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Study on the Relative Consumption Poverty Poverty Reduction Effect and Mechanism of Digital Inclusive Financial Development

-- Based on the Analysis of Mediating Effect

Wenyue Tao*

Anhui University of Finance and Economics, Bengbu, 233030, China

Abstract

This paper adopts China Household Tracking Survey (CFPS) panel data from 2012-2018 to analyze the relative consumption poverty poverty reduction effect of digital inclusive finance and its mechanism of action. It is found that (1) digital inclusive financial development can not only suppress the occurrence of relative consumption poverty, but also reduce the intensity of relative consumption poverty; (2) digital inclusive financial development can reduce relative consumption poverty mainly by relaxing liquidity constraints and facilitating payments, and there is a "U" shaped relationship between liquidity constraints and relative consumption poverty; (3) the relative consumption poverty of digital inclusive financial development has a "U" shaped relationship. (3) the relative consumption poverty reduction effect of digital financial inclusion development starts to be prominent after 2016, and the effect is stronger for middle and low consumption groups. Therefore, the development of digital inclusive finance should be vigorously promoted, and its inclusive orientation of providing services to middle and low consumption groups should be strengthened, while the regulation of residents' leverage should be emphasized, so as to effectively curb the occurrence of relative consumption poverty while reducing poverty intensity.

Keywords

Digital Inclusive Finance; Facilitating Payments; Liquidity Constraints; Intermediation Effects; Consumer Poverty.

1. Introduction

For a long time, due to the the level of economic and social development and the poverty eradication process, income has been the strategic focus of our anti-poverty efforts. However, while income-based poverty rates help us understand the extent of social inequality, what people are concerned about is not only their income but also their ability to maintain a good standard of living. After absolute poverty is completely eliminated by 2020, the direction of governance in China shifts from absolute poverty to relative poverty, and from income poverty to new types of poverty such as consumption poverty. For this reason, how to alleviate relative consumption poverty deserves in-depth discussion in both theoretical and practical circles. In this context, as an important part of financial development, the impact of digital inclusive finance on residents' consumption has received wide attention. On the one hand, digital inclusive finance effectively promotes the downward shift of the threshold of financial products and services, alleviates residents' liquidity constraints, and thus effectively increases their consumption. On the other hand, digital inclusive finance, with its convenient, fast, efficient and secure payment methods, provides residents with abundant shopping choices while significantly reducing transaction costs and time, effectively improving their needs. Therefore, it is of great theoretical and practical significance to study the role and impact mechanism of

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digital inclusive finance development on consumer poverty to promote residents' consumption, expand domestic demand, and eliminate the contradiction between people's growing need for a better life and unbalanced and insufficient development.

The marginal contributions of this paper are: (1) In terms of research perspective, this paper focuses on relative consumption poverty, and extends the existing measurement system of consumption poverty indicators by measuring the intensity of relative consumption poverty, which also enriches the current target framework of poverty reduction in China to a certain extent. (2) In terms of research methodology, based on the mediating effect test, we find that there is a "U" shaped relationship between liquidity constraints and relative consumption poverty, which is an effective complement to the commonly believed monotonic relationship. (3) The study provides longitudinal evidence on the poverty reduction effect of digital inclusive finance development in China through comparative analysis of various time cross-sections, and provides empirical reference for future governmental efforts to combat relative consumption poverty.

2. Mechanisms and Research Hypotheses

With the further development of Internet technology and the rapid spread of computers, smartphones and other terminals, digital inclusive finance has gradually opened up the "last mile" of financial services. The rapid development of inclusive finance relying on digital technology has made great progress compared with traditional finance in terms of both the breadth and depth of services, largely reducing the liquidity constraints of long-tail customers and thus promoting their consumption. First, the use of digital financial technology can overcome the dependence of traditional financial activities on physical outlets, which has stronger geographical penetration and cost advantages, largely eliminating the information asymmetry between financial institutions and consumers and lowering the threshold of financial services, thus stimulating the potential demand of residents of low and middle consumption groups and narrowing the expenditure gap between them and high consumption groups. Second, the impact of the development of digital inclusive finance on consumption is not only reflected in the direct increase of total consumption, but also can indirectly improve residents' consumption level through two mechanisms of narrowing the urban-rural income gap and promoting the development of the tertiary industry, thus narrowing the consumption gap among residents. To sum up, we propose hypothesis 1 in this paper.

