Study on Economic Growth Potential of Poverty Alleviation Project

Xuefeng Chen

Tianjin University of Finance and Economics, Tianjin, China

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Abstract: Poverty alleviation project is the most arduous task to achieve a well-off society. It is of great significance to study whether it can become the driving force in the process of China's economic transformation in the context of slowing down economic growth. Based on the panel model of 31 provinces in China from 2007 to 2016, this paper makes an empirical study on the relationship between poverty alleviation achievements, ways of poverty alleviation and regional economic growth. The results show that poverty alleviation project has a significant role in promoting economic growth and can be used as a new momentum of economic growth under the new normal conditions. In the policy portfolio of poverty alleviation projects, finance and education have achieved good poverty reduction results, and also played a greater role in promoting economic development.

1. Introduction

Facing the situation of low level of domestic technological innovation, low efficiency of resource allocation and insufficient driving force of economic growth, it is increasingly difficult for China to maintain medium and high-speed growth in the critical period of economic development mode transformation. China urgently needs to explore new driving forces of economic growth. The Eighteenth National Congress of the Communist Party of China (CPC) proposed that in order to build a well-off society in an all-round way by 2020, poverty alleviation is the most arduous task to achieve a well-off society, and at the same time, it may serve as a new driving force to promote economic growth. At present, the greatest growth potential of China's economy comes from the trend of low-income people to a well-off society. However, there is no quantitative study on the growth space of poverty alleviation projects. This paper provides a quantitative reference for the selection of Poverty Alleviation Policies and the prediction of their effects by analyzing the poverty alleviation effects of Poverty Alleviation Policies and the economic growth effects of poverty alleviation projects.

2. Model Setting

Most of the existing studies on economic growth are based on the framework of endogenous growth theory. Although there are many perspectives on economic growth, technological progress and capital investment are always the main driving forces of economic growth. Based on the theory of endogenous growth, this paper incorporates the indicators of poverty alleviation projects into the endogenous growth model to explore the relationship between poverty alleviation projects and economic growth. According to Zhang Ying's practice in 2012, the following models are established.

$$Y = AK^{\alpha}L^{\beta}H^{\varphi}F^{\gamma} \tag{1}$$

In order to eliminate the problem of Heteroscedasticity in the equation, logarithms are taken on both sides of the equation (1). According to the research of domestic scholars, urbanization level, final consumption rate and foreign trade affect economic growth through affecting total factor productivity. Therefore, this paper chooses the above variables as control variables to get the following model.

$$LnY_{it} = c + lnA + \alpha lnK_{it} + \beta lnL_{it} + \varphi lnH_{it} + \gamma lnPOR_{it} + \beta_1 URB_{it} + \beta_2 FRD_{it}$$

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$$+\beta_3 FCR_{it} + \beta_4 GOV_{it} + \tau_i + \mu_{it} \quad (2)$$

Among them, it represents economic development, material capital stock, labor input, human capital, technology level, poverty incidence, urbanization level, final consumption rate, foreign trade dependence, and government intervention level is the difference of economic growth in different regions which does not change with time. Poverty Alleviation Path and Economic Growth Model

In order to explore the economic growth potential of different poverty alleviation paths, the following regression models are established with inclusive financial index, average years of education and financial support for agriculture as the main explanatory variables.

$$LnY_{it} = c + lnA + \alpha lnK_{it} + \beta lnL_{it} + \varphi lnH_{it} + \beta_1 URB_{it} + \beta_2 FRD_{it} + \beta_3 FCR_{it}$$
$$+\beta_4 GOV_{it} + \beta_5 IFI_{it} + \beta_6 FSR_{it} + \beta_7 FSR_{it} + \tau_{it} + \mu_{it} \quad (3)$$

In order to analyze the poverty reduction effects of financial, educational and financial poverty alleviation approaches, this paper takes the incidence of poverty as a dependent variable and measures the results of poverty alleviation by reducing the incidence of poverty. Selecting inclusive financial development index, average age of education, urbanization level and financial support for agriculture as explanatory variables, the following models are established:

$$LnPOR_{it} = c + \beta_1 H_{it} + \beta_2 IFI_{it} + \beta_3 IFI\hat{}2_{it} + \beta_4 URB_{it} + \beta_5 URB\hat{}2_{it} +$$
$$\beta_6 FSR_{it} + \beta_7 FSR\hat{}2_{it} + \tau_i + \sigma_t + \mu_{it} \quad (4)$$

3. Regression Analysis

Through testing the data of 31 provinces in China, the regression results of the following models are obtained (Table 3).

