

The Poverty Alleviation Effect of Public Services and Social Development Opportunities

Xiuyong Yang*, Xianqiang Cao

School of Political Science and Public Administration, Shandong University, Qingdao 266237, China

* Corresponding Author: Xiuyong Yang; yangxiuyongyxy@163.com

Abstract: After 2020, the strategic focus of rural poverty reduction will shift from absolute poverty to relative poverty. How to accurately identify the root causes of rural relative poverty and alleviate the problem of rural relative poverty has become the key factor to realize rural revitalization. Using the binary logistic regression model and the comprehensive survey data of Chinese society, it is found that the lack of feasible ability of farmers has an obvious poverty effect. Among them, the lack of basic feasible ability such as physical health and mental health and feasible development ability such as education are important factors leading to farmers' relative poverty; however, the poverty causing effect of farmers' willingness to work is not obvious, and the state of relative poverty will stimulate farmers' willingness to work to a certain extent; increasing the supply of basic public services in rural areas is an important way to alleviate rural relative poverty; increasing rural social development opportunities also has an important effect on poverty alleviation, which can significantly reduce the probability of farmers' relative poverty.

Keywords: Relative poverty; Public services; Rural social development; Poverty alleviation

1. Research on Rural Relative Poverty

With the completion of a well-off society in an all-round way by the end of 2020, the problem of absolute poverty in rural areas will be solved historically. However, the elimination of rural absolute poverty does not mean the elimination of rural poverty and the end of the national mission of poverty alleviation in rural areas. "It should be noted that China's basic national conditions, which have been in the primary stage of socialism for a long time, have not changed, there are still a large number of low-income people, and their income level is only slightly higher than the basic living needs"^[1]. Based on chip data, some scholars found that the relative poverty line in rural areas is about 5,000 yuan, and the incidence of relative poverty is about 11%. It is calculated that the relative poverty population in rural areas is about 60 million people^[2]. Therefore, how to reduce the incidence of rural relative poverty and consolidate the achievements of rural poverty alleviation has become an important guarantee for rural revitalization. The party and the state are keenly aware of this and put forward at the Fourth

Copyright © 2022 Xiuyong Yang, *et al.*

doi: 10.18063/esp.v7.i1.1379

This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0) (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Received: Feb 17, 2022; Accepted: Apr 10, 2022; Published online: Apr 16, 2022.

Plenary Session of the 19th CPC Central Committee: “resolutely win the battle against poverty and establish a long-term mechanism to solve relative poverty”. It points out a new direction for Rural Revitalization and poverty alleviation after 2020, and the strategic focus of rural poverty reduction has also shifted from absolute poverty to relative poverty. Therefore, alleviating rural relative poverty is not only of great theoretical significance, but also related to the promotion of rural revitalization strategy, which has increasingly become the focus of scholars and practitioners.

Through combing relevant studies, it is found that the current scholars’ research on rural relative poverty is mainly based on vulnerability analysis framework, social exclusion analysis framework and sustainable livelihood analysis framework. Vulnerability refers to the possibility that the wealth and social living standards of individuals or families will drop to a relatively low level due to certain risks^[3]. The vulnerability analysis framework regards risk events as a direct guiding mechanism for the occurrence of relative poverty. For example, accidents, natural disasters and other events are the main inducements for people to fall into poverty. The social exclusion analysis frame believes that the exclusion and marginalization of vulnerable groups by social system and social structure is the reason why they fall into relative poverty^[4]. The research of social exclusion analysis framework focuses more on social vulnerable groups, such as disabled people, urban and rural unemployed people and so on. Therefore, the social exclusion analysis framework is mainly used to describe the situation that social vulnerable groups suffer from multiple adverse conditions and are excluded from the process of social participation, resulting in poverty. The sustainable livelihood analysis framework attributes the occurrence of relative poverty to the insufficient accumulation of individual or family assets and the inability to maintain the needs of the family’s sustainable life strategy. The sustainable livelihood analysis framework is people-centered and analyzes the causes of relative poverty from the perspective of human ability. For example, care believes that farmers’ livelihood system includes three elements: ability (health, physiological conditions, education and skills), accessibility of assets and economic activities^[3].

Through the above analysis, it can be found that the analysis paths of vulnerability analysis framework, social exclusion analysis framework and sustainable livelihood analysis framework focus on “environmental factors”, “institutional factors” and “main factors” respectively. Since relative poverty is more inclined to the subjective perception of the poor^[5], from the perspective of relative poverty, the poverty causing effect of “main factors” is more obvious, while the poverty relief meaning of “institutional factors” is stronger. In the poverty causing effect of “main factors”, how do farmers’ subjective and objective factors affect relative poverty, that is, whether farmers’ lack of subjective will to work or lack of objective and feasible ability leads to the occurrence of rural relative poverty in China needs to be clarified. At the same time, as the main force to alleviate the problem of rural relative poverty, how to alleviate the problem of rural relative poverty from the institutional level, that is, what is the institutional focus of the government to solve the problem of rural relative poverty, also needs to be clarified. Therefore, from the perspective of relative poverty, this study discusses the impact of farmers’ objective and feasible ability and subjective work will on rural relative poverty. At the same time, it tests the poverty alleviation effect of basic public services and rural social development opportunities, which are the important institutional grasp of the government to alleviate rural relative poverty, so as to provide reference for the government to alleviate rural relative poverty.

2. Poverty Causing Factors and Poverty Relief Factors of Relative Poverty in Rural Areas

2.1. Relative poverty: The main obstacle to rural revitalization in the post poverty era

Poverty is an inevitable social phenomenon in the process of economic and social development, but in different stages of social development, the manifestations of poverty and the focus of anti-poverty will be quite different. After 2020, China's rural areas will enter a new stage of transformation characterized by relative poverty and secondary Multidimensional Poverty, and the relatively poor groups will become new target groups^[6]. This determines that the basic orientation of China's anti-poverty after 2020 will be to resolve the problem of relative poverty on the basis of preventing return to poverty, and rural areas will still be the main battlefield of anti-poverty^[7]. Different from absolute poverty characterized by lack of material life, relative poverty is a multidimensional poverty, which is not only a way to measure poverty by consumption, income or welfare^[8], but also a form of social poverty. This means that material scarcity will inevitably lead to absolute poverty, but material abundance does not necessarily eliminate relative poverty^[9]. The core view of relative poverty theory is relative deprivation and relative exclusion^[10], that is, the evaluation of social members on their own income and living standards constitutes relative income, and the sense of relative deprivation and exclusion when their relative income is compared with the surrounding reference groups is the cognition of relative poverty^[11]. It can be seen that relative poverty is not only related to the distribution of income and wealth among different social members, but also related to social fairness and self-identity of social members, which means that it is more difficult to alleviate the problem of relative poverty.

