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MEASURING THE EFFECTIVENESS OF PRECISION POVERTY REDUCTION IN CHINA

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Abstract: Based on the data of China Family Panel Studies (CFPS)database, this study adopts the difference-in-difference(DID) method to measure the effect of the implementation of precise poverty alleviation policy. The results of the study show that, on the one hand, the implementation of the precision poverty alleviation policy increased the poverty elimination rate of farming households by 10.21%, indicating that the implementation of the precision poverty alleviation policy has a significant effect on the poverty elimination effect of farming households. On the other hand, the average treatment effect of the implementation of the precise poverty alleviation policy on per capita disposable income is 0.7104, indicating that the precise poverty alleviation policy significantly improves the income level of farm households' families and broadens the income channels of farm households. Based on this, this study proposes corresponding policy recommendations to promote the effective implementation of the precision poverty alleviation policy.

Keywords: Precise Poverty Alleviation; Farm Households; Poverty Alleviation; China

1. Introduction

In November 2013, Xi Jinping made the important instruction of "seeking truth from facts, adapting to local conditions, classifying and guiding, and poverty alleviation with precision" during his visit to Hunan Province, China, and for the first time put forward the important idea of "poverty alleviation with precision", which is a way of poverty alleviation that implements precise identification of poverty-alleviation targets, precise assistance, and precise management. The important idea of "precise poverty alleviation" was first put forward, with the implementation of precise identification, precise assistance and precise management of poverty-alleviation targets. Subsequently, China has formulated a series of top-level designs for precise poverty-alleviation policies, promoting the realization of the idea of precise poverty alleviation. The idea of precise poverty alleviation can be summarized in the six principles of precision: precision in the target of poverty alleviation, precision in the arrangement of projects, precision in the use of funds, precision in the application of measures to households, precision in the assignment of people to villages, and precision in the results of poverty eradication," which also points to the direction in which precise poverty alleviation efforts should be directed. For the specific practice of poverty alleviation measures, the "five batch" is proposed, that is, the poverty alleviation work is implemented through supporting production and employment development,

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migrant relocation and resettlement housing, low-poverty insurance policy pocketing, and medical assistance support in five aspects (Chen et al., 2020), and corresponding poverty alleviation measures are taken based on the causes of poverty among the poor population, so as to realize the purpose of poverty alleviation accurately. The purpose of precise poverty alleviation is to realize the goal of poverty alleviation.

Precision poverty alleviation is a transformation of the previous concept of rough poverty alleviation, which is a way of poverty elimination based on the environment of the poor region and the differences in the farmers' own conditions, adopting scientific and effective methods to implement precise identification, precise assistance, precise management and precise assessment of poverty alleviation targets (Wang, 2020). Precise poverty alleviation should focus on precision, mainly reflected in who to support, how to support and how to exit. Firstly, the target should be precise, i.e., accurately identifying who is a poor household, who should be supported, who should not be supported, and eliminating the phenomenon of "supporting the strong but not the weak, supporting the rich but not the poor". Secondly, in terms of poverty alleviation, differentiated and targeted assistance measures should be adopted according to the real difficulties of poor households. Thirdly, in the evaluation of the effects of poverty alleviation, precise poverty alleviation not only focuses on whether or not to lift people out of poverty at the moment, but also pays more attention to the sustainability of the effectiveness of poverty alleviation, i.e. whether or not to return to poverty after lifting people out of poverty.

At the end of 2015, precision poverty alleviation was formally incorporated into China's overall strategic plan for poverty alleviation, and the reason why the precision poverty alleviation strategy has distinguished itself from past poverty alleviation models to become the top-level design for China's poverty alleviation in the new era is that the biggest difference lies in the precise identification of the basic economic situation of the poor individuals and possible constraints to poverty alleviation and return to poverty, so that it can be targeted to put forward the "targeted treatment" and improve the degree of aiming. In this process, the targeting of the main body of poverty alleviation, the directionality of poverty alleviation resources, the integration of poverty alleviation targets, and the differences in poverty alleviation work are fully reflected (Ha et al., 2021).