Hypothesis 1. Digital financial inclusion development can effectively curb the occurrence of relative consumption poverty and reduce the intensity of relative consumption poverty.

Regarding the digital financial inclusion on consumption promotion mechanism, some scholars point out that the convenient payment brought by digital technology development is an important factor to promote consumption growth. First, compared with traditional payment methods, mobile payment has enriched the service model, expanded the breadth and compared with traditional payment methods, mobile payment has enriched the service model, expanded the breadth and depth of payment services, improved payment efficiency, and better met the payment needs of individuals, which plays a positive role in stimulating consumption. As early as the 1980s, Mccallum et al. (1987) pointed out that in the consumption process, holding money can shorten the transaction time and thus increase the corresponding leisure time, which has a significant effect on the household consumption experience and consumption utility. The emergence of mobile payment further frees people from the bondage of cash, reduces transaction costs and time costs while weakening the psychological pressure of consumers' purchases, effectively improving the efficiency of consumer payments and transfers and stimulating their consumption. Secondly, through the high connection with online shopping, the development of online payment and mobile payment also provides opportunities

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for digital inclusive finance to meet the financial service needs of towns, rural areas and less developed areas, enriching the shopping choices of residents in these areas and greatly exploring their consumption options. It has greatly explored their consumption potential, promoted consumption growth in these regions and the economy as a whole, narrowed the consumption gap between urban and rural areas and regions, and alleviated relative consumption poverty at the macro level. In summary, we propose Hypothesis 2 of this paper.

Hypothesis 2. There is a mediating effect of convenience payments on the relative consumption poverty reduction of digital inclusive finance.

The relaxation of liquidity constraints is another important factor for digital inclusive finance to promote residents' consumption. Financial constraints can prevent residents, especially the low and middle consumption groups, from consuming, while the development of digital inclusive finance can provide financial products and services to long-tail customers, reduce their financial constraints, and smooth their consumption across time. Although digital inclusive finance can meet the differentiated needs of different customer groups through the lowering of service thresholds and the innovation of financial products, alleviate their liquidity constraints, promote consumption, and thus reduce relative consumption poverty, a large number of studies have also pointed out that the relaxation of liquidity constraints does not have a linear trend on residents' consumption, and over indebtedness will have a crowding-out effect on current consumption, raise the difficulty of re-borrowing, and exacerbate Excessive indebtedness has a crowding-out effect on current consumption, making it more difficult to reborrow and increasing consumption poverty. In fact, consumers will set a target leverage ratio according to their own situation, and when the actual leverage ratio exceeds the target leverage ratio, rational consumers will choose to reduce their current consumption. On the one hand, the increased debt burden will force residents to cut spending and reduce cash flow to pay off debts, reducing future uncertainty and creating a crowding-out effect on consumption. On the other hand, a high leverage ratio will also reduce the possibility of residents to obtain further consumption credit and limit their consumption expenditure. In summary, we propose Hypothesis 3 in this paper.

Hypothesis 3. A moderate reduction in liquidity constraints can reduce relative consumption poverty to a certain extent, but excessive indebtedness may increase relative consumption poverty.

3. Empirical Design

3.1. Data Source

In this paper, data on consumption, household and individual characteristics are obtained from the 2012-8 China Household Tracking Survey (CFPS). consumption, household and individual The data on characteristics are obtained from the 2012-2018 China Household Tracking Survey (CFPS), which covers 25 provinces (autonomous regions and municipalities)1 and comprehensively and systematically collects information on household consumption, assets and liabilities, and income. Digital Inclusion The financial data come from the third provincial Digital Inclusive Finance Index released by the Digital Finance Research Center of Peking University. The index involves three dimensions: comprehensive index, breadth index and depth index, including 33 specific indicators such as mobile account coverage, micro and small credit, and personal payment, covering the provincial-level index from 2011 to 2018. In addition, the number of year-end cell phone subscribers in each province (district and city) from 2012-2018 is obtained from the Wind database, and the price index data is obtained from the China Statistical Yearbook from 2013-2019. Based on the need for empirical analysis, this paper matches the CFPS household database, individual database and the digital financial inclusion index for the same period, and while processing outliers and missing values, the data on income and consumption are reduced to finally obtain a valid sample of 53,638.