From the reality of rural relative poverty, relative poverty has local and regional characteristics, including urban-rural differences^[10]. The data show that although the ratio of urban and rural per capita disposable income in China shows a downward trend, the absolute gap between urban and rural per capita disposable income shows a widening trend. For example, in 2000, the per capita disposable income of rural residents was 2,253 yuan, the per capita disposable income of urban residents was 6,280 yuan, and the difference between urban and rural residents was 4,027 yuan; in 2019, the per capita disposable income of rural residents was 16,021 yuan and the per capita disposable income of urban residents was 42,359 yuan. The gap between urban and rural areas expanded to 26,338 yuan, that is, from 4,027 yuan in 2000 to 26,338 yuan in 2019, and the absolute difference of per capita disposable income between urban and rural residents expanded by 6.5 times, and the absolute difference between urban and rural per capita disposable income is still expanding. Therefore, from the perspective of income, China's rural relative poverty has become an important obstacle to rural revitalization.

At the same time, China's rural relative poverty has the characteristics of large population base, wide poverty dimensions and high risk of poverty, which also determines the urgency and necessity to alleviate the problem of rural relative poverty. First, the number of rural relative poor far exceeds the number of absolute poor^[12]. With the development of economy and society, the rural poverty structure has changed significantly. The rural absolute poverty population shows an obvious downward trend, but the rural relative poverty population has increased significantly^[5]. Especially after the comprehensive completion of a well-off society in 2020, a large number of farmers who have just graduated from the absolute poverty line will become relatively poor. Secondly, both theory and practice show that relative poverty is a complex social phenomenon with the characteristics of complexity, multidimensional and continuity. This determines that the poverty dimension of relative poverty is wide and it is difficult to alleviate. Therefore, it is required that the rural poverty alleviation work should go beyond the single income dimension, and solve the problem of rural relative poverty from the aspects of infrastructure construction, social security and other basic public service supply, as well as farmers' social development rights. Third, relative poverty, the uncertainty of poverty causing factors is strong, and the risk of poverty is high. From the perspective

of causes, the subjective feelings of the relatively poor and their own vulnerability are the main causes of rural relative poverty. This cross integration of subjective and objective factors has brought great challenges to the solution of rural relative poverty.

In short, relative poverty is not only reflected in the distribution of wealth among social members at different levels, but also in the gap between the expectations and reality of social members, which is closely related to the subjective cognition of the poor. With the continuous expansion of China's urban-rural income gap and the characteristics of rural relative poverty, such as large population base, wide dimensions of poverty and high risk of poverty, the problem of rural relative poverty has become the shackle of rural revitalization strategy. From the perspective of the effective connection between rural revitalization and poverty alleviation, alleviating relative poverty has become the internal requirement of rural revitalization. Rural revitalization means the equalization of the supply of basic public services and the diversification of farmers' income channels. It also means relying on institutional ways to ensure that the poor enjoy social security equally, participate in the modernization process equally and enjoy the fruits of modernization development fairly^[13]. Therefore, in the context of rural revitalization, the governance of China's rural relative poverty needs to explore the root causes of relative poverty from the perspective of the relative poor, and then alleviate the problem of rural relative poverty through institutional guarantee.

2.2. Individual factors: The main cause of relative poverty

Among the individual factors, ability poverty is considered to be an important cause of rural relative poverty. Ability poverty was first put forward by Sen. He believes that the root cause of poverty does not lie in the lack of income, but the deprivation of the feasible ability of the poor^[14]. A person's feasible ability refers to the combination of various possible functional activities that can be realized by the person, including the possible behaviors of avoiding hunger, avoidable diseases, malnutrition, etc., as well as the right to obtain corresponding knowledge reserves and social participation^[14]. In Sen's "ability poverty" theory, feasible ability includes basic feasible ability and feasible development ability. Health factors are considered as the basis of basic feasible ability, while education is considered as the representative of feasible development ability^[15]. The lack of feasible ability will lead to the loss of alternative opportunities and social resources, and people can't pursue the life they want. The size of a person's feasible ability will directly affect his income. The income of healthy people is generally higher than that of weak people, and the income of well-educated people is higher than that of illiterate people^[16]. Therefore, physical and mental health status and education level are important reasons affecting the relative poverty of rural residents. Most of the relatively poor with low living standards are caused by their weak physique and low education level. They are not poor because of lack of income, but because of lack of ability to obtain income^[16]. The poverty effect of insufficient ability is not limited to the impact on income. For example, although the unemployed receive the same amount of relief from the government as the wages of on-the-job workers, the poverty degree of the two is obviously different, because the income ability of the unemployed is lost. Therefore, this study puts forward the following assumptions:

H_{1a}: the lower the health status of farmers, the higher the incidence of relative poverty, that is, the health status of farmers is an important factor leading to farmers' relative poverty.

H_{1b}: the mental health status of farmers' decreases, and the higher the incidence of relative poverty, that is, the mental health status of farmers is an important factor affecting farmers' relative poverty.

H_{1c}: the lower the education level of farmers, the higher the incidence of relative poverty, that is, the education level of farmers is an important factor leading to farmers' relative poverty.

Among the individual factors, the lack of willingness to work of rural residents is considered to have an

important poverty causing effect. The lack of farmers' willingness to work is a manifestation of spiritual poverty, which has a complex process and is formed by the interaction of subjective and objective factors, such as negative laziness, life giving mentality and other psychological difficulties^[17]. On the one hand, the lack of farmers' willingness to work will directly lead to the fact that farmers' income is not enough to support them to maintain their habitual living habits in their area, making them fall into a state of relative poverty. On the other hand, compared with the poor, the lack of willingness to work is more manifested in the negative mentality of "waiting for help" and the wrong psychological positioning of the "rescued people"^[18], which will make it difficult for them to get rid of poverty. Therefore, this paper puts forward the following assumptions:

H₂: the lower farmers' willingness to work, the higher the incidence of relative poverty, that is, farmers' willingness to work is an important factor leading to farmers' relative poverty.