Model 1 chooses the incidence of poverty as the main explanatory variable to measure the macro-impact of poverty alleviation projects on economic growth. The regression results show that capital and labor are always the main driving forces to promote economic growth and play a major role in promoting economic growth. The contribution rates of capital stock, labor capital and human capital to economic growth are 50.8%, 15% and 28% respectively, and pass the test at the significance level of 0.01. The effect of poverty alleviation project on economic growth is remarkable. The decrease of poverty incidence has a positive effect on economic growth. Every 1% decrease in poverty incidence will promote economic growth by about 0.06%. As a control variable, urbanization level, final consumption rate, foreign trade dependence and government intervention also have different effects on economic development. The level of urbanization and the improvement of government intervention will have a positive impact on the economy. Referring to Guo Bingnan, the higher the urbanization level of Cheng Guisun (2013), the greater the degree of factor aggregation, the larger the external economy, the lower the operating cost of economic development, thus promoting economic growth. Referring to Zhang Tongbin, the role of government intervention in economic growth of Liu Ling (2017) will be promoted first and hindered later with the process of marketization. At present, the marketization process of provinces in China has not reached a high level. The government's participation plays an important role in correcting market failure, establishing a good market operation mechanism and allocating social resources, thus promoting economic growth. There is no doubt that foreign trade promotes China's economic growth. Especially since the reform and opening up, with the improvement of China's opening to the outside world, China's economy has made rapid development. However, expanding the degree of foreign trade and economy also has a potential negative impact. For example, increasing the degree of external dependence will increase the impact of external shocks on China's economy. The regression results show that opening up has played a restraining role on the economy. On the one hand, this paper chooses the data from 2007 to 2016. The global economic crisis in 2008 has had a huge impact on the global economy, and the external shocks have caused the downward trend of China's economy. On the other hand, the concentration of foreign trade exports leads to

increased trade frictions and restricts the speed of overseas expansion of Chinese enterprises, which to some extent hinders China's economic development.

Explanatory variables	Model 1	Model 2	Model 3
	LnGDP	LnGDP	LnPOLR
C	0.964*** (0.359)	0.468*** (0.373)	0.050 (0.034)
LnK	0.508*** (0.016)	0.513*** (0.017)	
LnL	0.154*** (0.051)	0.203*** (0.052)	
LnH	0.282*** (0.080)	0.362*** (0.080)	
EDU			-0.165*** (0.061)
URB	1.053*** (0.117)	0.917*** (0.020)	5.466*** (1.077)
URB^2			-4.151*** (1.020)
FCR	-0.392*** (0.066)	-0.370*** (0.068)	
FRD	-0.037* (0.021)	-0.054*** (0.022)	
GOV	0.502*** (0.083)	0.357*** (0.087)	
IFI		0.181* (0.109)	-6.886** (3.396)
IFI^2			4.024** (2.038)
FSR		1.415* (1.030)	-9.636** (4.505)
FSR^2		-6.368* (4.082)	45.961*** (17.320)
LnPOR	-0.063* (0.014)		
R^2	0.999	0.999	0.954

Model 2 starts from different poverty alleviation paths, and studies the extent to which three poverty alleviation paths, namely, education poverty alleviation, financial poverty alleviation and financial poverty alleviation, play an important role in economic growth. The results show that poverty alleviation through education and finance have positive effects on economic growth. The improvement of education years improves the quality of poor workers, increases labor productivity and then acts on economic growth. On the other hand, the improvement of education level will help workers learn new technologies, promote technological progress, and thus promote economic growth. The object of inclusive financial services is mainly low-and middle-income people and small and micro-enterprises. Therefore, inclusive financial development plays a positive role in improving the income of low-and middle-income people, reducing poverty and promoting economic development in underdeveloped areas. For financial poverty alleviation, from the perspective of financial support for agriculture, although most scholars have reached a consensus on the low efficiency of financial support for agriculture, there are different opinions on whether financial support for agriculture can promote or hinder economic growth. For this reason, this model introduces the square item of the level of financial support for agriculture, and the results show that the level of financial support for agriculture has an inverted U-shaped relationship with economic growth. That is to say, the improvement of the level of supporting agriculture in the initial stage will promote economic growth, but when the level of supporting agriculture exceeds a certain threshold, the improvement of the level of supporting agriculture will restrain economic growth.

