

How does Sustainable Livelihood Capital Alleviate Relative Poverty in the Post-poverty Era?

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Abstract

By the end of 2020, China has historically solved the issue of absolute poverty. However, relative poverty will still exist for a long time, and it will become the focus of the subsequent battle against poverty. Using Chinese General Social Survey (CGSS) database in 2017, this paper studies the influence mechanism of human capital, material capital, financial capital, and social capital with relative poverty of Chinese residents in the Post-poverty era. Results show that human capital and material capital have significant positive effects on limiting the occurrence of relative poverty. However, there are spatial differences in the impacts of social capital, and the consequences of population migration and geographical regional differences are similar. Additionally, those who were born after the year of 1980 has higher feeling of relative poverty than before the year of 1980. It is a long-term and systematic task to address relative poverty, and we need to shift from non-routine poverty alleviation to routine governance and build a poverty tracking and governance mechanism in the future.

Keywords

Relative Poverty; Multidimensional Poverty; Livelihood Capital; Poverty Governance.

1. Introduction

In February 2021, General Secretary Xi Jinping solemnly declared that China has achieved a comprehensive victory in the battle against poverty. Nearly 100 million people living below the current poverty line had been released from poverty, 832 poor counties, 128,000 poor villages have been lifted out of poverty, and absolute poverty has been eliminated [1]. However, the solution of absolute poverty does not mean the end of poverty alleviation work but mean that the causes of poverty alleviation in the new era will change from the solution of absolute poverty to the alleviation of relative poverty [2].

Poverty is generally divided into absolute poverty and relative poverty. Absolute poverty refers to the inability of individuals and families to maintain their basic living needs by relying on their labor income and other legal incomes under a certain social mode of production. Relative poverty refers to the fact that individuals, families, or groups are excluded from the fair and reasonable competition of their dominant social status and lifestyle due to resource restrictions and deprivation of rights. It can be seen that relative poverty is aimed at solving the income gap, the quality of life, the theme involves the measurement of social equity [3].

Scholars mainly analyzed from the two perspectives of the definition methods of relative poverty and the causes. There were two directions concerning definition methods, one was judged based on the dividing line of relative deprivation such as average income [4,5], they believed that poverty refers to material, social and emotional deprivation, the European Union and its member states are most typical in adopting relative poverty standards [6]; the other direction was increasing in dimensionality [7,8], they considered that defining relative poverty as a number below a certain percentage of the median income deviates from the

nature of poverty, therefore they put forward the concepts of capacity poverty and rights poverty.

Based on the definition methods of relative poverty, scholars analyzed the cause of relative poverty. They mainly focus on three frameworks (social exclusion analysis framework, vulnerability analysis framework, and sustainable livelihood analysis framework) [9]. The academic community has a common understanding of the characteristics of social exclusion [10]: first, social exclusion is dynamic and multidimensional; secondly, social exclusion is caused by different social promoters. Due to individual characteristics and social policy factors, there are always some groups in the society who are in a relatively weak position. For example [11], low-income farmers were lower than high-income farmers in terms of social capital ownership and rate of return, which also widened the gap between the rich and the poor in rural areas. Vulnerability analysis refers to the possibility of individuals or families facing certain risks and the possibility of wealth loss or quality of life falling below a certain socially recognized level due to such risks [12]. Sustainable livelihood was proposed in the Sustainable Livelihood Guide by the Department for International Development of London [13], which was a standardized and systematic research method for the sustainable livelihood of poor peasant households. The core elements of a sustainable livelihood framework are human, financial, social, material, and natural capital; poor farmers can optimize their capital endowment by using certain assets or a combination of assets. These studies enriched the research on the causes of relative poverty from multiple dimensions.

Research carries out by the above three analytical frameworks reveals the social mechanism of poverty in a more profound way and enriches the scope of poverty research. What are the differences in sustainable livelihood capital among different residents? What is the difference between the poverty factors of residents and migrants? What are the differences among those born in relative poverty around the 1980s? The remainder of the paper is organized as follows. Section 2 describes variables selection and model setup. Section 3 introduces empirical analysis of sustainable livelihood capital on relative poverty alleviation. The paper closes with conclusions and policy implications in Section 4.

2. Variables Selection and Model Setup

2.1. Variables Selection

With regard to the dependent variable, Compared with objective poverty, subjective poverty is more comprehensive. Therefore, subjective poverty can play a role in the public view of the official objective poverty line. And due to the "hiding wealth" mentality still exists, individuals are often unwilling to fill in their real income, there will be deliberate underreporting and false reporting. In summary, based on the research of related scholars [14, 15], relative poverty is defined as the family's economic living status in the location "far below the average level" column. Other conditions are considered to be non-relative poverty.

