Original Article

EXPLORING THE EFFECTS OF FISCAL SPENDING ON LIVELIHOODS IN POVERTY ALLEVIATION: A COMPREHENSIVE PERSPECTIVE

Isabella Rossi

Department of Economics, University of Milan, Milan, 20133, Italy

Abstract: Poverty remains a pressing global issue and a central concern in the field of Development economics. This problem is particularly prominent in China, a nation with the world's largest population, where issues such as uneven development and a weak foundation persist. The persistence of poverty in China's economic development trajectory has given rise to a cascade of social challenges, disrupting the stable functioning of Chinese society. Nevertheless, significant progress has been made since 2015, with 55.75 million rural individuals successfully lifted out of poverty by the end of 2020. This achievement marked a crucial milestone in China's fight against absolute poverty. However, it is important to recognize that the eradication of absolute poverty does not signify the end of the struggle. As China's economy continues to evolve, the factors contributing to poverty have become more diverse, and the definition of poverty has expanded. Thus, the work of poverty alleviation in China remains an ongoing and multifaceted challenge. This study explores the evolving landscape of poverty in China, examining the shifting dynamics and implications for future policy and development strategies.

Keywords: poverty, China, development economics, absolute poverty, poverty alleviation

1. Introduction

Poverty is a global practical problem and a long-term concern of Development economics. As the country with the largest population, China has prominent issues such as uneven development and weak foundation. Poverty has long accompanied the development of China's economy, causing a series of social problems that affect the stable operation of Chinese society. Since 2015, 55.75 million rural impoverished people have been lifted out of poverty. By the end of 2020, China had fully completed the task of eliminating absolute poverty and achieved a phased breakthrough. However, eliminating absolute poverty does not mean an end. With the continuous development of the economy, the factors leading to poverty are gradually diversified, and the definition of poverty is also becoming more and more extensive. China's poverty alleviation work still has a long way to go.

2. Measuring Multidimensional poverty

2.1 Multi-dimensions, indicators selection and data sources

At the end of the 20th century, discussions on multidimensional poverty gradually emerged. Sen first proposed the concept of "capability poverty" based on the perspective of Welfare economics [1]. From a development perspective, Sen believes that the welfare needs of people not only refer to income, but also include various opportunities and social resources, and correspondingly, people's poverty should also be multidimensional [2].

Original Article

Table 1: The setting of dimensions, indicators and weights of the multidimensional poverty index

Dimensions Indicators Assignment criteria Weights Annual per capita The per capita annual household income is lower Income income of than the national poverty line, set as 1; Otherwise 1/7 households 0 If any family member has chronic disease, set the Chronic diseases 1/14

value as 1; Otherwise 0

Health

If any family member is mentally unhealthy, set Mental health 1/14 The value to 1; Otherwise 0 Medical Any family member who does not participate in Medical 1/7 Insurance any medical insurance is set as 1; Otherwise 0 Per capita years the average length of schooling per family is 9 Education of education per years lower than that of compulsory education, 1/7 household and the value is set as 1; Otherwise 0 The water is not tap water or purified water, and the Water conditions 1/14 Living setting value is 1; Otherwise 0 Conditions The clean fuel is not used, and the setting value is 1; Living fuels 1/14

Otherwise 0 If there is no durable consumer goods in the home, Assets Durable goods 1/7 set the value to 1; Otherwise 0 Per capita living If the per capita housing area is less than 13 square Housing 1/7 space meters, the setting value is 1; Otherwise 0 This article uses the "Double Critical Value Method" (A-F Method) proposed by Alkire and Foster to track China's multidimensional poverty index[3]. We found that most studies have chosen dimensions such as income, education, and living conditions. In addition, scholars Wang Sangui and Yin Haodong found through their research on asset and long-term poverty in China that the asset poverty line has the function of measuring the welfare level of households and accurately identifying the status of impoverished households[4]. Based on China's actual national conditions and data availability, this article continues to add dimensions such as healthcare, health, housing, and assets, while setting corresponding indicators for each dimension. The dimensions, indicators, and weight settings are shown in Table 1.

