's economy, the domestic income gap has continued to widen, and the problem of income distribution has gradually emerged. The large income gap would cause many negative effects on society and economy. Therefore, research on income distribution is of great significance. In this paper, a brief literature review of the research on income distribution is carried out from two aspects: theoretical basis and measurement method.

1. Theory Review

Income distribution is always one of the key issues that economists pay attention to. Classical economists once conducted a systematic study on distribution theory based on labor value theory. Smith (1776) believed that labor is the source of wealth, and wages, profits, and land rent are all products of labor. Although his theory has certain flaws, it still laid the foundation for future generations to study in the field of distribution. Ricardo (1817) advanced the distribution theory on the basis of Smith. He pointed out that the distribution ratios of social products among workers, capitalists and landlords are different, and the distribution should be carried out in accordance with the marginal principle and the surplus principle. Say (1803) believes that labor, capital, and land can all bring utility and are sources of value. The owners of these three elements can get corresponding income, namely wages, interest and land rent.

Different from the capitalist position of most western economists, as the gap between rich and poor in capitalist countries in the 19th century widened, In "Das Kapital", Marx attacked the capitalist distribution method and put forward the theory of surplus value. He believes that surplus value is the part of the value produced by labor that is freely occupied by capitalists. Only when the whole society implements public ownership, systematically co-produces, co-distributes, and establishes a socialist society, can the capitalist economic crisis and other problems be fundamentally solved. It also proposed a two-stage distribution method, namely distribution according to work in the initial stage of communism, and distribution according to needs in the advanced stage of communism.

Marshall (1890), a representative of the neoclassical school of economics, expanded the organizational elements on the basis of Say's three elements of production, and combined with the marginal theory to evolve the distribution theory into the equilibrium price determination theory of each production element. Clark (1899) put forward the theory of distribution centered on the theory of marginal productivity. He believed that

wages are determined by the final productivity of labor, and interest is determined by the final productivity of capital and the law of diminishing marginal productivity is a general economic law and always plays a role.

However, with the outbreak of the economic crisis in 1929, the original economic theory could no longer explain the economic phenomenon at that time, nor could it provide effective countermeasures. In this context, Keynes (1936) pointed out that it is not feasible to rely solely on the market for income distribution. He advocated the establishment of an economic system that macro-regulates individual income differences through the use of state intervention and a series of policy measures. After Keynes, the New Cambridge School represented by Joan Robinson and Sraffa was closer to Ricardo's thinking. They believed that national income is composed of profits and wages, and that the results of income distribution have objective material and historical reasons. It was pointed out that the distribution pattern at that time was unfair and required measures such as redistribution of national income, tax reform, and welfare enhancement to achieve equal income distribution.

With the continuous development of income distribution theory, economists have also turned their perspective to developing countries. Lewis (1954) proposed a dual economic structure model for developing countries. Its core view is that traditional sectors have an unlimited supply of labor, and their marginal productivity is very low, so incomes are also very low and they can only maintain a minimum standard of living. But there are profits in the modern sector, so the modern sector can continue to attract labor from the traditional sector, making the industrial structure evolve. Kuznets (1955) analyzed the income gap data of 18 countries and proposed the famous Kuznets curve, also known as the "inverted U curve", which is the income of developing countries in the early stage of development. The level of inequality will continue to expand, after a short period of stabilization, the income gap will gradually narrow when entering the later stage of development. And he also believes that as workers get higher and higher levels of education, income distribution in capitalist countries will become more and more equal. Although the correctness of Kuznets' hypothesis is controversial, he intuitively connects economic development and changes in income disparity. This approach is of great significance, and his research also laid the foundation for education and income inequality.

However, the relationship between education and income distribution has not yet been concluded. Schultz (1961) believes that the improvement of education level is conducive to reducing income inequality. Mincer (1974) found that 33% of income inequality in the United States in 1959 was caused by education and work experience, and pointed out that when studying the relationship between education and income, it is necessary to consider the role of education return rate. However, Thurow (1972) and Todaro (1977) believe that the improvement of labor education level will increase the inequality of income distribution. In addition, Ram (1989) analyzed sample data from 27 countries and found that the average education level does not have a significant impact on income inequality, which also reminds developing countries to be more cautious when formulating policies.