3.2. Measurement of Relative Consumption Poverty

Currently The measurement of relative consumption poverty in academia is usually based on a certain consumption level, such as average consumption or a certain percentage of median consumption, as the threshold value. This paper constructs relative consumption poverty as one of the dependent variables based on the criteria of relative income poverty in China proposed by Xingqing Ye et al. (2019) and Jiuwen Sun et al. (2019). Meanwhile, considering that relative consumption poverty can only discern whether residents are in relative poverty, but cannot reflect the degree of poverty, this paper also adopts the relative poverty intensity index proposed by Yitzhaki (1979) as the dependent variable. The specific measurement formula is as follows.

$$MED\,(x,x_i)=\frac{1}{n\mu_x}\sum\nolimits_{j=i+1}^{n}(x_j-x_j),x_j\geq x_i \tag{1}$$

In this paper, we use household per capita consumption as a proxy for consumption level. The relative poverty of the i household is denoted as $MED(x,x_i)$ when μ_x is the per capita consumption of all households, and the consumption levels are ranked from lowest to highest. The practical meaning of equation (1) is that the relative consumption poverty of a household is equal to the sum of the difference between the consumption of all households in the group that are higher than their own consumption and their own consumption than the total consumption of the group. From equation (1), it can be seen that a larger MED corresponds to a greater intensity of individual relative consumption poverty.

3.3. Variable Selection and Handling

Dependent variable. In this paper, relative consumption poverty and relative consumption poverty intensity are selected as dependent variables.

Independent variables. In this paper, the development of digital inclusive finance is selected as the independent variable and the third provincial digital inclusive finance composite index, breadth index and depth index released by the Digital Finance Research Center of Peking University are used to measure the development of digital inclusive finance. In addition, the composite index with a one-period lag is selected as the independent variable to explore the time-lag effect of digital inclusive finance development on consumer poverty.

Control variables. To prevent omitted variables from causing systematic bias to the estimation results, two types of variables, individual characteristics and household characteristics, are selected as control variables for consumption poverty in this paper. Among them, individual characteristics variables include respondents' health, education, gender, age and insurance participation status, and household characteristics variables include per capita income, child support ratio, elderly support ratio and commercial insurance expenditure. Meanwhile, in order to avoid the bias of the estimation results caused by excessive data fluctuation, the variables such as income and insurance are logarithmically treated in this paper.

3.4. Descriptive Statistics

The current situation of relative consumption poverty in each province (district and city) in 2012, 2014, 2016 and 2018. First, from an overall perspective, both poverty incidence and poverty intensity show a trend of fluctuation and increase, which indicates that the phenomenon of relative consumption poverty in China has not been significantly improved in recent years. Second, in terms of regional differences, both poverty incidence and poverty intensity show a trend of gradual increase from east to west. Considering that the relative

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consumption poverty standard adopted in this paper is determined based on the median income of each province (region and city), which has largely eliminated the influence of regional differences, the above results also reflect that the internal differences in consumption in central and western China are larger and the polarization is more serious. The above results also reflect that the internal differences in consumption in central and western China are large and polarization is more serious. Finally, in terms of subdimensions, the relative poverty incidence of each province (district and city) fluctuates between 0.1031 and 0.3012, i.e., about 10%-30% of households are in relative consumption poverty, which has a high incidence; the poverty index mainly fluctuates between 0.3519 and 0.5526, and considering that the measure proposed by Yitzhaki (1979) is similar to normalization treatment. The relative consumption poverty intensity is larger in each province (region and city). In summary, the situation of relative consumption poverty in China is not optimistic, and the spreading momentum has not been effectively curbed, which is a problem that needs to be given high priority in China's anti-poverty strategy.