2.3. Institutional factors: The main factors of relative poverty

The supply of basic public services is considered to have an important poverty reduction effect. Basic public service refers to the public service based on social consensus and provided by the government according to the level of economic and social development, which aims to ensure the basic social conditions required by citizens' right to survival^[19]. In 2017, the State Council issued the 13th Five-Year Plan for promoting the equalization of basic public services, which defined the types of basic public services, including public education, employment and entrepreneurship, medical and health care, social insurance, social services, public culture and sports, housing security and services for the disabled. Suggestions of the Central Committee of the Communist Party of China on Formulating the Fourteenth Five-Year Plan for National Economic and Social Development and the Vision for 2035, which was deliberated and adopted in 2020, further pointed out the need to improve the equalization of basic public services, improve the multi-level social security system and health system, consolidate and expand the key achievements in poverty eradication, and comprehensively promote the strategy of rural revitalization. The role of basic public services in alleviating rural relative poverty and consolidating the achievements of poverty alleviation has become increasingly prominent. On the one hand, basic public services directly respond to the basic living needs of rural relatively poor people and help rural poor people improve their living conditions; on the other hand, the poverty reduction effect of basic public services inherently includes the capacity-building of the relatively poor, which can effectively enhance the "feasible capacity" of the relatively poor in rural areas and provide possible opportunities for the future development of the relatively poor in rural areas^[20]. Some scholars have found that basic public services such as social security can provide direct life security for the relatively poor in rural areas and have the best effect on improving the living conditions of rural poor groups, while the "enabling" effect of basic public services such as public education and health care is more obvious, which can effectively endow the rural poor with the ability of self-development, so as to truly improve the ability of farmers to extricate themselves from poverty^[21]. Therefore, this paper puts forward the following assumptions:

H₃: the better the supply of rural basic public services, the lower the probability of farmers' relative poverty, that is, the supply of rural basic public services is an important factor to alleviate farmers' relative poverty.

Sen constructed a poverty alleviation path of "resource endowment—production capacity—feasible capacity—realizing development"^[14]. The practice of poverty alleviation in China's rural areas is that after farmers have "feasible ability", how to obtain jobs matching their ability has become the key factor affecting their poverty alleviation. Due to China's long-term implementation of the "city-biased policies"^[22], farmers mainly focus on agricultural production and have low wage income, which is reflected in the lack of opportunities for rural social development, which has become an important obstacle factor to alleviate the problem of rural relative poverty. For example, Professor Zuo found in a rural survey that a young couple was not only healthy, but also

lazy, but fell into poverty. The reason for this phenomenon was that the young couple could not go out to work because of their maintenance burden and responsibility, and the local economic and social development level was low, so they could not provide corresponding employment opportunities, and the cultivated acres of farmland could only meet the basic survival needs of the whole family, Therefore, they fall into poverty^[20]. The focus of rural poverty alleviation is not simply “blood transfusion”, but to cultivate the “hematopoietic” ability of relatively poor rural groups. Through “opportunity poverty alleviation”, the relatively poor rural people should obtain opportunities for self-development and self-realization^[23]. It can be seen that the number of rural social development opportunities has an important impact on the incidence of rural relative poverty. Therefore, this paper puts forward the following assumptions:

H₄: the more opportunities for social development in rural areas, the lower the incidence of farmers’ relative poverty, that is, sufficient opportunities for social development in rural areas are an important factor in reducing the incidence of farmers’ relative poverty.

To sum up, this paper includes the feasible ability and work willingness of farmers in individual factors into the investigation of rural relative poverty mechanism, and institutional factors, basic public services and social development opportunities into the investigation of rural relative poverty alleviation mechanism. Based on this, the analysis framework of “poverty causing factors: feasible ability, willingness to work—relative poverty—poverty relief factors: basic public service supply and social development opportunities” is constructed (as shown in **Figure 1**). In the final analysis, the key to the poverty alleviation of the relatively poor in rural areas lies in the improvement of the self-development ability of the poor and the development platforms and opportunities provided by the outside^[20]. In this analysis framework, first of all, basic public services inherently contain the improvement of farmers’ feasible ability. For example, basic public services such as medical and health care can provide a certain guarantee for farmers’ physical and mental health, while basic public services such as compulsory education can ensure farmers’ education to a certain extent. Secondly, how to get a better job after the improvement of farmers’ feasible ability and willingness to work is the fundamental to improve rural relative poverty. Therefore, the opportunity of rural social development to get rid of poverty means more, and the connection with individual poverty factors is also closer.

3. Data, Variables and Measurements

3.1. Data sources

China Comprehensive Social Survey (CGSS) was jointly completed by Renmin University of China and local academic and scientific research institutions across the country. It is the first large-scale national, continuous and comprehensive social survey project in China. The data system collects data from all aspects of the Chinese people and Chinese society. It is the most recognized and used social comprehensive survey data at present. Among them, the CGSS data in 2015 is the latest public data that can meet the variable requirements of this study. The annual survey covers 28 provinces, autonomous regions and municipalities directly under the central government. The data are obtained by multi-stage stratified probability sampling method. The data has strong authority, good representativeness and high quality. It is an important data source for the study of Chinese social phenomena at home and abroad. Based on this, this study selects the data of CGSS2015, which has a total of 10,968 samples. Since this study mainly focuses on the problem of relative poverty in rural areas, 6,194 valid samples of rural data are selected based on the respondents’ household registration status as agricultural household registration.

