Frontiers in Economics and Management Volume 6 Issue 10, 2025
ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

Analysis of the Impact of Digital Inclusive Finance on the Consumption Gap between Urban and Rural Residents

Danjie Zhao*

School of Economics and Management, Nanjing University of Science and Technology, Nanjing, China

*Corresponding author: 1574693222@qq.com

Abstract

Rural revitalization is a key aspect of China's work. To decrease the disparity between urban and rural areas, to raise the peasants' income and consume level is in accordance with the present developing tendency of our country, and is conducive to social peace and stability and economic stability. As an emerging product of the Internet era, digital inclusive finance is beneficial for rural residents to access convenient financial services, stimulate their consumption potential, and effectively narrow the urban-rural consumption gap. In this thesis, we make a empirical study on the influence of digital inclusive financial on the urban-rural consumer difference by means of the Fixed-Effect Panel Model of Jiangsu Province. And it is concluded that digital inclusive finance can significantly reduce the urban-rural consumption gap. This conclusion is still valid after the robustness test of replacing the explained variable. Next, an analysis of the impact path was conducted, using the payment, credit, and insurance businesses in digital inclusive finance to replace the digital inclusive finance index for regression. The conclusion was drawn that digital inclusive finance reduces the consumption gap between urban and rural areas by promoting payment convenience, easy access to credit, and insurance protection. It was found that payment has the greatest impact on narrowing the urban-rural consumption gap and plays the largest role in the three transmission paths. Finally, a heterogeneity analysis was conducted between regions, dividing 13 prefecture level cities in Jiangsu Province into southern, central, and northern regions. Then, a group regression analysis was conducted. Moreover, we have discovered that the effect of DFI on the urban-rural consumer disparity is not homogeneous in geography, specifically reflected in its greater impact on underdeveloped regions than on developed regions. Finally, based on the above research conclusions, corresponding policy recommendations are proposed.

Keywords

Digital Financial Inclusion; Urban-Rural Consumption Gap; Fixed Effects Panel Model; Liquidity Constraints.

1. Introduction

The 20th National Congress of the Communist Party of China highlighted that China's economic strength has achieved historic leaps since the reform and opening-up. Despite challenges like the pandemic in 2022, the country maintained a compound GDP growth rate of 4.5%, ranking among the world's highest globally. This economic boom has brought improved living standards and better quality of life for citizens. However, emerging issues reveal structural imbalances: the dual economic structure continues to drive urban-rural disparities, with income and consumption gaps widening significantly. In 2011, urban per capita consumption stood at 15,161 yuan while rural residents spent 5,221 yuan. By 2024, urban consumption is

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

projected to reach 30,307 yuan, with the rural-urban average at 15,916 yuan, reducing the urban-rural consumption ratio from 2.9 to 1.9. Although narrowing, the gap remains substantial. Uneven development leads to unequal income distribution, and excessive urban-rural income and consumption gaps could spark social tensions, hindering high-quality economic growth [1] and impeding China's great rejuvenation. Meanwhile, the 14th Five-Year Plan emphasizes expanding domestic demand and unleashing market potential, particularly through rural consumption. Emerging technologies like internet and big data are reshaping consumption patterns and scenarios in China's countryside. In this way, the consumption potential of rural residents can be released, so as to narrow the urban-rural consumption gap, which is conducive to promoting the healthy, high-speed and sustainable development of China's economy, as well as the rational allocation of resources, including Internet resources, and is more conducive to social harmony and stability and the reduction of social contradictions.

While finance provides essential financial support and risk diversification for consumption, traditional financial markets face systemic challenges. Issues such as cumbersome procedures, stringent eligibility requirements, and limited service outlets exclude small and medium-sized enterprises (SMEs) and low-income groups-particularly rural residents-from accessing financial services, thereby neglecting their genuine demand for financial solutions. This structural gap has exacerbated urban-rural disparities, constrained rural consumption levels, and left untapped the latent consumption potential within these communities [2]. Implementing more flexible financial policies could effectively unlock this dormant demand [3].

When promoting the "International Year of Microcredit 2005", the United Nations first introduced the concept of "inclusive finance". At the Third Plenary Session of the 18th CPC Central Committee in China, we proposed specific guidelines and development goals for the advancement of inclusive finance. Currently, the realization of inclusive finance in China cannot be achieved without emerging digital finance, which serves as a continuous driving force for its development. The primary purpose during this process is to strengthen services for resource-limited groups such as rural residents. By leveraging modern technology, we aim to expand the coverage of financial services, reduce service costs, and improve service quality, thereby enabling mutual benefits for both clients and financial institutions. This approach ultimately unleashes consumption potential and narrows the consumption gap between urban and rural areas.

2. Literature Review

To date, the literature on digital inclusive finance and household consumption research has mainly manifested in two forms. Some studies examine the relationship between digital inclusive finance and household consumption. Lan Leqin and Yang Zhuoran [4] utilized panel data from provinces across China between 2013 and 2020 to conclude that digital inclusive finance can boost household consumption levels, with this promoting effect being most pronounced in western regions and exhibiting a dual threshold effect. Yi Xingjian and Zhou Li [5] employed data from the China Household Panel Survey (CFPS) to demonstrate, from a micro-level household perspective, that developing digital inclusive finance can effectively enhance public consumption levels. This driving effect is more evident in rural and central-western regions, as well as among low-and middle-income households in disadvantaged populations. Meanwhile, digital inclusive finance shows no significant inhibitory effect on expenditures of households with high debt-to-income ratios. Jiang Hongli and Jiang Pengcheng [6] applied a Generalized Method of Moments (GMM) model, using provincial panel data from 2011 to 2017, to empirically analyze the stimulating effects of digital inclusive finance on household consumption. Their findings indicate that both the depth and breadth of digital inclusive finance exhibit particularly significant impacts. Zou Xinyue and Wang Wang [7] conducted empirical

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

analysis using spatial econometric models, arriving at conclusions consistent with those of Jiang Hongli et al.