Digital inclusive finance and relative consumption poverty index and relative consumption poverty scatter distribution and regression straight lines under China, EU and World Bank criteria. In terms of slope, all four regression lines are slanted to the lower right, which indicates that digital inclusive finance is negatively related to both the relative consumption This indicates that digital inclusive finance is negatively correlated with the relative consumption poverty index and the incidence of relative consumption poverty, i.e., digital inclusive finance can both suppress the occurrence of relative consumption poverty and reduce the intensity of relative consumption poverty. The reason for this is that digital inclusive finance, as an important product of financial development, can rely on its strong geographical penetration and cost advantages to significantly reduce the barriers to consumer finance for long-tail customers, effectively improve the needs of middle and low consumption groups, and reduce relative consumption poverty.

4. Analysis of Empirical Results

4.1. Model Setting

According to the purpose of the study, the following basic measurement equation is set.

$$POVERTY_i = \alpha_1 + \beta_1 INDEX + Cons + \varepsilon_1 \tag{2}$$

Where $POVERTY_i$ is the dependent variable relative consumption poverty, i=1,2, correspondi ng to IND and CON, respectively. INDEX is the digital inclusion financial development index, α_1 is the constant term, β_2 is the regression coefficient, Cons is the control variable, and ε_1 is the disturbance term.

4.2. Baseline Return

Since the empirical analysis uses panel data, this paper first uses Hausman test to determine the regression model, and the Hausman test results all significantly reject the original hypothesis at the 1% level, for which a fixed-effects model is used to conduct a benchmark regression on the impact of digital inclusive finance development on relative consumption poverty. Models (1) to (8) show the estimation results of the overall index, lagged one-period index, depth index, and breadth index on poverty intensity and poverty incidence, respectively. The results of models (1) to (4) show that the overall and lagged one-period indices are significantly and negatively correlated with poverty incidence and poverty intensity, with coefficients of -0.7923, -0.2812 and -0.7728, -0.2792, respectively. On the one hand, the development of digital inclusive finance will enhance the convenience of payment and thus promote consumption; on the other hand, the development of digital inclusive finance can reduce the incidence and intensity of relative consumption poverty by reducing liquidity constraints and increasing residents' consumption. Meanwhile, the regression results of the lagged one-period index show that there is a time lag effect on the effect of digital inclusive financial development on relative consumption poverty, which is due to the fact that digital inclusive financial development needs a certain amount of time to penetrate into the end consumers and cultivate consumers' usage habits through the initial investment, thus there is a lag in the alleviation of relative consumption poverty. Models (5) to (8) further show the estimation results of the depth index and breadth index on poverty intensity and poverty incidence, and the regression coefficients of both are -1.1535, -0.3878 and -1.0016, -0.3023, respectively. Both are significant. This indicates that compared to the depth The reason is that the development of digital inclusive finance in China is still in the era of crude "land grabbing", and the operators' strategic focus is still on customer acquisition, and product innovation lacks depth, so the marginal effect of depth index on relative consumption poverty is relatively small. The above results verify the validity of Hypothesis 1.

From the control variables of case, education can significantly suppress relative consumption poverty, the higher the education, the more familiar with the operation of the Internet, smartphones and other related platforms, and the more knowledgeable about related finance, the better they can use digital inclusive finance to facilitate payments and alleviate liquidity Constraint. Age is significantly and positively correlated with relative consumption poverty. Since China's rapid economic growth period was after the reform and opening up, the older the residents are, the more they are influenced by economic constraints and traditional culture, and the more they tend to be frugal and conservative in consumption. Pension insurance can significantly reduce The residents of China have a strong incentive to save preventively, and pension insurance can stabilize the family's future income expectation, especially after retirement, which has a substitution effect on personal savings and thus increases consumption. The child dependency ratio has a significant negative effect on the relative consumption poverty, while the elderly dependency ratio has a significant negative effect on the relative consumption poverty. The effect of the elderly dependency ratio on relative consumption poverty is not significant. Possible reasons for this are the strong consumption demand of children and the weak influence of the elderly on consumption due to declining consumption demand and bequest motive. Per capita income exerts a significant dampening effect on relative consumption poverty. This is consistent with the absolute income theory. Consumption depends to a large extent on current income and increases with income within a certain range.