Overall, the starting point for assessing the effectiveness of precision poverty alleviation lies in examining whether the target of poverty alleviation is effectively identified and the effectiveness of poverty alleviation and poverty elimination. The very purpose of poverty alleviation is to reduce the extent of income disparity in poor areas. Failure to identify the truly poor or to allocate poverty alleviation resources sub-optimally may not only lead to opportunistic behavior of non-poor farmers, but also make it difficult to help the poor build up the determination to lift themselves out of poverty in the first place (Qin & Li, 2022). In particular, whether it is the precise allocation of resources for poverty alleviation, the precise assistance to the poor, or the refined management of the poor, the prerequisite is the effective identification of the poor.

The ultimate goal of precise poverty alleviation is to realize precise poverty elimination, which includes not only poor individuals and households, but also the overall poverty-stricken regions; it includes not only material poverty elimination, but also spiritual and cultural poverty elimination. Precision poverty alleviation embodies the characteristics of poverty alleviation in the new era, and is a refinement and sublimation of the previous idea of poverty alleviation under the new economic norm, emphasizing precision in the content of poverty alleviation, striving for "blood-creation" in the ways and means of poverty alleviation, and pursuing endogenous growth in the effects of poverty alleviation (Yan, 2020; Li et al., 2023). Precision poverty alleviation is an important guiding principle for solving the "three rural issues" and winning the battle against poverty, as well as an important way to realize the revitalization of rural culture. In view of this, this study attempts to assess the effect of poverty alleviation of precision poverty alleviation.

2. Literature Review

The core of precise poverty alleviation lies in the categorization of policies, targeted treatment, and the precise targeting of households on the basis of the causes of poverty. Therefore, scholars are more inclined to examine the impact of this mode of poverty alleviation, which is different from previous developmental poverty alleviation, on the effectiveness of poverty alleviation for poor groups.

With regard to the overall effect of precision poverty alleviation, Zhang & Zhou (2019) showed that the precision poverty alleviation policy has effectively raised the income level of China's rural poor groups, and their lives have been significantly improved. However, considering the possible problem of heterogeneity, more attention should be paid to the poverty alleviation status of poor groups who are impoverished due to diseases and other causes. The analysis of Wang & Xu (2019) is similar to the above findings and concludes that the middle group is the most significant income improvement under the precise poverty alleviation policy. Tang & (2020) summarize the regional, county, village, and household-level stages of poverty alleviation in China, pointing out that the precision poverty alleviation model fits the characteristics of China's progressive poverty alleviation, and that adapting to the changes in the poverty characteristics of the poor groups is the key to the ability of precision poverty alleviation to complete the poverty alleviation task on schedule. Based on CFPS data, Xu & Hu (2020) examined the complementary effect of precision poverty alleviation on social force poverty alleviation by using logit and tobit models, and their findings also proved once again that the precision poverty alleviation policy is timely and effective.

Li et al. (2020) used an independently constructed micro-tracking database of the poor population and adopted fuzzy breakpoint regression to assess the impact of the precision poverty alleviation policy on the incomes of poor households, distinguishing for the first time the shift from increasing labor supply to enhancing labor productivity from the perspective of the source of income effect.In January 2020, General Secretary Xi Jinping, during his inspection and research trip to Yunnan, pointed out that in order to decisively fight poverty alleviation, we must both In January 2020, General Secretary Xi Jinping pointed out during a study tour in Yunnan

that in order to fight poverty eradication, it is necessary to firmly grasp the basic standard of "two no worries and three guarantees" and to strictly check and accept the results, while also preventing the return of poverty due to insufficient follow-up policy support or the return of poverty due to illness or injury. Therefore, assessing the effect of the precision poverty alleviation policy from the income perspective takes into account the direct goal of precision poverty alleviation but ignores the indirect goal, i.e., precision poverty alleviation is not only to achieve the goal of per capita disposable income during the target period under the current standard, but also to take this opportunity to stimulate the internal force of economic development in the poor areas, and to narrow the gap between the economic and social development of the poor areas on the basis of the construction of the anti-poverty ecosystem.