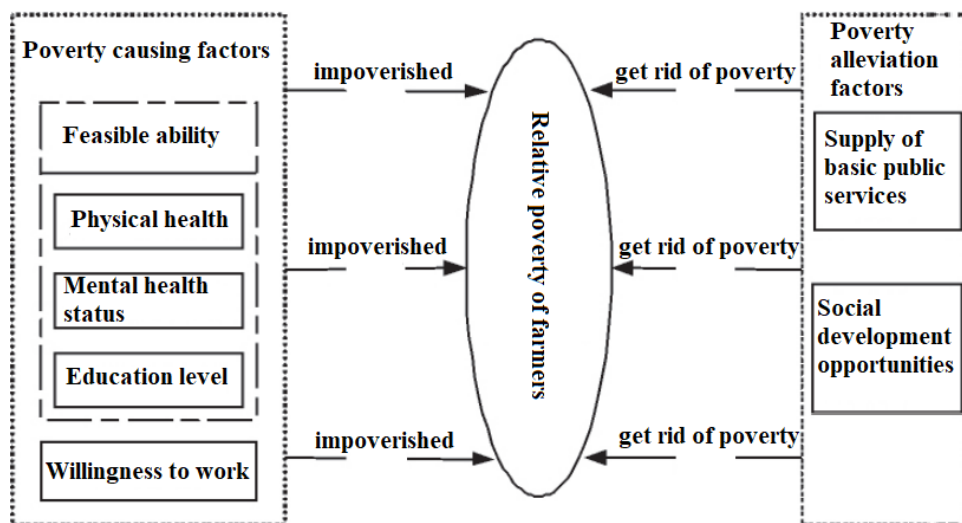


Figure1. Research framework.

3.2. Explained variables

The relative poverty of farmers is the explanatory variable of this study. Relative poverty is poverty from the perspective of social equity. It is the perception of poverty produced in the process of comparing people with other social members. British scholar Alcock pointed out that relative poverty is a subjective evaluation standard, which takes the subjective judgment elements of poverty as the definition standard of poverty, and judges whether a person is poor or not. It can be obtained only by comparing his living standard with that of his surrounding social members^[24]. Reynolds directly defined relative poverty as the situation that the annual income of families is lower than the national average annual income of families^[25]. In Townsend’s view, poverty can be objectively defined only if it is understood on a relative basis. Therefore, he put forward the standard of “deprivation”, that is, the sense of deprivation in life due to the fact that his own access to resources is lower than the average need of local families to maintain their habitual life pattern^[26]. In short, relative poverty is more inclined to subjective poverty based on a certain reference group. Using subjective poverty standard to measure relative poverty is more in line with the internal meaning of relative poverty. Therefore, based on the research of Xu^[27], Liu, Wang and Peng^[28], etc., this study will answer the question “Which grade does your family’s economic situation belong to in the location of your family?” in CGSS2015. Among them, farmers who answered “far below the average level” were defined as rural “relatively poor” groups, and other categories were defined as rural “non-relatively poor” groups.

3.3. Explanatory variables

3.3.1. Farmers’ feasible ability

Farmers’ feasible ability includes basic feasible ability and feasible development ability. Among them, the basic feasible ability depends on farmers’ physical and mental health; the feasible development ability is mainly reflected in the education level of farmers. Therefore, this study mainly measures farmers’ basic feasible ability from two aspects of farmers’ physical health and mental health, and measures farmers’ feasible development ability from the aspect of farmers’ education.

(1) The health status of farmers. In terms of farmers’ physical health measurement, the question “what do you think your current physical health is” is adopted, and the answers are “very unhealthy”, “relatively unhealthy”, “general”, “relatively healthy” and “very healthy”, which are assigned 1 to 5 points respectively.

(2) The mental health status of farmers. In terms of farmers' mental health measurement, "how often do you feel depressed or depressed?" The answers to this question are "always", "often", "sometimes", "rarely" and "never", which are assigned 1 to 5 points respectively.

(3) The education level of farmers. In terms of the education level of farmers, the answer of "your current highest education is:" is "no education", "private school, literacy class", "primary school", "junior high school", "vocational high school", "general high school", "secondary school" "technical school", "university junior college (adult higher education)", "university junior college (formal higher education)", "undergraduate (adult higher education)", "undergraduate (formal higher education)", "Graduate and above" and other 13 levels, Assign a score from 1 to 13 points, respectively.

3.3.2. Farmers' willingness to work

In terms of farmers' willingness to work, it mainly adopts "which of the following ways have you taken to find a job in the last three months?" The answers to this question are "have never looked for a job", "registered job hunting with an employment agency", "entrusted relatives and friends to find a job" "joining job fairs or asking directly at your door", "preparing for your own business", "others". The answer of "have never looked for a job" is assigned as 0 and the answer other than "have never looked for a job" is assigned as 1.

3.3.3. Rural basic public service supply

In terms of the measurement of rural basic public service supply, it mainly draws lessons from the research of Dong, Zheng and Fang^[29], and comprehensively measures the level and quality of rural basic public service supply based on the satisfaction of rural residents with basic public services. The question in the corresponding questionnaire is "how satisfied are you with the following public services provided by the government?" There are nine basic public service issues, including "public education", "medical and health care", "housing security", "social management", "labor and employment", "social security", "subsistence allowances, disasters, vagrancy and begging, disability, orphan assistance, basic pension, basic social services such as marriage registration and funeral", "public culture and sports" and "urban and rural infrastructure", with a corresponding score of 0-100. In order to facilitate the analysis, the principal component analysis of the above nine aspects is carried out by factor analysis, and a common factor is extracted, and the consistency coefficient of the factor is 67.092%, the consistency coefficient is good, and then the variable of "basic public service supply" is calculated by factor load.

3.3.4. Rural social development opportunities

In terms of rural social development opportunities, adopt "considering your ability and work situation, do you think your current income is reasonable?" The answers to this question are "very reasonable", "reasonable", "unreasonable" and "very unreasonable", corresponding to 1 to 4 points. For the convenience of explanation, the question is inversely assigned to 4 to 1 point.

3.4. Model construction

The binary logistic regression model is applicable to the explained variable as a binary variable or the incidence of an event. When the explanatory variable of the binary logistic regression model is a binary variable of "either or the other", the explanatory variable can be classified variable or continuous variable. In binary logistic regression, people often call the ratio of the probability of a certain result to the probability of not appearing the result as odds or ratio, that is, $odds = P/(1-P)$, and the ratio of these two ratios is odds ratio (OR). When comparing two ORs, it will be found that the comparison result of their size is consistent with that of the

corresponding probability P . For example, when $P_1 > P_2$, there will be $odds_1 = \frac{P_1}{1-P_1} > \frac{P_2}{1-P_2} = odds_2$. Therefore, whether or is greater than 1 can be used to compare the occurrence probability of events in the two cases^[30]. Taking relative poverty as the explanatory variable and feasible ability, work willingness, basic public service supply and social development opportunities as the explanatory variables, this study investigates the poverty inducing effect of individual factors—farmers' feasible ability and work willingness, and the poverty alleviation effect of institutional factors—basic public service supply and social development opportunities. The specific estimation model is:

$$Logit(P) = \beta_0 + \beta_1HP + \beta_2MH + \beta_3EL + \beta_4WW + \beta_5PS + \beta_6SD$$

Among them, β_0 is a constant term. HB, MH, EL, WW, PS and SD represent physical health, mental health, education, work willingness, supply of basic public services and social development opportunities respectively; $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 is the correlation coefficient between the explanatory variable and the explained variable. The larger the value of β , the greater the explanatory variable's explanatory power to the explained variable.

