

The Boosting Effect of Digital Finance on Rural Residents' Consumption Based on Empirical Data From the 2017 China Household Finance Survey

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Abstract. Based on data from the 2017 China Household Finance Survey and the Peking University Digital Inclusive Finance Index, this paper empirically examines the impact of the development of digital finance on rural residents' consumption. It is found that the development of digital finance has significantly raised the consumption level of rural residents and optimized the consumption structure to a certain extent. But it did not realize the leap from the survival consumption to the development and enjoyment consumption in the real sense. Therefore, policy suggestions such as promoting the construction of rural digital inclusive financial infrastructure are proposed in this paper.

Keywords: Digital Finance; Resident consumption; Optimization of Consumption Structure.

1. Introduction

Under the new normal of economy, insufficient consumption by residents is severely restricting the switching of the domestic economic structure. In order to achieve steady economic growth, it has become an inevitable choice to build a development pattern with a domestic cycle as the main body and a dual domestic and international cycle. In this context, China's economic growth mode should gradually shift to a consumption-led economic growth model, in which weak rural consumption has become the first problem to be solved. However, rural residents usually face a certain degree of financial exclusion, resulting in lower incomes and a relatively backward rural consumer market. As an important carrier of digital financial inclusion, digital finance has effectively improved the availability and convenience of financial services in rural areas. At the same time, digital finance is conducive to alleviating the financial exclusion of the "long tail group", providing important support for rural residents to increase their income, thereby improving consumption levels. However, if has the development of digital finance improved the consumption level of farmer households? If has digital finance upgraded the consumption structure of farmer households? These issues deserve us to analyze in-depth.

2. Theoretical Analysis and Research Hypotheses

2.1 The impact of digital finance on the consumption level of rural residents

Firstly, with the help of digital technology, digital finance makes payment methods more convenient. Third-party payment platforms have enabled Internet consumption to gain strong payment support by Alipay and WeChat Pay. With the popularity of the Internet and smartphones, rural residents can also enjoy financial services such as digital payment, which in turn stimulates their potential spending power. Secondly, the development of digital finance has extended financial services to relatively remote and poor social groups, alleviating the financial exclusion faced by farmers to a certain extent. The threshold and cost of financial services have been lowered, and the consumption potential originally restricted by liquidity constraints has been released, thereby improving the consumption level of rural residents.

Hypothesis I is proposed: the development of digital finance can significantly improve the consumption level of rural residents.

2.2 The impact of digital finance on the consumption structure of rural residents

The promotion effect of digital finance on consumption is also reflected in the improvement of the microstructure of various consumer expenditures. Existing research has pointed out that the development of digital finance increases the "wealth effect" of consumers, reduces "precautionary savings", stimulates the transformation of household consumption from "quantity" to "quality", and optimizes the consumption structure. Digital finance has changed the payment service model, innovated consumer goods and services, development-oriented and enjoyment-oriented consumer goods, such as online education and training, which provide convenient payment for residents. It has promoted the optimization of residents' consumption structure. At the same time, digital finance breaks the geographical and class restrictions of financial services, thereby narrowing the income gap between urban and rural areas, as well as optimizing the consumption structure of rural residents [1].

Hypothesis II is proposed: the development of digital finance can promote the optimization of the consumption structure of rural residents.

3. Empirical Analysis

3.1 Data Sources

The data in this paper comes from the 2017 China Household Finance Survey Database (CHFS). In the selection of samples, the samples whose residence is in rural areas are reserved. The samples with low quality on the basis of the questionnaire and some important indicators with outliers and missing values were excluded. At the same time, samples with household heads of 18 years old and above were retained in the consideration of the employment of the household head. Finally, a valid sample size of 5,639 households was obtained, covering 29 provinces (cities and districts) across the country.

3.2 Variable selection

3.2.1 Explained variables

Based on the total household consumption as explained variable, the consumption structure is further divided into subsistence-oriented consumption, development-oriented consumption and enjoyment-oriented consumption according to different consumption levels. As the current rural areas are in the stage of development-oriented consumption, the proportion of enjoyment-oriented consumption is relatively low, and the quota is relatively small. Therefore, grouping development-oriented and enjoyment-oriented consumption are classified into one category [2]. At the same time, in order to overcome the non-linear problem between variables, the logarithm of each consumption expenditure is processed.

3.2.2 Explanatory variables

The "Digital Financial Inclusion Index" of Peking University is considered as explanatory variables. Since this paper examines the consumption situation of rural residents in 2017, the digital financial variables use one lag period (the data in 2016) to avoid the endogeneity problem of related variables and take the logarithm in the empirical process.

3.2.3 Control variables

In view of existing research, control variables were selected from three aspects: individual characteristics, family characteristics and regional characteristics [3,4]. Age, education level, health status, income, owner-occupied housing, and provincial GDP per capita were finally determined as control variables.