Yin & Guo (2021) assessed the effect of the precision poverty alleviation policy based on the China Household Finance Studies (CHFS) data, examined the impact of the precision poverty alleviation policy on the consumption and consumption structure of the poor households by using the difference-in-difference(DID) method, and at the same time explored the mechanism of its effect on different types of households. Evaluating the effects of the poverty alleviation policy from the perspective of consumption is in line with the "blood-forming" objective of poverty alleviation, and in the long run, it can better measure the impact of poverty alleviation on poor areas and groups. However, after China has accomplished the arduous task of eliminating absolute poverty, the effects of poverty alleviation policies are still more focused on the primitive capital accumulation of poor families, and focusing solely on the perspective of household consumption may lead to the expectation that the policy assessment of poverty alleviation will go beyond the current stage, resulting in the emergence of a "welfare trap". Therefore, to assess the effect of the precise poverty alleviation policy, we should first examine the structural changes of the per capita disposable income and per capita disposable expenditure of the poor subjects in the static dimension, and also examine the changes of the ability of the poor subjects to withstand risks and continue to increase their income in the dynamic dimension.

Based on the 2012-2018 data of Peking University's China Household Tracking Survey, Huang et al. (2022) used the difference-in-difference(DID) method to analyze the impact of the precision poverty alleviation policy on the poverty vulnerability of poor households, and then assessed the policy's role of poverty reduction in the long run and explored the policy's mechanism of playing a role in poverty reduction in the long run. The study finds that the poverty alleviation policy can significantly reduce the poverty vulnerability of poor households by 9.8%. At the same time, the policy has a more significant effect on the reduction of poverty vulnerability of households with higher levels of poverty vulnerability, those who are poor due to old age, schooling and illness. Precision poverty alleviation policies can reduce the vulnerability of poor households and play a long-term role in poverty reduction by exerting a good income distribution effect.

Liu et al. (2023) systematically assessed the effects of precision poverty alleviation policies from the perspective of livelihood sustainability, and quantified the impact of precision poverty alleviation on the livelihood sustainability of farming households using the difference-in-

differences (DID) method and propensity score matching method, and the results of the study showed that precision poverty alleviation increased the overall level of livelihood sustainability of farming households by 20.5 percent.

Yang et al. (2023) investigated whether China's precision poverty alleviation policy has promoted farmers' income growth, and selected the per capita disposable income of rural residents in each county from 2011 to 2020 to analyze the difference-in-differences (DID) model. The results show that the precise poverty alleviation policy has significantly accelerated the growth of rural residents' income in impoverished areas, and that the precise poverty alleviation policy has only boosted the relative increment of rural residents' income. Yang et al. (2024) used the DID model to accurately assess the effect of the precision poverty alleviation policy on narrowing the urban-rural income gap and its regional variability, and the results of the study show that precision poverty alleviation effectively promotes the increase in income of rural residents in poverty-stricken areas and narrows the urban-rural income gap.

Established literature has provided in-depth analyses of the current situation and problems of precision poverty alleviation in China from different perspectives respectively, which are of good reference value (Liu et al, 2020; Zhang & Cao, 2021; Huang et al, 2023; Meng, 2024), but there is still room for further expansion. In view of this, this study takes into account the current development of precision poverty alleviation in China and adopts the DID model to assess the implementation effects of precision poverty alleviation policies.

3. Research Methodology

This section describes the research design of the thesis. The Chinese Family Panel Study (CFPS) is selected to study the effect of precision poverty alleviation. Next, this section describes the variable selection. Finally, this section describes the difference-in-difference(DID) method.

3.1 Data Source

The data used in this study come from the China Family Panel Studies (CFPS) database, which is organized and implemented by the China Center for Social Science Research at Peking University, and covers microdata at the individual, family, and community levels, reflecting the changes in family dynamics, social relationships, economic activities, working conditions, and ideas about educational outcomes in China from multiple perspectives. The CFPS is organized and implemented by the China Social Science Survey Center of Peking University, covering micro data at the individual, household, and community levels, and comprehensively reflecting changes in China's family dynamics, social relationships, economic activities, working conditions, and educational achievements. To ensure the representativeness of the survey sample,

CFPS uses a probability sampling method (PPS) that is proportional to the population size at multiple stages and levels, and is nationally representative.