The third model measures the effect of different poverty alleviation paths from the perspective of poverty alleviation path. The regression results show that the increase of average years of education has obvious effect on poverty reduction. The average length of education has contributed 16.5% to the reduction of poverty incidence every year. However, there is a non-linear relationship among

inclusive finance, urbanization level, financial support for agriculture and poverty incidence. In the early stage of Inclusive Finance development, it will promote poverty reduction. When financial development exceeds a certain threshold, it will restrain poverty reduction. The measurement results are also consistent with the conclusions of Rostan and Chen Xiao (2016). There is also a threshold effect between urbanization level and poverty reduction. By calculating the threshold value of 0.65832, that is, before the urbanization level is lower than 65.83%, the improvement of urbanization level is not conducive to poverty reduction. The contradiction between urban and rural poverty has not been improved, and on the contrary, the income gap between urban and rural areas has been aggravated. When the urbanization level exceeds 65.85%, the improvement of urbanization level will help to reduce poverty, which is also in line with the current national poverty alleviation policy. In recent years, China has intensified the efforts of relocation and poverty alleviation, and relocation close to cities and towns has become a priority choice. Relevant departments have combined relocation and urbanization construction, making the production and living conditions of relocated households significantly improved and the development opportunities increased. More, the ability to fight poverty is enhanced. Regression results show that there is a positive U-shaped relationship between the level of government financial support for agriculture and the incidence of poverty. By calculating the critical value of 0.105, that is to say, when the level of government financial support for agriculture is lower than 0.105, it has a positive effect on poverty reduction, and when it exceeds the critical value, it will play a restraining role. At present, the level of financial support for agriculture in most provinces and municipalities has not reached this level, so there is still room for improvement of financial support for the poor, which can still be an effective way to get rid of poverty.

4. Conclusion and enlightenment

Based on the data of 31 provinces in China from 2007 to 2016, this paper makes an empirical study on poverty alleviation projects and economic growth by using panel model. The test results show that poverty alleviation projects have a positive effect on economic growth. Every 1% reduction in poverty incidence will promote economic growth by about 0.06%. It can be seen that poverty alleviation projects are the main driving force for China's medium and high-speed economic growth under the new normal conditions. One of the strengths is also in line with the key task of poverty alleviation proposed in the State Council Government Work Report 2018. We should resolutely win the battle of poverty alleviation and ensure that the population of all poverty-stricken areas reaches a comprehensive well-off level by 2020. In addition, this paper also examines the impact of financial poverty alleviation, educational poverty alleviation, financial poverty alleviation and urbanization on economic growth. The results show that improving regional education level, promoting financial development, and promoting urbanization process are not only conducive to the reduction of poverty in the region, but also conducive to long-term and sTable high-quality economic growth. In view of this, the relevant provincial government departments should pay attention to the implementation of relevant poverty alleviation policies, so as to make the policies truly benefit the low-income groups, achieve precise poverty alleviation and precise poverty alleviation.

References

[1] Wang Xiaolu, Fan Gang, Liu Peng. Transformation of China's Economic Growth Mode and Sustainability of Growth [J]. Economic Research, 2009, 44 (01): 4-16.

[2] Zhang Ying. Empirical test of the impact of fiscal expenditure structure on economic growth [J]. Journal of Zhengzhou University (Philosophy and Social Sciences Edition), 2012, 45 (01): 81-84.

[3] Guo Bingnan, Cheng Guisun. Empirical study on the relationship between urbanization level, trade liberalization and economic growth [J]. International trade issues, 2013 (04): 18-26.

[4] Zhang Tongbin, Liu Lin. Government Intervention, Marketization Process and Economic

Growth Motivation --- Also on how to release the reform dividend dynamically by “simplifying government and decentralizing power” [J].Zhejiang Social Sciences, 2017 (01): 17-27+155.