3.3 Research methods

This paper uses ‘OLS model’ for regression analysis, as follows:

$$Y_{ij} = \alpha_0 + \alpha X_j + \varepsilon_j i = (1, 2, 3)$$

Y_1 , Y_2 and Y_3 represent total household consumption, survival-oriented consumption, development-oriented and enjoyment-oriented consumption respectively. X_j represents different explanatory variables and ε_j is a random error term.

3.4 3.4 Result analysis

Table 1 shows the empirical analysis results. To avoid the problem of underestimation of the standard deviation of regression coefficients caused by heteroscedasticity, analysis used robust standard errors for regression. Based on the results, the digital financial index has a significant positive impact on the total consumption of farmers, which is in line with expectations. It is confirmed that the development of digital finance has improved the consumption level of farmers. From the aspect of control variables, age and health status have a significant negative impact on consumption expenditure, while educational level, income and housing have a significant positive impact on consumption expenditure. There is a possible explanation that their consumption demand declines with age, while people with poorer health generally have some savings and the less consumption expenditures for emergencies. People who have higher the education level, higher the income level, and the farmers who have the housing, have less worries with the certain consumption demand and consumption strength.

Judging from the impact of digital finance on different types of consumption, the digital financial index has a significant positive impact on development-oriented and enjoyment-oriented consumption. The development of digital finance has upgraded the consumption structure of farmers to a certain extent. Meanwhile, there is a more significant positive impact on survival-oriented consumption. It shows that the current consumption concept of most farmers is more traditional, and it is still focused on survival-oriented consumption. At the same time, it also reflects that the development of digital finance has not achieved the leap of farmers from survival-oriented consumption to development-oriented and enjoyment-oriented consumption. As for the control variables, age and health status have significant negative effects on development and enjoyment consumption, while educational level, income and self-owned housing have significant positive effects. The reason is that when they are in old age, their consumption demand is basically based on food and clothing. In addition, poor health will increase household uncertainties, and income capacity will also decline. All of factors have inhibited consumption upgrades. The current consumption decision of residents depends on the permanent income obtained by the individual. Farmers with high educational level, high income and housing usually have stronger economic strength and lower precautionary savings. In this situation, it is easier to achieve consumption upgrades.

Table 1. Empirical analysis of the impact of digital finance on the consumption of rural residents

Variable	Total consumption	Subsistence-oriented consumption	Development and enjoyment-oriented consumption
Digital Financial Index	0.860*** (0.256)	0.958*** (0.256)	0.814* (0.447)
Age	-0.016** (0.001)	-0.013** (0.001)	-0.026** (0.002)
Education level	0.050*** (0.011)	0.048*** (0.011)	0.088*** (0.020)
Health status	-0.017* (0.010)	0.037*** (0.010)	-0.142** (0.017)
Income	0.172*** (0.010)	0.166*** (0.009)	0.218*** (0.016)
Housing	0.211*** (0.047)	0.157*** (0.044)	0.542*** (0.127)
GDP per capita	0.008 (0.055)	0.034 (0.054)	0.034 (0.095)
cons	4.188***	1.571***	12.380***
N	5639	5639	5639

Note: *, **, *** indicate significant at the 10%, 5% and 1% levels, respectively

4. Conclusions and Policy Recommendations

4.1 Conclusions

This paper uses the ‘OLS regression model’ to explore the impact of digital finance on the consumption of rural residents and draws the following conclusions: (1) On the whole, the development of digital finance has played a significant role in promoting the consumption level of rural residents. (2) Digital finance has upgraded the consumption structure of rural residents to a certain extent, but the impact on the consumption level and structure has little difference, and it has not achieved the leap from survival-oriented consumption to development-oriented and enjoyment-oriented consumption in a real sense. (3) From the perspective of control variables, farmers with higher education levels, higher annual family income, and self-owned housing are more likely to upgrade their consumption structure in the context of digital finance.

4.2 Policy Recommendations

According to the above conclusions, the following policy suggestions are put forward: (1) Promote the construction of rural digital-financial-inclusion infrastructure. The implementation of modern digital finance relies on network infrastructure, so it is necessary to pay attention to the construction of internet infrastructure to expand the comprehensive coverage of digital finance. (2) Raise the income level of farmers. The level of consumption is essentially determined by disposable income. Only by effectively improving the income-raising ability of rural residents can we fundamentally promote the upgrading of consumption. (3) Guide farmers to change their consumption concept and advocate new consumption patterns. Influenced by traditional concepts, rural residents have outdated consumption concepts. Only by effectively changing the consumption concept of rural residents can digital finance play a better role in stimulating consumption and expanding domestic demand.

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