



Empirical Analysis of Digital Inclusive Finance on Tibet Residents' Consumption

Laizhi Han^{1*}, Jinzhi Lei²

¹School of Economics and Management, Tibet University, Lhasa, Xizang Autonomous Region

²School of Finance and Economics, Tibet University, Lhasa, Xizang Autonomous Region

*874080722@qq.com, 1807409439@qq.com

Abstract. This paper investigates the impact of digital inclusive finance on the consumption of Tibet residents by selecting panel data from seven prefecture-level cities under Tibet from 2012 to 2022. Research findings that: (1) Digital inclusive finance has a significant positive impact on the consumption of Tibet residents; (2) Digital inclusive finance can enhance residents' consumption by increasing their income.

Keywords: Tibet; digital inclusive finance; resident consumption

1 Introduction

The 2023 "Overall layout planning for digital China" proposes: "Popularizing the Intelligence of Digital Life, Building a New Digital Consumption Mode of Smart Convenience." The development of digital inclusive finance has reduced loan restrictions in the traditional financial industry and expanded the loan population. With the growth of digital platforms, online payment and online shopping have been promoted, not only providing convenience for residents' consumption but also meeting their consumption demands, further unleashing the consumption potential of Tibet residents. The "14th Five-Year Plan for National Economic and Social Development and Vision 2035 of the Tibet" clearly states: "Enhance the foundational role of consumption in economic development, adapt to the trend of consumption upgrading, upgrade traditional consumption, cultivate new consumption, and encourage the development of new consumption models and formats to expand urban and rural consumption markets." This shows that stimulating residents' consumption potential and improving consumption quality have become key to promoting high-quality economic development in Tibet.

Current academic research on this topic primarily focuses on three key dimensions. First, regarding the application areas of digital inclusive finance, the emphasis lies in rural revitalization and urban economic resilience. In rural revitalization, digital inclusive finance empowers the sector by optimizing financial supply, enhancing savings-to-investment conversion efficiency, and improving capital productivity[1], Harnessed the enabling role of digital inclusive finance in rural revitalization[2]; In urban economic resilience, it effectively identifies and controls risks through resource integration

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and data analysis, thereby optimizing resource allocation efficiency[3] and upgrading financial services for emerging industries. This also improves information exchange and capital matching services, ultimately strengthening urban economic resilience[4]. Second, concerning factors influencing residents' consumption, the focus centers on the digital economy and market structure. The digital economy not only diversifies consumption options and services, driving consumption upgrades[5], but also significantly alters employment patterns and skill requirements, creating more job opportunities and increasing residents' incomes[6]. Meanwhile, optimized market structures foster a more mature labor market, where rising incomes boost consumer spending capacity[7] and provide higher-quality goods/services to meet purchasing demands[8]. Third, regarding digital inclusive finance's impact on residents' consumption, it enhances the accessibility of financial products and services[9], facilitates online shopping[10]. On the basis of summarizing current research, we have identified the direct and indirect effects of digital inclusive finance on the consumption of Tibet residents. We propose targeted recommendations to provide valuable references for promoting the high-quality development of Tibet's economy.

2 Theoretical Analysis and Research Hypotheses

2.1 Analysis of Direct Effects

Compared with traditional offline payment methods, the development of digital inclusive finance has improved the consumption lifestyle of Tibet residents. First, online payments via internet platforms enable cross-temporal and spatial consumption, allowing residents to choose and purchase a variety of goods from home without leaving their houses, providing convenience for their daily consumption. Second, online shopping platforms can access users' purchase data and feedback, facilitating the selection of products for consumers. Based on this, Research Hypothesis 1 is proposed.

Research Hypothesis 1: Digital inclusive finance is conducive to promoting the consumption of Tibet residents.

2.2 Analysis of Indirect Effects

The advancement of digital inclusive finance has introduced a wealth of financial programs and value-added products, satisfying residents' financial investment needs while elevating their income levels. As residents' income levels rise, it stimulates anticipated consumption, increasing diverse spending demands such as leisure, entertainment and shopping. This generates more job opportunities, forming a virtuous cycle of "income-consumption-employment" that promotes the efficient development of regional consumer economies. Based on this, Research Hypothesis 2 is proposed.