In this study, two periods of micro-survey data from CFPS 2016 and CFPS 2018 were selected for empirical research. Households with rural household registration in this database were selected. In the process of sample screening as well as variable processing, first, the sample data of urban households were excluded and only the sample data of rural households were retained. Then, the relevant data in the individual, household, and village questionnaires were merged according to the key information needed for the study. Then, the data missing values and outliers are eliminated. Through the above data organization, finally 6032 valid samples that meet the needs of the study are obtained.

3.2 Research Variable

This section discusses about variables. The detailed discussion has been presented as follows.

Explanatory variable: The empirical method chosen for this study is the difference-in-difference(DID) method, which mainly examines the effects on the explanatory variables before and after the implementation of the policy. Therefore, the explanatory variable selected in this chapter is "whether or not the policy of poverty alleviation has been implemented", which is set to 0 before the implementation of the policy and 1 after the implementation of the policy, as shown in Table 1.

Explained variable: The main principle of this study to assess the effect of precision poverty alleviation is to examine the impact of precision poverty alleviation on the livelihood level of households, so the explanatory variable is per capita disposable income. Per capita disposable income is obtained from the total household income (including wage income, agricultural business income, industrial and commercial business income, transfer income, and investment income) and the total household size provided by the questionnaire. The details are shown in Table 1.

Control variables: The control variables in this study are mainly divided into two levels of family and household head related to the characterization of the family level, the family level control variables mainly include the size of the family population and the number of family properties, and the head of the household level control variables mainly include the age of the head of the household, the education level, the marital status, and the physical condition. The details are shown in Table 1.

Table 1 Description of theVariables

Variable Category	Variable Name	Variable Definitions
Treat	Implementation of the Precision Poverty	Assigned a value of 1 if participating in precision poverty alleviation, 0 otherwise

Variable Category	Variable Name	Variable Definitions
	Reduction Policy	
Per Income	Per capita disposable income	(Wage income + income from agricultural business + income from industrial and commercial business + transfer income + investment income)/total household size
Family Size	Family size	Total number of persons in the household
Property Number	Number of family properties	Number of properties other than owner-occupied owned by the household
Age	Age of Head of Household	Year of survey - year of birth of head of household
Education	Educational attainment of the head of household	Measured by years of schooling of the head of household
Marriage	Marital status of head of household	Marriage is assigned a value of 1, otherwise it is 0
Healthy	Health status of the head of household	No major physical illness of the head of household is assigned a value of 1, otherwise 0

3.3 Difference-in-Difference (DID)

This study adopts a "quasi-natural experiment" research method to accurately portray the effect of poverty alleviation by setting up a treatment group and a control group to measure the difference in the effect of whether or not the analyzed subjects participate in poverty alleviation, thus accurately portraying the effect of poverty alleviation implementation.

The difference-in-differences (DID) method is the difference between the average change in the treatment group and the average change in the control group, which accurately reflects the effect of the policy implementation on the intervention of the subjects by controlling the ex ante differences between the subjects and filtering the fixed effects such as time (Ravallion, 2007). In this study, by setting up a control group (not participating in precision poverty alleviation, $T = 0$) and a treatment group (participating in precision poverty alleviation, $T = 1$), we assessed the difference in the effect of whether the sample households participated in precision poverty alleviation based on the DID, and measured the extent of the impact of precision poverty

alleviation on the vulnerability of poverty, and then assessed the effect of precision poverty alleviation.

This study mainly analyzes the average treatment effect of precise poverty alleviation from the following two models, and analyzes the changes in the poverty elimination rate of the treatment and control groups before and after precise poverty alleviation. In addition, based on the difference-in-difference(DID) method, it analyzes the changes in poverty status and poverty vulnerability of the treatment and control groups before and after the project. In order to measure the implementation effect of precision poverty alleviation, this chapter measures the average treatment effect of precision poverty alleviation based on the difference-in-difference(DID), covariate-added difference-in-difference(DID) model.