As for the independent variables, they are listed as follows:

- (1) Human capital. In sustainable livelihood capital, human capital is a "capital form" of knowledge, skills, experience, and health, which can increase personal resources and affect their future monetary income and consumption. This paper refers to some researches [16, 17] using education level and health to measure human capital.
- (2) Material capital. Material capital is the material basis for the poverty alleviation of the poor. Material capital is a symbol of family wealth. Referring to related research [18], we use the housing area and household wealth to define material capital.
- (3) Financial capital. Financial capital represents an individual's ability to obtain credit and make investments. An article [19] pointed out that the main goal of households participating

in the financial market was to maximize income. Referring to some papers [20, 21], we take the financial investment activities of households to measure financial capital.

(4) Social capital. Social capital refers to a certain connection between individuals. Nowadays, the popularization of the Internet has brought about the explosive growth of information, which can effectively break information barriers and achieve effective resource allocation. We measure social capital with social trust, internet use, and political participation refer to some researches [22, 23].

(5) Regarding control variables. Concerning previous related studies, the control variables in this paper are gender, age, marriage, politics, job type, etc.

2.2. Research Hypothesis

Some scholars [24] believed that the increase in educational equity had no significant impact on the changes in the distribution effect in rural areas, but it had a positive and significant impact on urban areas. Other studies found that good medical care can increase residents' income [25]. However, residents generally enjoy better medical protection than migrants. Therefore, following hypothesis is proposed:

H1: The increase in human capital can effectively alleviate the possibility of relative poverty, and there is spatial differentiation.

Material capital describes a state of "survival poverty". Improving the quality of material capital is the focus of ensuring the lives of relatively poor people. Thus, following hypothesis is proposed:

H2: The increase in material capital can reduce the probability of relative poverty.

Increasing farmers' financial capital and supporting their development of characteristic and advantageous industries were more likely to reduce the incidence of relative poverty [26]. However, if individuals make financial investments, they need a certain degree of risk tolerance, and the older they age, the lower the ability and willingness to bear risks. Based on this, the following hypotheses is proposed:

H3: Financial capital is conducive to alleviating the generation of relative poverty, and there are age differences.

The important role of social capital in the field of anti-poverty has been verified by theory and empirical evidence. The impact of spatial isolation, institutional isolation, self-isolation, and social isolation, the lack or low quality of social capital led to the poverty of migrates [27]. Since the 1980s has been a period of market transformation in China, new migrants have formed, and the lack of livelihood capital may have different effects on their falling into relative poverty. Based on these, the following hypotheses are proposed:

H4: The more social capitals are accumulated, the less likely relative poverty occurs.

H5: Compared with people who were born before Year 1980, the effect of livelihood capital on people who were born after Year 1980 to get rid of relative poverty is different.

2.3. Model Construction

Given the above hypothetical analysis, we select the variable indicators for alleviating relative poverty, they are subjected to binary Logistics regression with the explained variables. Assuming that the dependent variable Y is a dichotomous variable, let $p = P(Y = 1)$, there are k factors x_1, x_2, \dots, x_k , then it is called Logistic regression model of dichotomous data: $\ln \frac{p}{1-p} = g(x_1, x_2, \dots, x_k)$. This paper constructs a relative poverty measurement model, in which relative poverty takes a value of 1, and non-relative poverty takes a value of 0. A binary logistic model is used to estimate the parameters, and the model is set as:

$$\ln \frac{P}{1-P} = \alpha_0 + \sum_{i=1}^9 \alpha_i X_i + \sum_{i=10}^{17} \beta_i Z_i + \varepsilon_i$$

P is the probability of falling into relative poverty, α_0 is a constant, and α_i and β_i are the regression coefficients. X_i are independent variables which represent human capital, material capital, financial capital, and social capital. Z_i represent the control variables, and ε_i represents the error term.

Table 1. Independent variables description

Variable name	Variable description	
Education level	Highest education level: 1.No education experience; 2.Private school, literacy class; 3.Elementary school; 4.Junior high school; 5.Vocational high school; 6.Ordinary high school; 7.Technical secondary school;	8. Technical school; 9. Junior college (adult higher education); 10.Juniorcolleg e (regular higher education); 11.undergraduate college (adult higher education); 12. undergraduate college (regular higher education); 13.Graduate and above
Health level	Current physical health: 1.Very unhealthy; 2.Relatively unhealthy; 3. General;	4.Relatively healthy; 5.Very healthy
Housing area	What is the built-up area of the house you live in now?	
Family tenement	How many properties does your family currently own?	
family car	1. Yes; 0. No	
Family investment	Family investment activities: 1.There is at least one investment activity; 0. There is no investment activity	
Internet use	Play on the Internet (including mobile Internet): 1. Never; 2. Rarely; 3. Sometimes; 4. Often; 5. Very Frequent	
Social trust	Agreement about personal trust in the society: 1.Strongly disagree; 2.Relatively disagree; 3.Can't agree or disagree 4.Relatively agree; 5.Strongly agree	
political participation	Vote in the neighborhood committee election/village committee election: 1. Yes; 0. No (including not eligible to vote)	
gender	1. Male; 0. Female	
age	2017 minus date of birth	