4. Result Analysis of Poverty Causing Factors and Poverty Relief Factors of Rural Relative Poverty

4.1. Descriptive statistical analysis

The results in **Table 1** are obtained by descriptive statistical analysis of each variable. The mean can not only reflect the overall distribution of the data, but also present the current situation of the sample. The standard deviation can show the dispersion of the sample, that is, the degree of deviation of the sample from the average. According to the data statistics, the incidence of relative poverty in rural areas in China in 2015 was 6.7%, the incidence of relative poverty is low, but slightly higher than that of 6% in cities^[27]. From the data distribution, the dispersion of physical health status and education level is slightly larger, while the dispersion of relative poverty and work willingness is smaller.

4.2. Correlation analysis

Through Pearson correlation analysis of various variables, **Table 2** is obtained. It can be found that the explanatory variables—physical health status, mental health status, education level, basic public service supply and social development opportunities are all correlated with the explanatory variable—relative poverty at the level of 1%, and all show a negative correlation, which preliminarily shows that the physical health status of farmers. The deficiency of basic feasible ability such as mental health status and feasible development ability such as education level is an important factor leading to farmers' relative poverty. The increase of rural basic public service supply and the increase of social development opportunities are important factors to alleviate farmers' relative poverty. The assumptions $H_{1a}, H_{1b}, H_{1c}, H_3$ and H_4 have been preliminarily verified. However, the correlation between farmers' willingness to work and their relative poverty is not significant enough, and H_2 has not been verified, that is, from the Pearson correlation coefficient, the correlation between farmers' willingness to work and their relative poverty is low.

Table 1. Descriptive statistical results of variables

Operational variable	Mean value	Standard deviation	Minimum	Maximum value
Relative poverty	0.067	0.251	0	1
Basic feasible capability				
Physical health	3.55	1.115	1	5
Mental health status	3.74	0.928	1	5
Feasible development capability				
Education level	3.682	2.265	1	13
Willingness to work	0.069	0.253	0	1
Supply of basic public services	0.000 (standardized)	0.000 (standardized)	-4.616 (standardized)	1.992 (standardized)
Social development opportunities	2.671	0.549	1	4

Table 2. Pearson correlation test results of variables

Variable	Relative poverty	Basic feasible capability		Feasible development capability	Willingness to work	Supply of basic public services	Social development opportunities
		Physical health	Mental health status	Education level			
Relative poverty	1						
Basic feasible capability							
Physical health	-0.197***	1					
Mental health status	-0.199***	0.492***	1				
Feasible development capability							
Education level	-0.110***	0.299***	0.178***	1			
Willingness to work	0.024	0.108***	0.034*	0.196***	1		
Supply of basic public services	-0.080***	0.021	0.071***	-0.073***	-0.059***	1	
Social development opportunities	-0.192***	0.088***	0.146***	-0.041***	-0.084***	0.196***	1

Note: * means $p < 0.1$, ** means $p < 0.05$, *** means $p < 0.01$.

4.3. Analysis of binary logistic regression model

4.3.1. Model test

After centralizing the explanatory variables, binary logistic regression was carried out for the explanatory variables and the explained variables. The test results of binary logistic regression model show that the degree of freedom DF of the model is 6 and LR Chi-square is 194.558, the significance of the model was 0.000. Compared with the critical value of each index of the binary logistic regression model, each index of the model has passed the test, which shows that the model has better significance and higher goodness of fit, indicating that the reliability of the explanatory relationship between the explanatory variable and the explained variable in this study

is high.

Through binary logistic regression between farmers' feasible ability, work willingness, basic public service supply, social development opportunities and farmers' relative poverty, model 3 is obtained (see **Table 3**). According to the regression results of model 3, two basic conclusions can be drawn: first, the lack of farmers' feasible ability has an obvious poverty causing effect. In other words, the lack of farmers' feasible ability will significantly increase the incidence of relative poverty. Second, the supply of basic public services and social development opportunities has obvious poverty reduction effects. High-quality supply of basic public services and sufficient social development opportunities can effectively reduce the incidence of relative poverty.

4.3.2. Analysis of individual poverty effect: Basic feasible ability and feasible development ability are the main causes

From an individual perspective, in the feasible ability of farmers, the reduction of farmers' physical health status (Odds Ratio = 0.631), mental health status (Odds Ratio = 0.605) and education level (Odds Ratio = 0.830) will increase the incidence of farmers' relative poverty, and all variables are significant at the level of 1%. Specifically, for every unit of reduction in the health status of farmers, the probability of farmers' relative poverty increases by 36.9%, the decline of farmers' physical health is one of the important factors leading to farmers' relative poverty, and H_{1a} has been verified; when the mental health status of farmers decreases by one unit, the probability of relative poverty of farmers increases by 39.5%, the reduction of farmers' mental health is one of the important factors leading to farmers' relative poverty, and H_{1b} has been verified; every time the education level of farmers decreases by one unit, the probability of farmers' relative poverty increases by 17%. The lack of education level of farmers is one of the important factors leading to farmers' relative poverty. This shows that the lack of feasible ability of farmers due to their own objective conditions is the main cause of farmers' relative poverty, and H_{1c} has been verified. In terms of willingness to work, the reduction of farmers' willingness to work will not increase the probability of farmers' relative poverty. On the contrary, it will reduce the probability of relative poverty to a certain extent. The most likely explanation for this situation is that the reduction of farmers' willingness to work is not the cause of relative poverty, but the state of relative poverty will stimulate farmers' work enthusiasm and promote their hard work. Therefore, although the hypothesis H₂ has not been verified, it still brings us important enlightenment: increasing farmers' employment opportunities is an important way to help farmers alleviate relative poverty.