The difference-in-difference model is set up as follows (1).

$$Y_{it} = \beta_0 + \alpha_0 P_{it} + \beta_1 T_{it} + \alpha_1 \cdot P_{it} T_{it} + \varepsilon_{it} \quad (1)$$

The difference-in-difference model with covariates added is shown in equation (2).

$$Y_{it} = \beta_0 + \alpha_0 P_{it} + \beta_1 T_{it} + \alpha_1 \cdot P_{it} T_{it} + \theta X_{it} + \varepsilon_{it} \quad (2)$$

In equations (1) and (2), Y_{it} is the explanatory variable measuring the effect of the precision poverty alleviation policy, and the following tables *i* and *t* denote different poor households and different time periods, respectively. T_{it} is the treatment variable of whether poor household *i* participates in precision poverty alleviation in period *t*, and is 1 if it participates in precision poverty alleviation and 0 otherwise. P_{it} is a time dummy variable. p is the time dummy variable. 2015 onwards, China's poverty contiguous zones have begun to popularize and implement the precision poverty alleviation policy on a large scale. Precision poverty alleviation policy, therefore, this study takes 2015 as the demarcation point of precision poverty alleviation policy implementation to analyze the policy effects before and after the implementation of precision poverty alleviation. Using 2015 as the cut-off point, 2016 represents the post-precision poverty alleviation policy implementation and takes the value of 1, while 2014 represents the pre-precision poverty alleviation policy implementation and takes the value of 0. The cross term $P_{it}T_{it}$ reflects the net effect of the precision poverty alleviation policy implementation. X_{it} represents the covariate of household i in time period t, which denotes the set of variables that have a high degree of correlation with the precision poverty alleviation policy. ε_{it} is the random interference term.

4 Result and Discussion

On the basis of the previous literature review analysis and research design, this section focuses on the empirical analysis of the implementation effect of precision poverty alleviation.

4.1 Impact of Precision Poverty Reduction on the Rate of Poverty Eradication

By measuring the poverty elimination rate of farming households' families before and after the implementation of precise poverty alleviation policy, as shown in Table 2, the poverty

elimination rate of the treatment group realized a substantial increase, i.e., the implementation of precise poverty alleviation policy has a significant impact on the poverty elimination effect of farming households' families. As shown in Table 2, the rate of poverty elimination in the treatment group before the implementation of precise poverty alleviation was 13.65%, and the rate of poverty elimination after the implementation was 26.32%, and the rate of poverty elimination before and after the implementation of precise poverty alleviation increased by 12.67%. In the same period, the rate of poverty elimination before the implementation of precision poverty alleviation in the control group was 5.13%, and the rate of poverty elimination after the implementation was 7.59%, and the rate of poverty elimination before and after the implementation of precision poverty alleviation increased by 2.46%. The analysis results show that the rate of poverty elimination in the treatment group is 10.21% higher than that in the control group due to the implementation of precision poverty alleviation, which also shows the net contribution of precision poverty alleviation to the policy effect in the treatment group.

Table 2 Impact of Poverty Alleviation on the Rate of Poverty Alleviation of Farm Households (%)

Sample Groups	Before Precision Poverty Reduction	After Precision Poverty Reduction	Variation	Double Differenc
Control group	5.13	7.59	2.46	10.21
Treatment Group	13.65	26.32	12.67	

4.2 Analysis of the implementation effect of precise poverty alleviation

This study is based on the difference-in-difference(DID) method (DID) to assess the poverty elimination effect of precision poverty alleviation, as shown in Table 3. Model (1) and model (2) indicate that per capita disposable income is the explanatory variable, and model (1) indicates the difference-in-difference(DID) model before adding covariates, and model (2) indicates the difference-in-difference(DID) model after adding covariates. The difference-in-difference(DID) results show that the average treatment effect of per capita disposable income before adding the covariates is 0.2116; after adding the covariates, the average treatment effect of per capita disposable income is 0.7104, which are both greater than 0, and both are significant at the 1% level, which indicates that the precise poverty alleviation policy significantly improves the income level of the poor families. Whether it is the transfer income brought about by the injection of poverty-alleviation funds in the form of social pockets, the wage income brought about by increasing the supply of labor, or the investment income brought about by engaging in activities such as production and management, the direct manifestation of this is that it has broadened the income channels of farming households, raised the income level of farming households, and ensured that they realize increased income and get rid of poverty as scheduled.