2.2 Multidimensional poverty in Chinese provinces

From the results of the multidimensional poverty index MP in each province (Figure 1), it can be seen that the MP in the western provinces is significantly higher, while the eastern, central, and western regions show a gradual upward trend. From the perspective of multidimensional poverty incidence rate H (Figure 2), it shows a trend of low in the eastern region and high in the central and western regions. From the average deprivation level A of multidimensional impoverished households (Figure 3), the difference between different provinces is not significant, roughly between 0.4 and 0.5.

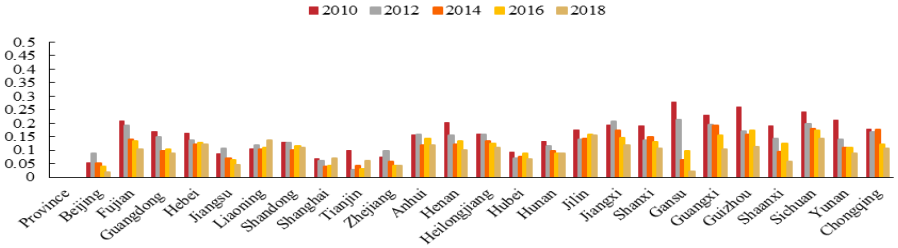

Figure 1: Multidimensional Poverty Index of 25 Provinces and Cities MP

Original Article

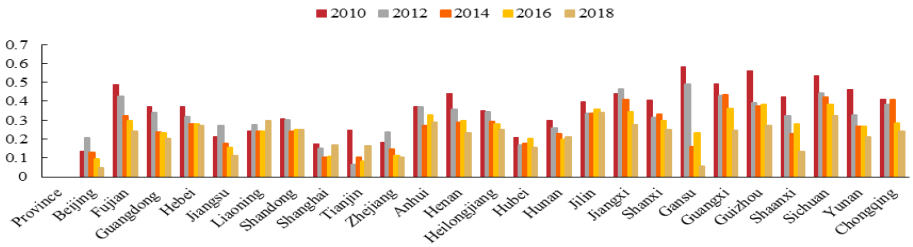

Figure 2: Incidence of multidimensional poverty in 25 provinces and cities H

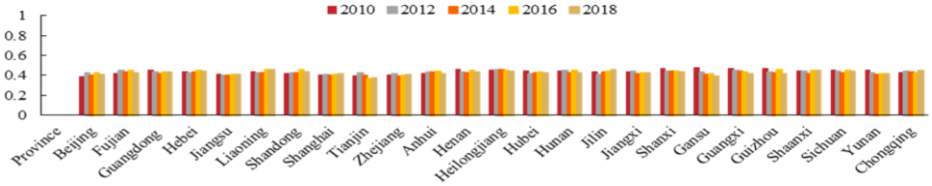

Figure 3: Average Deprivation Degree of Multidimensional Poor Households in 25 Provinces and Cities A

3. Assumptions

3.1 Human capital

In terms of education, financial expenditures related to people's livelihood include various scholarships, staff welfare expenditures, and educational infrastructure construction expenditures. Expenditures may also be used to improve educational equipment, reduce information barriers, and promote the accumulation of human capital. Scholars Yang Liangneng and Huang Peng mentioned that education fiscal expenditure has a long-term impact on poverty reduction [5].

In terms of healthcare, poor areas have insufficient medical facilities and low levels of medical technology. Expenditures may improve the methods of medical treatment and physical examinations, such as online healthcare and poverty alleviation physical examinations. Liu Guoen believes that health is an important factor determining China's per capita income. With a healthy physique, impoverished residents can better participate in new labor and become rich through it[6]. Heiman and Artiga pointed out that the poverty reduction effect of medical fiscal expenditure will increase over time. Medical and health services play a positive role in improving residents' health, reducing mortality rates, and increasing residents' lifespan[7].

In terms of social security, China has established unemployment insurance to provide employment training for the target population, enabling them to better integrate into social production activities.

Hypothesis 1: Based on the 3.1 analysis, this article speculates that fiscal expenditure on people's livelihood plays a multidimensional role in poverty reduction by increasing human capital.

3.2 Social Investment

Poor areas have weak infrastructure and poor living conditions due to their natural geographical environment. The fiscal expenditure on people's livelihood shows the signal of fiscal policy, which helps to attract investment and improve production and infrastructure construction in impoverished areas. For example, in the process of relocation for poverty alleviation in remote areas, the government usually builds communities, markets, and infrastructure related to poverty alleviation, providing a hardware foundation for economic development.