4.3.3. Analysis on the poverty reduction effect of institutional supply: The dual role of basic public service supply and social development opportunities

From the perspective of institutional supply, the improvement of rural basic public service supply (Odds Ratio = 0.849) and social development opportunities (Odds Ratio = 0.395) has a significant effect on reducing the probability of farmers' relative poverty. For every unit of rural basic public service supply, the probability of farmers' relative poverty will be reduced by 15.1%, indicating that the supply of basic public services in rural areas has an important institutional poverty reduction effect, and H₃ has been verified. Basic public services include basic social security, compulsory education, public health and basic medical treatment. They have the basic characteristics of foundation, urgency, universality and feasibility. They are one of the core functions of the government. China has been pursuing the development model of rural supply cities for a long time, resulting in a low level of rural public service supply. The analysis results show that increasing the supply of rural basic public services is an important starting point and focus for the government to solve the problem of rural relative poverty. Therefore, the government's focus on strengthening the supply level of rural basic public services has become an

important strategic choice to alleviate farmers' relative poverty and realize rural revitalization; In terms of social development opportunities, the increase of rural social development opportunities also plays an important role in reducing the probability of farmers' relative poverty. For each unit of rural social development opportunities, the probability of farmers' relative poverty will be reduced by 60.5%, indicating that rural social development opportunities have important institutional poverty reduction effects, so H₄ has been verified. The high distance cost, poor market conditions, relative shortage of development opportunities and great difficulty in developing the potential of market space caused by geographical obstacles in rural areas lead to the single income channel of farmers, which has become an important reason why the incidence of relative poverty in rural areas is higher than that in cities. Combined with the previous analysis, the lack of willingness to work is not the cause of farmers' relative poverty. On the contrary, the state of relative poverty will stimulate farmers' work enthusiasm to a certain extent. Therefore, providing farmers with sufficient employment opportunities and increasing rural social development opportunities is a necessary choice to reduce the incidence of rural relative poverty.

Table 3. Results of binary logistic regression analysis of relative poverty

Variable	Beta	Odds ratio	Std. error	P value
Basic feasible capability				
Physical health	-0.460***	0.631	0.100	0.000
Mental health status	-0.502***	0.605	0.114	0.000
Feasible development capability				
Education level	-0.187***	0.830	0.067	0.005
Willingness to work	0.83**	2.295	0.335	0.013
Supply of basic public services	-0.164*	0.849	0.085	0.055
Social development opportunities	-0.930***	0.395	0.155	0.000
Constant term	3.398***	29.890	0.504	0.000

Note: * means $p < 0.1$, ** means $p < 0.05$, *** means $p < 0.01$.

5. Research Conclusions and Policy Implications

5.1 Research conclusion

5.1.1. The lack of feasible ability of farmers has an obvious poverty causing effect on the relative poverty in rural areas

The study found that the lack of farmers' feasible ability has an obvious poverty causing effect. Among them, the lack of basic feasible ability such as physical health and mental health and the lack of feasible development ability such as education are important reasons for farmers' relative poverty, which shows that China's rural relative poverty is not only due to the insufficient transformation from traditional agriculture to modern agriculture, or the low income of farmers, The deeper reason for the occurrence of rural relative poverty is that the lack of farmers' rights leads to the lack of feasible ability, which is embodied in the lack of farmers' right to health and education, which leads to the lack of farmers' basic feasible ability and feasible development ability, and then leads to the state of farmers' relative poverty. This shows that it is more difficult to alleviate relative poverty than absolute poverty. Relying solely on "blood transfusion" poverty alleviation cannot fundamentally solve the problem of relative poverty. Only from the perspective of improving the feasible ability of the poor, and on the basis of protecting farmers' right to health and education, and enhancing farmers' basic feasible ability and feasible development ability, can we fundamentally solve the problem of rural relative poverty. At the same time,

the study found that the poverty causing effect of farmers' work intention is not obvious. On the contrary, the state of relative poverty will stimulate farmers' work intention to a certain extent, which further shows the necessity and importance of providing sufficient employment opportunities for farmers in alleviating rural relative poverty.

5.1.2. The supply of basic public services is an important institutional starting point for the government to alleviate the relative poverty in rural areas

The study found that increasing the supply of rural basic public services is an important way to alleviate the problem of rural relative poverty, and has become an important institutional starting point for the government to solve the problem of rural relative poverty. Good basic public services are an important guarantee for the survival and development of the relatively poor in rural areas. The lack of basic public services will not only lead to the decline of farmers' living standards, but also reduce farmers' feasible ability, making farmers more likely to fall into relative poverty. Allowing farmers in poor areas to enjoy basic public services equally and adequately can not only ensure the basic needs and basic living standards of the relatively poor in rural areas in the future, but also improve the ability of the relatively poor to get rid of relative poverty. In other words, improving the supply level of basic public services in rural areas can, on the one hand, enhance the capital agglomeration ability of the relatively poor in rural areas and enhance the development ability of the poor with capital accumulation; on the other hand, the relatively poor in rural areas enjoy high-quality education, which can improve the quality of rural population and help them adapt to the market demand of rural modernization transformation. In addition, as an important means of income redistribution, basic public services can effectively narrow the income gap and reduce the incidence of relative poverty.

5.1.3. Increasing rural social development opportunities has an important effect on poverty alleviation for rural relative poverty

The study found that increasing rural social development opportunities has an important effect on poverty alleviation, which can significantly reduce the incidence of farmers' relative poverty. The key to alleviating rural relative poverty depends on the endogenous power of the poor. In order to build a well-off society in an all-round way and eliminate the problem of absolute poverty in rural areas, China has adhered to the basic strategy of targeted poverty alleviation, adopted a series of unconventional poverty alleviation measures such as targeted poverty alleviation, Counterpart Assistance and poverty alleviation cooperation, implemented Poverty Alleviation Policies, targeted to households, and enhanced external support for poor households, and made great achievements. However, this kind of assistance policy also leads to the high dependence of the rural poor on external support and their lack of ability to get rid of poverty, which is prone to return to poverty and turn into poverty. The research results show that on the basis of enhancing the feasible ability of farmers, providing sufficient employment opportunities for farmers and realizing the sustainable increase of farmers' income is an important way to solve the problem of rural relative poverty. Sufficient opportunities for rural social development can not only provide farmers with sustainable income required to ensure their living standards, but also enhance rural economic and social development, narrow the income gap between urban and rural areas, reduce farmers' sense of relative deprivation, and overcome the "serious impact of psychological injury such as loss of work motivation and self-confidence caused by unemployment"^[14].