Table 3 Regression Results of the DID

Variable Name	Per Income	
	Model (1)	Model (2)
P×T	0.2116*	0.7104***
	(0.0564)	(0.0003)
Family Size		-0.0371***
		(0.0006)
Property Number		0.6837***
		(0.0000)
Age		-0.0082***
		(0.0000)
Education		0.0487***
		(0.0001)
Marriage		-0.0631
		(0.2611)
Healthy		0.1627***
		(0.0000)
Constant term	20.2614***	13.1463***
	(0.0000)	(0.0000)
Time fixed	Yes	Yes
Individual fixed	Yes	Yes
R2	0.1317	0.6249

*Note: *, ** and *** indicate significance at the 10%, 5% and 1% levels, respectively; numbers in parentheses are standard errors.*

As can be seen from Table 3, the number of properties owned by a household plays a crucial role in the effectiveness of the precision poverty alleviation policy. An increase in the number of properties owned by a family usually means better family conditions and living standards for the farming household, which to a certain extent can reflect the economic strength and social status of the family. In this case, the precise poverty alleviation policy tends to work more effectively and drive families out of poverty more significantly. First of all, the fact that households own property means that they are relatively more solid in terms of property and assets, and may have more economic sources and support. This makes them better able to cope with unexpected events or economic hardship, and reduces the likelihood of falling into a cycle of poverty as a result of poverty. Secondly, the fact that households own property usually means

that they have better living conditions, such as higher quality housing and a better living environment, which has a positive impact on the health and quality of life of household members. A good living environment is also conducive to the education, work and socialization of household members, thus enhancing their standard of living and opportunities for future development. In addition, property ownership by households may also mean that they have more social resources and connections in the community, which provides them with more opportunities and support for development. Therefore, the greater number of properties owned by households usually means that it is less difficult for them to get out of poverty and the effect of the policy of poverty alleviation with precision is more significant. The Government and society should attach importance to the role of household property in poverty alleviation policies and adopt targeted measures to promote property ownership among poor households, so as to better realize the goal of precise poverty alleviation.

When household size increases, the effectiveness of the implementation of precise poverty alleviation policies is often adversely affected. This is because a larger household size may mean an increased burden on the household and a more difficult distribution of resources, thus making it more difficult to lift people out of poverty. First, an increase in household size can lead to a more difficult distribution of household income, especially in poorer areas where households may rely solely on limited resources for their livelihoods. This means that more people need to rely on pro-poor policies for assistance, and the limited resources of the government and society may result in such assistance not covering all needs. Secondly, a larger household size may increase the cost of living of the household, such as expenditure on food, education and health care. In the absence of resources, these expenditures may become an obstacle for poor families to get out of their predicament, and it may be difficult to meet the basic needs of all family members, even with the help of the Government. In addition, a larger family size may also intensify competition and conflicts within the family, leading to unfair distribution of resources, and may even weaken the cohesion among family members, making the implementation of poverty alleviation policies even less effective. Therefore, the larger the family size, the more the implementation of precise poverty alleviation tends to be challenged, requiring the Government and all sectors of society to adopt more targeted and multidimensional measures to address the problem.

Educational attainment has an important and positive impact on the economic situation of farm households and on overall social development. The per capita disposable income of farm households tends to show a significant increase as the level of education increases. This is because well-educated family members are more likely to have access to higher-paying employment opportunities and have better room for career development and advancement. At the same time, increased education also enhances the skills and knowledge of farm household members, making them more creative and adaptable, and better able to cope with the challenges posed by economic and social change. In addition to this, universal access to education helps to narrow the gap between the rich and the poor, as it provides equal opportunities for all households and promotes social equity and inclusion.