Hypothesis 2: Based on the analysis in 3.2, this article speculates that livelihood fiscal expenditure can play a multidimensional role in poverty reduction through social investment.

Original Article

4. Research design

4.1 Variable definitions

4.1.1 Explained variables and explanatory variables

The Multidimensional Poverty Index (MP) is the explained variable for this article. The core explanatory variable is the scale of fiscal livelihood expenditure (FG). The scale of financial livelihood expenditure (FG) is measured by the proportion of regional financial livelihood expenditure in Gross regional product. We also substituted the scale of education expenditure (JY), healthcare expenditure (YL), social security and employment expenditure (SH) into equation (1) for testing. The measurement of the scale of each individual expenditure is also expressed as the ratio of individual expenditure to regional GDP.

4.1.2 Control variable X

The control variables selected in this paper include industrial structure (str), unemployment rate (unemployment), and economic development level (gdp).

4.1.3 Mediating variables M

Human capital: this paper selects the teacher ratio of junior high school students (cz) as the proxy variable of education quality, which can partly reflect the distribution of educational resources in various regions of China during the compulsory Educational stage; Select the number of beds per 10000 medical institutions (cw) for medical level; In terms of employment status, this article selects the number of people receiving unemployment insurance benefits at the end of the year (sy).

Social investment: This article selects the amount of real estate development investment (tz) as the proxy variable for social investment, reflecting the status of newly added infrastructure construction.

This article logarithmically processes the intermediate variables and represents them accordingly with lncz, lncw, lnsy, and lntz. ***4.2 Empirical Model***

4.2.1 Fixed effects model

In this paper, the following fixed-effect model (1) is constructed:

$$MP_{it} = \beta_0 + \beta_1 FG_{it} + \beta_2 X_{it} + +\mu_i + \mu_t + \xi_{it} \quad (1)$$

4.2.2 Mediation Model

On the basis of the fixed effect model, in order to further explore the mechanism of multidimensional poverty reduction of people's livelihood fiscal expenditure, this paper constructs a mediation effect model. Equation (2) is used to test the influence of people's livelihood fiscal expenditure on the mediating variable, and then the mediating variable is brought into Equation (3), if both β1 and β6 are significant, there is a mediating effect.

(2) (3)

$$M_{it} = \beta_0 + \beta_1 FG_{it} + \beta_2 X_{it} + \mu_i + \mu_t + \xi_{it}$$

$$MP_{it} = \beta_3 + \beta_4 FG_{it} + \beta_5 X_{it} + \beta_6 M_{it} + \mu_i + \mu_t + \xi_{it}$$

Original Article

Results and discussion

5.1 National level inspection

Table 2 shows that the livelihood fiscal expenditure composed of three expenditures (FG) has a significant role in alleviating multidimensional poverty. In the long-term process of economic development, the "Matthew Effect" has become more and more intense. The poor population is at a disadvantage in terms of access to resources, information, and even the most basic living conditions can not be guaranteed, let alone investment in education, medical care, insurance, and other aspects.

However, the impact of individual education expenditure scale (JY) and social security and employment expenditure scale (SH) on the multidimensional poverty index is not significant. The insignificant scale of education expenditure (JY) may be due to the longer period required for talent cultivation and the late establishment of China's social security system.

Table 2: Multi-dimensional poverty reduction effect test of people's livelihood fiscal expenditure at the national level

	（1）	（2）	（3）	（4）
FG	-.5162*（.2805）			
JY		-.7658 (.5759)		
YL			-4.4491*** (1.2459)	
SH				-.4705（.5507）
lngdp	-.08697***（ .01293）	-.0831*** (.0129)	-.0761*** (.01241)	-.0878***（ .01386）
unemployment	.00074 （.0099）	.0004 (.01003)	.0028 (.0095)	.0017（ .01002）
str	.04062 （.07639）	-.0330 (.0611)	.1241* (.0745)	.0061 (.0868)
_cons	1.0088***（.1326）	.9912*** (.1329)	.8875***（.1272）	1.0001 (.1375)
region	fixed	fixed	fixed	fixed
time	fixed	fixed	fixed	fixed
Observations	125	125	125	125
R-squared	0.5758	0.5687	0.6123	0.5641

Original Article

5.2 Mechanism inspection

Table 3 examines the Mesomeric effect of human capital and social investment. In terms of human capital, column (1) shows that (FG) has a significant negative impact on (lncz), column (2) has a significant positive coefficient, while (FG) is not significant, indicating that (lncz) has a complete
mediating effect. Similarly, (lncw) does not have a Mesomeric effect, (lnsy) and (lntz) both have complete mediating effect.