Variable name	Variable description	
Education level	Highest education level: 1.No education experience; 2.Private school, literacy class; 3.Elementary school; 4.Junior high school; 5.Vocational high school; 6.Ordinary high school; 7.Technical secondary school;	8. Technical school; 9. Junior college (adult higher education); 10.Juniorcolleg e (regular higher education); 11.undergraduate college (adult higher education); 12. undergraduate college (regular higher education); 13.Graduate and above
Marriage	Current marital status 1.Cohabitation, first marriage with a spouse, remarriage with a spouse, separation without divorce;	0. Single, divorced, widowed
Politics	Political landscape: 1. The Communist Party; 0. Others	
Job type	Work experience and status: 1. Currently engaged in non-agricultural work; 0. Others	
Medical insurance	Enrolling in urban basic medical insurance/new rural cooperative medical insurance/free medical care: 1.Yes; 0.No	
Pension	Participating in the urban/rural basic endowment insurance:1.Yes; 0.No	
Family size	How many people usually live together in your family?	

Data Sources: CGSS database, <http://cgss.ruc.edu.cn/>.

3. Empirical Analysis of Sustainable Livelihood Capital on Relative Poverty Alleviation

3.1. Data Sources and Descriptive Statistics

The research data comes from the 2017 Chinese General Social Survey (CGSS) which was organized and implemented by the China Survey and Data Center of the Renmin University of China. CGSS2017 data covers 28 provinces/cities/autonomous regions across the country, data includes valid samples of 12,582, which is nationally representative. The CGSS2017 data is the latest. According to research needs, we eliminate samples with missing values and outliers in the statistical analysis, and finally, we conduct an empirical analysis base on 11142 samples. The following variables are mainly selected, descriptive statistics of variables are performed by using stata14.0.

3.2. Correlation Analysis

The results of the collinearity test show that variance expansion factors of the independent variables are less than 10, so there is no obvious collinearity in the model. The Pearson correlation analysis between the main variables show that the dependent and independent variables are all at the 10% significance levels. It can be preliminarily judged that the higher the sustainable livelihood capital, the greater the possibility of alleviating relative poverty.

3.3. Impact of Sustainable Livelihood Capital on Relative Poverty

The regression results show that in the binary logistic model, the Wald chi2 value is 935.45, the p-value is 0, and the pseudo R² is 0.1487. The model passes the test, which indicates that the model has good goodness of fit.

Table 2. Descriptive statistics of variables (N=11142)

Variables		Mean	SE	Min	Max
Relative poverty		0.0833	0.276	0	1
Human capital	Education level	5.152	3.237	1	13
	Health level	3.464	1.101	1	5
Material capital	Housing area	114.4	90.87	5	1000
	Family tenement	1.102	0.655	0	12
	family car	0.286	0.452	0	1
Financial capital	Family investment	0.104	0.305	0	1
Social capital	Internet use	2.811	1.715	1	5
	Social trust	3.468	1.031	1	5
	political participation	0.482	0.500	0	1
gender		0.476	0.499	0	1
age		51.22	16.57	18	103
Marriage		0.784	0.412	0	1
Politics		0.116	0.320	0	1
Job type		0.385	0.487	0	1
Medical insurance		0.926	0.262	0	1
Pension		0.726	0.446	0	1
Family size		2.820	1.503	1	30

As shown in the tables, human capital is statistically significant in the model, indicating that increasing the education level of residents and enhancing physical fitness can effectively reduce the incidence of relative poverty. In order to compare the acceleration of urbanization in the context of the mitigation effect of sustainable livelihood capital on relative poverty, we define that” people whose registered permanent residence is outside the city “as floating population. Compared with the local population, the education level of migrants is decreased, but in terms of physical health, the possibility of reduction is not significant. Meanwhile, in the east, it is significant at the level of 5% in poverty alleviation but the advantages of the Midwest are lower which indicates Hypothesis 1 is right.

In terms of material capital, three material capital indicators have significant impacts on whether they fall into relative poverty. The probability of the floating population falling into relative poverty is slightly higher than that of the local population. This verifies the rationality of Hypothesis 2.