In addition, the level of physical health of the members of a farming household also plays an important role in the effectiveness of precise poverty alleviation policies. Good health not only improves the productivity and labor capacity of farm families, but also reduces the economic burden caused by illness and medical expenses. Healthy family members are better able to engage in productive activities and increase the family's source of income, thus helping the family to escape from poverty. In addition, healthy family members are also better able to participate in social activities and education and training, upgrading their skills and knowledge and laying a solid foundation for the future development of the family.

Therefore, both improved education and good health are important conditions for the successful implementation of the poverty alleviation policy. The Government and society should commit themselves to upgrading the level of education, improving medical and health conditions, and providing more education and health protection for farming families, so as to promote the economic development and social progress of impoverished areas and enhance the effectiveness of the implementation of precise poverty alleviation.

5 Conclusions and Recommendations

In this section, the results of the study are discussed to determine the conclusions. Also, based on the findings, this section makes recommendations for future research.

5.1 Research Conclusions

In this study, data from the China Family Tracking Survey (CFPS) are selected to measure the effect of the implementation of the precision poverty alleviation policy. On the one hand, it measures the extent to which the implementation of the precision poverty alleviation policy affects the poverty elimination rate. The results of the study show that due to the implementation of the precision poverty alleviation policy, the poverty elimination rate of farming households increased by 10.21%, and the implementation of the precision poverty alleviation policy has a significant impact on the poverty elimination effect of farming households. On the other hand, the difference-in-difference(DID) method was used to assess the poverty elimination effect of precise poverty alleviation. The results of the study showed that the average treatment effect of the implementation of the precise poverty alleviation policy on per capita disposable income was 0.7104, indicating that the precise poverty alleviation policy significantly raised the income level of farm household families and broadened their income channels, which in turn facilitated the implementation of the precise poverty alleviation policy.

5.2 Policy Recommendations

Based on the results of the study, this study puts forward the following policy recommendations:

First, continuously increase support and investment in the precision poverty alleviation policy to ensure the continuity and stability of the policy. This means that the government needs

to ensure sustained financial and resource investment in the precision poverty alleviation policy in the long term. Such sustained investment can ensure the effective implementation of the policy, as well as the continuous strengthening of the assistance provided to poor areas in the long term. The government can ensure a stable source of funds for poverty alleviation through the formulation of long-term poverty alleviation planning and budgetary arrangements, and take measures to monitor and evaluate the use of funds to ensure the effective utilization of resources.

Second, strengthening support for education and skills training in poverty-stricken areas, so as to enhance the human capital of members of farming households. This policy proposal focuses on improving the education and skill levels of members of farming households, thereby enhancing their employment competitiveness and entrepreneurial ability, and thus increasing household income. The government can improve the quality of rural education by increasing investment in educational resources in poor areas, including school construction, teacher training, and the distribution of teaching materials. At the same time, the government can also help members of farming families to acquire practical skills and enhance their employability by organizing various vocational training and skills upgrading programs.

Third, strengthening investment in rural infrastructure construction to improve the living conditions of rural residents. This policy proposal aims to optimize rural infrastructure, including roads, water conservancy, electricity and other aspects of construction, in order to improve the quality of life and production conditions of rural residents. The Government can provide rural residents with a better production and living environment by increasing investment in rural infrastructure construction, building more roads, improving irrigation systems, and popularizing electric power facilities, thereby increasing the sources of income for farming families.

Fourth, rural residents should be encouraged to participate actively in rural cooperative organizations and agricultural industrialization, so as to broaden the sources of income for farming families. The Government can support the construction and development of rural cooperative organizations by introducing policies to encourage rural households to participate in cooperative societies, farmers' professional cooperatives and other forms of organization, so as to improve the collective economic efficiency of farming households. At the same time, the Government can also promote the development of rural industrialization and support farming households in engaging in business activities such as agricultural product processing, agro-tourism and specialty industries, so as to provide more employment and entrepreneurial opportunities for farming households' families and to increase their family incomes.

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