In China, many scholars have conducted research on income inequality. Li Shi (1999) estimated the scale of China's rural migrant labor force, studied China's income inequality from the perspective of rural labor mobility, and believed that rural labor mobility was beneficial to narrowing the income gap between urban and rural residents, and made some policy recommendations. Wang Xiaolu and Fan Gang (2005) analyzed China's data from 1996 to 2002 to test the trend of income disparity and its influencing factors. They believed that under other conditions unchanged, The income gap in China will continue to widen, and it is pointed out that the income distribution mechanism, educational opportunities, and the social security system are important reasons for the widening of the income gap. In addition, some scholars have conducted research on the relationship between education, aging, labor unions and other factors and income inequality was studied.

2. Method Review

At present, the commonly used methods for measuring income inequality mainly include Gini coefficient method, Theil index method, Atkinson index method, quintile method, Kuznets ratio method, standard deviation and coefficient of variation method.

The Gini coefficient is an index proposed by the Italian economist Gini in the early 20th century based on the Lorenz curve to measure the degree of equality of distribution. As the most common indicator to measure the degree of equality of distribution, the Gini coefficient is widely used in income, education,etc. Chinese scholar Cheng Yonghong (2006, 2007, 2008) conducted a series of studies. He improved the calculation method of the Gini coefficient based on the characteristics of China's urban-rural distribution, established and perfected the urban-rural decomposition method of the Gini coefficient, which is an important part of the income distribution field Research provides a powerful tool. He also pointed out that since the reform and opening up, China's overall Gini coefficient, rural and urban Gini coefficients are basically in a state of continuous increase, of which the urban Gini coefficient has the fastest growth rate.Since then, Liang Yunwen et al. (2010), Li Shi and Luo Chuliang (2011), Tian Weimin (2012) and other scholars have also used the Gini coefficient method to study the issue of income inequality in China, and they have reached a consistent conclusion that China's income inequality The degree has become more serious.

The Theil Index is named after the Dutch economist Theil applied the information entropy in information theory to measure income inequality. Compared with the Gini coefficient, the Theil index is more sensitive to changes in income at both ends, but it is less sensitive to changes in the middle part. Theil-T and Theil-L are two representative indicators. According to Deng Su and Zhang Xiao (2006), the Theil-T index is sensitive to changes in the upper income level, and the Theil-L index is sensitive to the bottom income level. Change sensitive. Chinese scholars Wang Shaoping and Ouyang Zhigang (2007) used Theil Index to analyze the relationship between China's income gap and economic growth. They pointed out that the urban-rural income gap in the early stage of reform and opening up promoted economic growth, while the current urban-rural income gap has widened. Restrained economic growth. Cao Yu et al. (2010) pointed out that the income gap between urban and rural areas in China is rising in the volatile "N" curve, and pointed out that narrowing the income gap needs to consider regional heterogeneity and implement policies based on local conditions.Cai Fang and Wang Meiyan (2009), Sun Jiuwen and Yao Peng (2014) also used the Theil index to measure the level of income inequality in China. In addition, the Theil index is also used to measure gaps in healthand environment.

The Atkinson Index is derived by the British economist Atkinson (1970), which links social welfare with income distribution and derives it on the basis of the welfare function. It takes the psychology of society's aversion to income disparity. Factors are reflected in the form of weights,which are subjective and highly variable. Due to its large uncertainty, it brings difficulties to data analysis and limits its application.

The quintile method is to divide the population to be analyzed into quintiles according to the income level, calculate the proportion of each group's income to the total income, and compare the proportion of the highest income group with the proportion of the lowest income group, using both The multiple of the difference indicates the degree of the overall income gap. The larger the multiple, the more unequal income distribution. Similarly, the sample can also be divided into other parts, such as quarters, tens, etc. The quintile method is intuitive and simple, but it is not suitable for more in-depth analysis.

The Kuznets ratio method is to add the absolute value of the difference between the income share of each income class and the population share to reflect the overall income gap and has the characteristics of simple calculation. However, since the weights assigned to each income group in the calculation are not equal, the highest income group and the lowest income group have a larger weight, and the middle group has a smaller weight, so when income polarization occurs, the magnitude of change will be larger.

The standard deviation and coefficient of variation method is the use of statistical analysis to measure the degree of inequality. The larger the value of the standard deviation or the coefficient of variation, the less concentrated and uneven the income distribution.

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