4.3. Endogenous Discussion

Considering the digital possible bidirectional causality between financial inclusion and relative consumption poverty, and the fact that omitted variables can, to some extent, lead to endogeneity in the equation, which in turn causes bias in the regression coefficients. For this reason, this paper selects the number of cell phone subscribers in each province (region and city) as the instrumental variable and regresses the baseline equation using the 2SLS and Ivprobit methods, respectively, based on the study of Nan et al. (2020). On the one hand, cell phones are an important vehicle for the development of digital inclusive finance, and the scale of mobile communication represented by the number of its subscribers is closely related to the development level of digital inclusive finance; on the other hand, there is no direct correlation between the number of cell phone subscribers and residential consumption when controlling variables such as income are considered. On the other hand, when considering control variables such as income, there is no direct correlation between the number of mobile phone users and residents' consumption, nor can it affect their relative consumption poverty.

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From the regression results, the Wu-Hausman F-value and Wald chi2 (1) test both reject the hypothesis that "all explanatory variables are exogenous" at the 1% significance level. This indicates that the model is endogenous and it is necessary to use the instrumental variables method. Also, the instrumental variables t values are significant at the 1% level, which indicates the exogeneity of the instrumental variables. In addition, the one-stage F-values are all significant at the 1% level, indicating that the explanatory power of the number of cell phone subscribers on the development of digital inclusion finance is high and there is no weak instrumental variable. After adding instrumental variables, the regressions of each The regression coefficients of each index with relative consumption poverty are -0.7774, -0.4382, -0.6898 and -0.6423, respectively, and the regression coefficients of relative consumption poverty intensity are -0.7774, -0.4382, -0.6898 and -0.6423, respectively. The regression coefficients of -0.1474, -0.0873, -0.0787, and -0.1165 are significant at the 1% level, and the absolute values are smaller than the corresponding coefficients in the baseline regression. The absolute values are smaller than the corresponding coefficients in the baseline regression. The above results suggest that without the inclusion of instrumental variables, the regression results of digital inclusive finance development on the incidence and intensity of relative consumption poverty are significantly smaller than the corresponding coefficients in the baseline regression. The regression results on the incidence and intensity of relative consumption poverty are overestimated to some extent.

4.4. Mechanism Analysis

As mentioned earlier, the development of digital inclusive finance promotes residential consumption and suppresses relative consumption poverty through two mechanisms: facilitating payments and relaxing liquidity constraints. To this end, this paper draws on Zhonglin Wen et al. (2004) to conduct a mediating effects test and set up the following three equations.

$$POVERTY_m = \beta_0 + \beta_1 INDEX + \beta_2 Cons + \varepsilon \tag{3}$$

$$MEDIATOR_n = \sigma_0 + \sigma_1 INDEX + \beta_2 Cons + \varepsilon \tag{4}$$

$$POVERTY_m = \rho_0 + \rho_1 INDEX + \rho_2 MEDIATOR_n + \rho_3 Cons + \varepsilon \tag{5}$$

where POVERTYm is the dependent variable relative consumption poverty, m=1,2, corresponding to IND and CON, respectively, INDEX is the digital inclusive finance index, $MEDIATOR_n$ is the mediating variable, n=1,2, corresponding to PAY Internet business activity frequency and DEBT household debt, respectively, and Cons denotes the set of all control variables. MEDIATORn is the mediating variable, n=1,2, corresponding to PAY Internet business activity frequency and DEBT household debt, respectively, and Cons denotes the set of all control variables and ε is a random disturbance term.