5.2. Policy recommendations

5.2.1. Enhance the feasible ability of farmers on the basis of poverty alleviation

The study found that the effective way to prevent farmers from returning to poverty is to improve and rebuild the feasible ability of the relatively poor. Therefore, first of all, we need to improve the basic feasible ability of farmers. The government needs to focus on increasing medical and health investment in rural areas, promote rural health action, and establish a special financial guarantee mechanism for rural health action on the basis of actively publicizing medical and health knowledge, so as to improve the physical and mental health status of rural residents and improve the basic feasible ability of farmers. Secondly, we need to improve the feasible development ability of farmers. The government needs to increase investment in education and focus on the development of compulsory education and farmers' vocational education in poor rural areas. On the one hand, the central and provincial financial expenditure should be inclined to rural education, improve rural teaching conditions and school environment, improve the welfare treatment of rural teachers, attract more excellent teachers to teach in rural schools, implement the policy of benefiting the people in rural education, continue to promote the improvement plan of student support, and give appropriate education subsidies to areas with relatively high incidence of poverty; on the other hand, we need to strengthen vocational education and training for farmers, strive to improve farmers' vocational and technical level, cultivate new farmers, especially develop vocational and technical education serving local characteristic industries.

5.2.2 Take the supply of basic public services as the guarantee to improve the guarantee level of farmers

The study found that the poverty reduction effect of basic public services is obvious, and it is necessary to build a poverty reduction path of basic public services for rural relative poverty. First of all, we need to improve the basic social security level for the relatively poor in rural areas, so as to ensure the basic living needs of the relatively poor in rural areas and prevent concentrated and contiguous regional relative poverty in rural areas. Secondly, we need to increase the supply of basic social services in rural poor areas, such as compulsory education, medical and health care, and cultivate the feasible ability of relatively poor groups by increasing the supply of basic public services. In the final analysis, the relief of rural relative poverty fundamentally depends on the self-development ability of relatively poor groups. Thirdly, it is necessary to improve the public infrastructure in rural areas with high incidence of relative poverty. On the one hand, it is necessary to improve the infrastructure closely related to the living needs of farmers, such as tap water, domestic energy and so on; on the other hand, we need to improve the infrastructure conducive to the overall development of poor areas, such as road transportation. Finally, we need to pay attention to the social assistance function in basic public services. For special groups, we should continue to adhere to the idea of targeted poverty alleviation and provide them with targeted public services to meet the social service needs of special groups such as the elderly and the disabled.

5.2.3. Focus on poverty alleviation by opportunities and strengthen the endogenous driving force for rural poverty alleviation

Opportunity poverty alleviation refers to the poverty alleviation form of providing entrepreneurship and employment opportunities through entrepreneurship and employment guidance, industrial poverty alleviation, information poverty alleviation and financial poverty alleviation^[23]. The key to poverty alleviation by chance is to increase the opportunities for rural social development, make the relatively poor people in rural areas have income from work, and enhance the endogenous driving force for farmers to get rid of poverty. First of all, we need to promote the effective connection between rural industrial upgrading and industrial cultivation, construct a modern agricultural industrial system, give full play to the resource advantages of rural poor areas, integrate local social resources and form regional characteristic industries. Specifically, on the one hand, it is necessary to

systematically and scientifically analyze the resource endowment, economic situation, comparative advantage, infrastructure and other conditions of rural areas with high incidence of relative poverty, and select the poverty alleviation industrial portfolio suitable for the development of this region^[31]; on the other hand, we need to focus on supporting deep-processing enterprises of agricultural products, build modern agricultural science and technology parks and agricultural industrial parks, and develop rural tourism industry on the basis of rural ecological environment protection, so as to increase rural social development opportunities and provide more adequate employment opportunities for farmers. Secondly, it is necessary to ensure that the built poverty alleviation industry continues to make efforts, use the poverty alleviation industry to drive rural employment, and avoid the “crowding out effect” of poverty alleviation industry on rural self-development.

Conflict of Interest

No conflict of interest was declared.

Acknowledgement

Major bidding project of National Social Science Foundation of China (16ZDA080); general program of National Social Science Foundation of China (16B22049).

References

1. Zuo W, He W. Xiangdui Pinkun Zhili Lilun yu Zhongguo Defang Shijian Jingyan (Theory of Relative Poverty Control and China's Local Practical Experience). *Journal of Hehai University (Philosophy and Social Sciences Edition)* 2019; (6): 1-9.
2. Shen Y, Li S. Ruhe Queding Xiangdui Pinkun Biaozhun?—Jinlun “Chengxiang Tongchou” Xiangdui Pinkun de Kexing Fangan (How to Determine the Standards of Relative Poverty after 2020?—With Discussion on the Feasibility of “Urban-Rural Coordination” in Relative Poverty). *Journal of South China Normal University (Social Sciences Edition)* 2020; (2): 91-101.
3. Tang L, Li L, Zuo T. Social Exclusion, Vulnerability and Sustainable Livelihoods: Three Analytical Frameworks of Poverty and Their Comparison. *Guizhou Social Sciences* 2010; (12): 4-10.
4. Zhou Y. Pinkun Yanjiu: Jiegou Jieshi yu Wenhau Jieshi de Duilei (Poverty Research: The Confrontation Between Structural Interpretation and Cultural Interpretation). *Sociological Research* 2002; (3): 49-63.
5. Gao Q, Kong X. Lun Xiangdui Pinkun de Neihan, Tedian Nandian ji Yingduizhice (On the Connotation, Characteristics, Difficulties and Countermeasures of Relative Poverty). *Journal of Xinjiang Normal University (Philosophy and Social Sciences Edition)* 2020; (3): 120-128.
6. Li X, Xu H. 2020 Nian hou Fupin Gongzuo de Ruogan Sikao (Reflections on Poverty Alleviation after 2020). *Journal of Chinese Academy of Governance* 2018; (1): 62-66, 149, 150.
7. He X. Gaige 40 Nian de Nongcun Fanpinkun Renshi yu Houtuopin Zhanlue de Qinzhan (The Understanding of Rural Anti-Poverty in the Past 40 Years of Reform and the Prospect of Post Poverty Eradication Strategy). *Rural Economy* 2018; (11): 1-8.
8. Wagem U, Liu Y. Pinkun Zaisikao: Dingyi yu Henglaing (Rethinking Poverty: Definition and Measurement). *International Journal of Social Sciences (Chinese Version)* 2003; (1): 146-155.
9. Chen Z, Shen Y, Zhou Y. Zhongguo Nongcun Pinku Zhuangkuang de Juedui yu Xiangdui Biandong—Jianlun Xiangdui Pinkunxian de Sheding (Absolute and Relative Changes of Rural Poverty in China—Also on the Setting of Relative Poverty Line). *Management World* 2013; (1): 67-75.