Although democratic participation does not show such a significant effect, other social capital accumulation can avoid poverty. For the floating population, the risk ratio of falling into relative poverty increases by 0.26 times. There are age differences in financial capital according to Table 4. For larger age groups, financial capital is not significant in reducing the incidence of poverty; Internet use can reduce the risk of poverty, but the young group is not because young people already proficient in the use of the Internet. The effects of the type of work show differences because under the background of urbanization, unemployment, job instability, phenomenon of labor surplus appears. Hypothesis 3, 4, and 5 are verified.

Table 3. The regression results of sustainable livelihood capital on relative poverty alleviation

Variables		Total effect	Local population	Floating East Midwest Population
Human capital	Education level	0.879***	0.882*** 0.883***	0.875*** 0.882***
	Health level	0.634***	0.602*** 0.877	0.638*** 0.645***
Material capital	Housing area	0.997***	0.998*** 0.992***	0.995*** 0.998***
	Family tenement	0.672***	0.692*** 0.653***	0.645*** 0.711***
	family car	0.420***	0.364*** 0.517**	0.548*** 0.302***
Financial capital	Family investment	0.565***	0.523*** 0.599	0.518** 0.723
Social capital	Internet use	0.882***	0.881*** 0.865*	0.906* 0.856***
	Social trust	0.825***	0.829*** 0.805**	0.742*** 0.869***
	political participation	0.954	0.984 1.264	0.980 0.954
gender		1.514***	1.465*** 1.828***	1.455*** 1.513***
age		0.989***	0.988*** 1.001	0.978*** 0.995
Marriage		0.688***	0.645*** 0.951	0.769* 0.669***
Politics		0.543***	0.508*** 0.628	0.576** 0.570**
Job type		0.754***	0.641*** 1.077	0.718** 0.724**
Medical insurance		0.613***	0.639*** 0.539**	0.697* 0.572***
Pension		0.804**	0.757** 1.211	0.860 0.767***
Family size		0.879***	0.882*** 0.883***	0.965 0.991

Note: * p < 0.1, ** p < 0.05, *** p < 0.01; For analysis purposes, Odds ratios, not beta values were provided in the table. The following table was the same.

Table 4. Poverty reduction effects of the livelihood capital in different age groups

Variables		Born after Year 1980	Born before Year 1980
Human capital	Education level	0.912**	0.881***
	Health level	0.676***	0.637***
Material capital	Housing area	0.994***	0.998***
	Family tenement	0.718*	0.663***
	family car	0.490***	0.376***
Financial capital	Family investment	0.088**	0.728
Social capital	Internet use	0.892	0.912**
	Social trust	0.692***	0.841***
	political participation	1.412	0.901
gender		1.759***	1.472***
age		0.774	0.709***
Marriage		0.381	0.512***
Politics		0.815	0.783**
Job type		0.691	0.600***
Medical insurance		1.099	0.713***
Pension		1.024	0.994
Family size		0.912**	0.881***

4. Conclusions and Policy Implications

This paper analyses impacts of human capital, material capital, financial capital, and social capital on the evaluation of subjective relative poverty from the perspective of sustainable livelihood capital, and draw the following conclusions:

First, from the analysis of the total poverty reduction effect, sustainable livelihood capitals have significant impacts on alleviating subjective relative poverty. The health level, financial capital and social capital have greater effects on poverty reduction. Second, there are spatial differences between social capital and financial capital. Compared with residents, the floating population needs a good environment and effective financial skills to get rid of relative poverty; third, the new generation of poor who were born after the 1980s feel even more deprived.

Based on above, this article puts forward the following suggestions:

First, to create a multi-dimensional pattern for alleviating relative poverty. Relative poverty is not just a lack of income, but also the need for self-development. It is necessary to rely on policy promotion and resource supply guarantee to weave a "safety net" to alleviate relative poverty. Government needs to improve the level of education, focus on "supporting the wisdom", enhance the accumulation of human capital in education, health, skills, and other aspects of poor families; Publicizing financial knowledge and improving investment risk prevention capabilities are necessary.

Second, to pay attention to the floating population. Improve the welfare system of the migrant labor force, Stimulate and promote sustainable livelihood capital to be more efficient into the reality of long-term interests from the perspective of the relatively poor population's development ability and endogenous motivation

Third, to consolidate the results of poverty alleviation and alleviate the sense of poverty among the new generation of migrant workers. Promoting a system of mutual assistance and

dealing with problems such as migrant workers' certification, joint household rotation, and children's education are urgent. Reduce the risk of returning to poverty and achieve an effective connection between poverty alleviation and rural revitalization.

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