First, this paper the reason for using the frequency of Internet business activities as a proxy to test the mediating effect of convenient payment is that Internet business activities are fully based on convenient payment methods such as online payment and mobile payment, and the two are highly correlated and synchronized. From model (2) and model (5), it can be seen that the promotion effect of digital inclusive financial development on the frequency of Internet business activities is significant at the level of 1%, which indicates that the higher the level of digital inclusive financial development, the higher the convenience of payment. Based on the continuous innovation of digital technology, digital inclusive financial development can Based on the continuous innovation of digital technology, digital inclusive financial development can save the time cost of residents' transactions to a great extent and promote the rapid development of mobile payment. Meanwhile, from models (3) and (6), both digital inclusive financial development and the frequency of Internet business activities have a negative impact on relative consumption poverty, which is significant at the 1% level, indicating that digital inclusive finance alleviates relative consumption poverty by enhancing residents' convenience of payment, i.e., the convenience of payment plays a mediating role in the impact of digital inclusive financial development on consumption poverty. Through the high linkage with online shopping, the convenience of online and mobile payments can effectively enhance the payment transfer efficiency of residents' consumption, which in turn promotes consumption and suppresses relative consumption poverty. The above results confirm the validity of Hypothesis 2.

Second, this paper draws on the study of Xingjian Yi et al. (2018) to test the mediating effect of liquidity constraints using household debt as a proxy, and the results are shown in Table 6. From the regression results of model (2) and model (6), it is clear that the development of digital inclusive finance has a significant contribution to household debt, i.e., the more digital inclusive the more developed the finance, the more likely the residents have access to credit. Digital inclusive financial development provides residents with borrowing services and alleviates their liquidity constraints by reducing the information asymmetry between borrowers and lenders and lowering the threshold and cost of financial services. From models (3) and (7), the regression coefficients of digital inclusive financial development and household debt are both negative and significant at the 1% or 5% level, respectively, indicating that digital inclusive financial development alleviates relative consumption poverty by relaxing residents' liquidity constraints, i.e., liquidity constraints play a mediating role in the effect of digital inclusive financial development on relative consumption poverty. Further regressions are conducted by introducing the quadratic term of household debt, and the results are shown in model (4) and model (8). From the results, the coefficients of the primary term of digital financial inclusion development and household debt are negative, while the coefficients of the secondary term of household debt are positive and significant, indicating that there is a "U" shaped relationship between the effect of household debt on relative consumption poverty. Before the debt threshold is reached, digital financial inclusion promotes consumption and reduces relative consumption poverty through the increase of household debt, while after the debt threshold is exceeded, it will have a strong constraint on household consumption expenditure and even increase relative consumption poverty. We calculate the critical values and derive a critical value of $27,329,000 for poverty incidence and $22,563,000 for poverty intensity. The above results verify the validity of Hypothesis 3.

4.5. Heterogeneity Analysis

First, the sample it was split year by year, and longitudinal comparisons were made on the relative consumption poverty poverty reduction effects of digital inclusive financial development in each year of 2012, 2014, 2016, and 2018, respectively. From the regression results, digital inclusive financial development has no significant effect on either poverty intensity or poverty incidence in 2012; digital inclusive financial development has a significant negative effect on poverty intensity in 2014, but not on poverty incidence; digital inclusive financial development has a significant negative effect on both poverty intensity and poverty incidence in 2016 and 2018, and the The coefficients are approximately the same. The above results indicate that the relative consumption poverty reduction effect of digital inclusive financial development tends to increase year by year in 2012, 2014, 2016 and 2018. In terms of the development of digital inclusive finance in China, the period of 2004-2012 was the initial stage, the period of 2013-2015 was the growth stage, and the period after 2016 was the solid stage. after 2016, mobile payment, online lending and other businesses became mature, and the relative consumption poverty poverty reduction effect of digital inclusive finance development began to After 2016, mobile payment and online lending matured, and the relative consumption

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poverty reduction effect of digital financial inclusion development began to emerge, so the poverty reduction effect was strongest in 2016 and 2018. In addition, considering that 2013 was the first year of digital inclusive finance development in China, the poverty reduction effect was stronger in 2014 than in 2012. The poverty reduction effect in 2014 is stronger than that in 2012.