10. Xing C, Li X. Xiangdui Pinkun yu Xinshidai Pinkun Zhili Jizhi de Goujian (Relative Poverty and the Construction of Poverty Governance Mechanism in the New Era). *Reform* 2019; (12): 16-25.
11. Easterlin MR. A Conversation with Richard Easterlin. *Journal of Population Economics* 1997; (2): 119-136.
12. Li Q. Juedui Pinkun yu Xiangdui Pinkun (Absolute Poverty and Relative Poverty). *China Social Work* 1996; (5): 18-19.
13. Gao Q. Tuopin Gongjian yu Xiangcun Zhenxing Youxiao Xianjie de Zaitantao—Jiju Zhengce Zhuanyi Jiexu de Shijiao. (Re-discussion on the Effective Connection between Poverty Alleviation and Rural Revitalization—From the Perspective of Policy Transfer and Succession). *Journal of Nanjing Agricultural University (Social Science Edition)* 2020; 20(4): 49-57.
14. Sen A. Development as Freedom. In: Ren Z, Yu Z (translators). Beijing: Renmin University of China Press; 2008. p. 62, 85, 91.
15. Zheng B, Song Y. Weilai Nongcun Xu yi Tisheng Kexing Fazhan Nengli wei Fangxiang (In the Future, Poverty Alleviation in Rural Areas Should Be Oriented Towards Improving Feasible Development Capacity). *Yunnan Social Sciences* 2020; (3): 65-74.
16. Guo X. Lun Pinkun Gainiande Neihan (On the Connotation of the Concept of Poverty). *Shandong Social Sciences* 2005; (12): 49-54.
17. Zhang J. “Strengthening the Aspiration” of Poverty Alleviation Shift: The Psychological Dilemma of the Poor and its Improvement. *Social Construction* 2019; 6(1): 52-63.
18. Xiang D, Liu X. Source and Development: A Study of China’s Ideas of Spiritual Poverty Alleviation in the New Era. *Journal of Xi’an University (Social Sciences)* 2020; 40(1): 8-13.
19. Hu Z. Tuijin Jiben Gonggong Fuwu Jundenghua de Neihan he Lujing (Connotation and Path of Promoting Equalization of Basic Public Services). *People’s Daily*, October 8, 2010 (007).
20. Zuo T, Xu J, Li Z. Baituo Pinkun zhi “Kun”: Shendu Pinkun Diqu Jiben Gonggong Fuwu Jianpin Lujing (Getting Rid of the “Trap” of Poverty: The Poverty Reduction Path of Basic Public Services in Deep Poverty Areas). *Journal of Nanjing Agricultural University (Social Science Edition)* 2018; (2): 35-44.
21. Hao X, Huang N, Zhuang Y. Xiangxun Zhenxing Shijiao xia Gonggong Fuwu dui Nongcun Duowei Pinkun Jianpin Xiaoying Yanjiu (Research on the Effect of Public Services on Rural Multidimensional Poverty Reduction from the Perspective of Rural Revitalization). *China soft science* 2019; (1): 72-81.
22. Cheng D. Chengshi Pianxiang yu Nongcun Pinkun (On Urban Bias and Rural Poverty). *Journal of Wuhan University (Philosophy and Social Sciences Edition)* 2005; (2): 255-260.
23. Zhu F, Li J. Xi Jinping Xinshidai Fanpinkun Sixiang de Hexin Zhuti—“Nengli Fupin” he “Jihui Fupin” (The Core Themes of Xi Jinping’s Anti-Poverty Thought in the New Era—“Ability to Help the Poor” and “Opportunity to Help the Poor”). *Shanghai Journal of Economics* 2019; (3): 5-16.
24. Alcock P. *Understanding Poverty* (2nd edition). London: Macmillan; 1997. p. 70-74.
25. Reynolds L. *Microeconomic Analysis and Policy*. In: Ma B (translator). Beijing: Commercial Press; 1982. p. 432.
26. Townsend P. *Poverty in the United Kingdom: A Survey of Household Resources and Standards of Living*. Harmondsworth: Penguin Books; 1979. p. 31.
27. Xu Y, Xu Z. Gonggong Fuwu Gognji, Shengji Ziben Zhuanhuan yu Xiangdui Pinkun de Xingcheng—Jiyu CGSS2015 Shuju de Shizheng Fenxi (Public Service Supply, Livelihood Capital Transformation and the Formation of Relative Poverty—An Empirical Analysis Based on CGSS2015 Data). *Journal of Public Management* 2020; (4): 140-151.
28. Liu B, Wang X, Peng J. Zhuguan Pinkun Yingxiang Yinsu Yanjiu Jiyu CGSS (2012-2013) de Shizheng Yanjiu (Research on the Influencing Factors of Subjective Poverty—An Empirical Study Based on CGSS (2012-2013)). *China Soft Science* 2017; (7): 139-151.
29. Dong Y, Zheng X, Fang X. Gonggong Fuwu dui Chengshi Jumin Xingfugan de Yingxiang (The Impact of

- Public Services on the Well-Being of Urban Residents). *Urban Problems* 2020; (2): 82-88.
30. Zhang W, Dong W. *Advanced Course of SPSS Statistical Analysis (3rd Edition)*. Beijing: Higher Education Press; 2018. p. 181.
 31. Yang Y, Yuan A. Industrial Accurate Selection Mechanism in Accurate Poverty Alleviation. *Journal of South China Agricultural University (Social Science Edition)* 2019; 18(2): 1-2.