Table 3: Mediation effect test results

6. Conclusion and Suggestion

At the national level, empirical testing shows that livelihood related fiscal expenditures have significant multidimensional poverty reduction effects, and China should appropriately increase the proportion of healthcare expenditures.

The intermediary mechanism test shows that people's livelihood fiscal expenditure plays a role through the quality of education and employment status in human capital, as well as the amount of real estate development investment in social investment. Starting from human capital, reducing the student teacher ratio, improving the quality of education, increasing the coverage of unemployment insurance, and allowing more people to enjoy the benefits of unemployment insurance; Increasing the amount of real estate development investment in social investment can be used to improve infrastructure, improve the local investment environment, and lay the foundation for future development and investment attraction.

References

Sen A K. Poverty: An Ordinal Approach to Measurement [J]. Econometrica, 1976, 44(2):219-231.

Sen A. Development as Freedom [M]. Oxford University Press: Oxford, UK, 1999; 366

Alkire S, Foster J. Counting and multidimensional poverty measurement [J]. Journal of Public Economics, 2007, 95(7-8):476-487.

Wang Sangui, Yin Haodong. Assets and long-term poverty -2SLS estimation based on Panel data [J]. Guizhou Social Sciences, 2013, (09): 50-58

Yang Nengliang, Huang Peng. Education Poverty Alleviation: A Fiscal Reflection on Poverty Alleviation in China [J]. Journal of Fujian Institute of Finance and Accounting Management Cadres, 2002 (01): 14-15

Liu Guoen, William H. Dow, Fu Zhenghong, John Akin. Health Human Capital and Income Growth in China [J]. Economics (Quarterly), 2004 (04): 101-118

Heiman H.J., Artiga S. Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity [J]. Henry J. Kaiser Family Foundation Satcher Health Leadership Institute, 2015

Original Article

	human capital				social investment			
	junior high school student-teacher ratio		number of beds in medical institutions per 10,000 people		number of people receiving unemployment insurance benefits at the end of the year		real estate development investment	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	lncz	MP	lncw	MP	lnsy	MP	lntz	MP
FG	-2.5124*** (0.8598)	-0.3571 (0.2887)	4.2473*** (1.3236)	-0.4056 (0.2945)	-6.9124* (3.7014)	-0.4163 (0.2818)	4.4707** (2.0344)	-0.3388 (0.2768)
lncz		0.0633* (0.0328)						
lncw				-0.0260 (0.0216)				
lnsy						0.0144* (0.0076)		
lntz								-0.0397*** (0.0135)
lngdp	-0.2267*** (0.0396)	-0.0726*** (0.0148)	0.4910*** (0.0610)	-0.0742*** (0.0167)	0.1865 (0.1706)	-0.0897*** (0.0128)	1.1867*** (0.0938)	-0.0399 * (0.0203)
unemployment	-0.0262 (0.0304)	0.0024 (0.0098)	-0.0382 (0.0467)	-0.0003 (0.0099)	0.1187 (0.1307)	-0.0010 (0.0098)	-0.0493 (0.0719)	-0.0012 (0.0096)
str	0.2319 (0.2341)	0.0259 (0.0757)	0.1159 (0.3604)	0.0436 (0.0762)	0.3356 (1.0079)	0.0358 (0.0754)	-0.7310 (0.5540)	0.0116 (0.0742)
_cons	4.9762*** (0.4063)	0.6937*** (0.2093)	-1.2945*** (0.6255)	0.9751*** (0.1352)	2.2232 (1.7492)	0.9767*** (0.1319)	-3.7944*** (0.9614)	0.8583*** (0.1376)
region	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed
time	fixed	fixed	fixed	fixed	fixed	fixed	fixed	fixed
Observations	125	125	125	125	125	125	125	125
R-squared	0.4909	0.5917	0.7386	0.5822	0.5770	0.5912	0.8129	0.6109