Second, we divided the sample into three subsamples of low consumption, medium consumption and high consumption based on per capita consumption, and conducted a cross-sectional comparison of the relative consumption poverty reduction effects of digital inclusion financial development on different groups, respectively. From the regression results, the coefficients of digital inclusive financial development on poverty incidence and poverty intensity of the low consumption sample are -0.5839 and -0.1229, both significant at the 1% level; the coefficients of poverty intensity and poverty incidence of the medium consumption sample are -1.2249 and The coefficients of poverty intensity and poverty incidence for the medium consumption sample are -1.2249 and -0.1729, respectively, both significant at the 1% level; the coefficient of poverty intensity for the high consumption group is -0.0629, significant at the 1% level, but not significant for poverty incidence. This shows that the effect of digital inclusive finance on relative consumption poverty reduction is the highest for the middle consumption group, followed by the low consumption group, and the weakest for the high consumption group, probably because the middle and low consumption groups are more sensitive to changes in payment convenience and mobility constraints, and thus the development of digital inclusive finance improves the potential consumption demand of these two groups to a greater extent. The high consumption group is relatively mature in terms of reducing their own liquidity constraints and using convenient payment tools, so the development of digital inclusive finance will stimulate their potential consumption demand less. At the same time, since the middle consumption group is better than the low consumption group in terms of loan repayment ability and financial literacy, they can more effectively use digital inclusive finance to smooth their consumption and alleviate their relative consumption poverty.

5. Key Research Findings and Policy Implications

5.1. Research Findings

This paper is based on on CFPS2012-2018 panel data, we conduct a study on the relative consumption poverty poverty reduction effect and mechanism of action of digital inclusive financial development, and conclude the following:(1) The baseline analysis and instrumental variables regression find that digital inclusive finance can not only effectively reduce the occurrence of relative consumption poverty, but also can reduce the intensity of relative consumption poverty. The conclusion still holds under the consideration of endogeneity. (2) The results of the test of mediating effects indicate that digital inclusive finance alleviates relative consumption poverty through two types of mediating effects: relaxing liquidity constraints and facilitating payments. At the same time, the mediating effect of liquidity constraint is tested again by adding the household debt quadratic term, and the U-shaped relationship between liquidity constraint and poverty incidence and poverty intensity is found, and the critical values are $27,329,000 and $22,563,000 respectively. (3) The results of the longitudinal heterogeneity test indicate that the relative consumption poverty reduction effect of digital financial inclusion development starts to emerge after 2016, while the results of the cross-sectional heterogeneity test indicate that the relative consumption poverty reduction effect of digital financial inclusion development is stronger for the middle and low consumption groups.

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5.2. Policy Recommendations

Consumption represents the ability of residents to maintain a good standard of living and better reflects the degree of material welfare deprivation than income. As China's anti-poverty target shifts from absolute poverty to relative poverty and from income poverty to new types of poverty, the governance of relative consumption poverty is increasingly important. In view of this, the insights of this paper are.

Vigorously promote the development of digital inclusive finance. Increase investment in digital technology, mobile finance and other infrastructure construction. At the same time, guide financial institutions to gradually enhance the innovation capacity of digital inclusive financial tools and diversify digital inclusive financial characteristic services to further enhance the breadth and depth of digital inclusive financial development, effectively enhance the needs of consumer groups, and reduce the incidence and intensity of residents' relative consumption poverty.

Reinforce the inclusive orientation of digital inclusive financial development. In the process of alleviating consumption poverty, it is not only necessary to further optimize the scale and structure of digital inclusive financial development, but also to promote digital technology to push the threshold of financial services down continuously, strengthen its inclusive orientation, effectively improve the consumption needs of low- and middle-income groups, and curb the polarization effect while alleviating relative consumption poverty.

Strengthen the regulation of household debt leverage. In the process of promoting the inclusive development of digital inclusive finance, strengthen the screening mechanism of financial institutions on customers' repayment ability to prevent residents' excessive indebtedness from backfiring on future consumption, or even falling into the vicious circle of usury and lending to support lending. To avoid risks to the financial system and even social stability caused by excessive borrowing by the residential sector.

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