Research Hypothesis 2: Digital inclusive finance increases the income of Tibet residents and promotes their consumption.

3 Research Design

3.1 Model and Variable Selection

This section utilizes panel data from seven cities under the jurisdiction of the Tibet Autonomous Region between 2012 and 2022 as the research subject. By constructing a panel fixed-effects model, fixed individual effects and time effects, it empirically analyzes the impact of digital inclusive finance on Tibet residents' consumption. Data sources include the Tibet Statistical Yearbook and the Peking University Center for Digital Inclusive Finance Research. Notably, to mitigate the influence of extreme values on regression results, all continuous variables underwent 5% trimmed tailing.

3.1.1 Dependent Variable.

Residents' consumption level (Inconsume) is measured by the total retail sales of consumer goods (in billions of yuan), and is log-transformed.

3.1.2 Independent Variable.

Digital Inclusive Finance (index) adopts the Digital Inclusive Finance Index from Peking University's Digital Inclusive Finance Research Center as the core explanatory variable, referencing Guo Feng et al. (2020) [11]. To reduce discrepancies between data coefficients, the digital inclusive finance index was normalized by dividing by 100.

3.1.3 Control Variables.

(a) Government Investment (Ingov): Measured by the logarithm of general public fiscal expenditure. (b) Industrial Structure (third): Measured by the share of tertiary industry output in regional GDP. (c) Educational Attainment (Inedu): Measured by the logarithm of the number of secondary school graduates enrolled in the region. (d) Wage Level (Inmoney): Measured by the logarithm of the average wage level of regional employees. (e) Industrial Development (Inind): Measured by the logarithm of the total assets of industrial enterprises.

3.1.4 Intermediary Variable.

Resident Income (Inincome): measured by the logarithm of the per capita disposable income of urban residents (in yuan).

4 Empirical Analysis

4.1 Benchmark Regression

The impact of digital inclusive finance on consumer spending among Tibet residents is examined, with regression results presented in Table 1: Digital inclusive finance is found to enhance Tibet residents' consumption, thereby validating Research Hypothesis 1.

Table 1. Benchmark Regression

Variable	(1)	(2)
	lnconsume	lnconsume
index	0.163* (0.080)	0.124** (0.042)
Constrols	No	Yes
City	Yes	Yes
Year	Yes	Yes
Observations	77	77

(The values in parentheses represent the cluster-wise robust standard errors at the city level; the same applies below)

4.2 Endogeneity Test

To eliminate endogeneity arising from the potential bidirectional causal relationship between digital inclusive finance and Residents' consumption, which could bias estimation results, the average index of digital inclusive finance development in neighboring counties from 2014 to 2022 (country) was selected as an instrumental variable based on data availability. The endogeneity test results are shown in Table 2: The endogeneity test was passed.

Table 2. Endogeneity Tests

Variable	(1)	(2)
	index	lnconsume
country	0.004** (0.002)	
index		0.311* (0.154)
Controls	Yes	Yes
City	Yes	Yes
Year	Yes	Yes
Observations	63	63

4.3 Intermediary Variable Test

The intermediary verification results are shown in Table 3. Digital inclusive finance boosts Tibet residents' consumption by increasing residents' income, thereby validating Research Hypothesis 2.

Table 3. Intermediary variable Test

Variable	(1) lnconsume	(2) lnincome	(3) lnconsume
lnincome			1.487* (0.718)
index	0.124** (0.042)	0.032* (0.015)	0.075 (0.049)
Controls	Yes	Yes	Yes
City	Yes	Yes	Yes
Year	Yes	Yes	Yes
Observations	77	77	77

5 Research Conclusions and Policy Recommendations

5.1 Research Conclusions

First, digital inclusive finance has a significant positive impact on the consumption of Tibet residents, and this conclusion withstands endogeneity tests. Second, digital inclusive finance increases the income of Tibet residents and promotes their consumption.

5.2 Policy Recommendations

First, strengthen policy support to solidify the infrastructure for digital finance, further leveraging the role of digital inclusive finance in boosting consumption among Tibet's residents. Second, optimize the environment for financial credit and payment systems to meet residents' financial service needs, enhance their consumption environment, and drive the development of the consumption economy. Third, advance the dissemination of knowledge about digital inclusive finance to elevate residents' financial literacy.

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