Another body of literature explores how digital inclusive finance influences household consumption in China, including its impact on consumption composition and the methods through which it is realized. In studies examining the effects of digital inclusive finance on residents 'consumption patterns, Huang Kainan and Hao Xiangru [8] pointed out that digital inclusive finance suppresses basic living consumption among residents but promotes entertainment-oriented consumption. Yan Jianjun and Feng Junyi [9] noted that digital inclusive finance stimulates entertainment-oriented consumption by facilitating the optimization and upgrading of the tertiary industry. This influence optimizes residents' consumption structure, contributing to a reduction in the Engel coefficient. Wen Zhanjie and Liu Juntong [10], based on empirical research on how developing digital inclusive finance enhances China's residents' consumption structure, proposed that digital inclusive finance can improve financial accessibility, encourage increased spending on health and wellness, and promote a more diversified consumption structure. Regarding studies investigating the impact of digital inclusive finance on consumption pathways, scholars hold diverse perspectives. Zhang Tongjin and Cai Kuanning [11], using provincial panel data from 2011 to 2019 in China, employed a fixed-effects panel model to outline the fundamental mechanism of digital inclusive finance: expanding credit loan coverage alleviates financial pressure on rural residents, thereby boosting farmers' consumption-the most significant effect arising from this pathway. Zhang Xun [12] and others found in their research that digital inclusive finance stimulates consumption by reducing the time required for people to purchase goods, and this reduction in time is also reflected in the convenience of payment. Yi Xingjian and Zhou Li [5] reached similar conclusions: digital inclusive finance promotes household consumption due to more convenient and faster payments, as well as reduced liquidity constraints. He Zongyue and Song Xuguang [13] used data from the China Household Panel Survey (CFPS) to demonstrate from a micro-level perspective of households that the mechanism primarily enhances consumption by lowering residents' working capital demands. Luo Juan and Li Baozhen [14] utilized county-level data to show that digital inclusive finance has a certain improvement effect on income disparities between urban and rural residents, thereby reducing consumption differences. Xu Yadong and Zhang Yingliang [15] also argue that income disparities between urban and rural areas significantly influence consumption differences between these regions.

Existing literature has conducted in-depth discussions on issues such as the connection between digital inclusive finance and household consumption, laying a solid theoretical foundation for this paper. However, most of these studies focus on residents 'consumption levels and structure, with limited research on urban-rural consumption disparities, which hinders the study of issues related to uneven urban-rural development and income distribution imbalance. Additionally, there are few studies exploring how digital inclusive finance affects consumption differences between urban and rural areas, yet they predominantly use China's provincial panel data, overlooking regional variations. Results derived from provincial panel data may not hold universal applicability across China, and the proposed policy recommendations might lack generalizability. Therefore, this study employs panel data from 13 prefecture-level cities in Jiangsu Province-a relatively economically developed region where urban areas have experienced rapid development under policy guidance, while rural areas lag behind with more pronounced disparities between urban and rural areas, which facilitates the research. Based on these circumstances, this paper empirically examines the impact of digital inclusive finance on urban-rural consumption gaps using municipal-level panel data from Jiangsu Province. It further investigates its mechanisms, concludes relevant findings, and proposes targeted recommendations for Jiangsu's development to promote healthy economic growth and social harmony and stability.

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

3. Theoretical Analysis and Research Hypotheses

We define household consumption as the economic activity where individuals purchase various goods to meet their own or others 'needs, including basic survival and enjoyment requirements. However, under the long-term influence of a dual economic structure, China's urban-rural consumption levels remain significantly divergent-a situation detrimental to social harmony and stable economic development. Traditional consumption theory attributes this disparity primarily to income differences between urban and rural areas [15]. Yet evolving research reveals additional influencing factors: government policies, external economic conditions, and market dynamics. From a policy perspective, targeted support for rural communities can boost residents' marginal propensity to consume, thereby narrowing the urban-rural consumption gap [16]. Regarding external economic factors, improved macroeconomic environments enable rural areas to attract favorable production resources, optimize industrial structures, and leverage consumption demonstration effects to influence rural spending patterns [17], ultimately enhancing consumption capacity and further reducing disparities. In terms of market environment, traditional financial systems create uneven distribution of financial resources between urban and rural areas, with higher access barriers to financial services in rural regions [18], which exacerbates consumption gaps.

The primary function of finance is to provide financial support, optimize the consumption environment, and boost income for target groups. This process guides consumers to adopt new spending habits, builds confidence in managing future risks, and increases current consumption levels [19]. However, traditional financial markets excluded small and medium-sized enterprises (SMEs) and low-income populations like rural residents, making it difficult for them to access financial services and increase consumption [20]. The advent of digital inclusive finance has lowered entry barriers in the financial sector, enabling services to reach underserved groups and reduce consumption disparities between urban and rural areas [14].

Therefore, hypothesis 1 is proposed: the consumption gap between urban and rural areas can be alleviated by digital inclusive finance.

Digital financial inclusion reduces the consumption gap between urban and rural areas, which is mainly manifested as:

First, digital inclusive finance not only provides convenient and efficient payment services but also enhances convenience for residents in both urban and rural areas, thereby increasing their consumption preferences [12]. The emergence and rapid development of the internet have sparked a wave of transformation in consumer behavior. The rise of e-commerce platforms like JD.com, Taobao, and Pinduoduo has created new consumption scenarios for citizens. Remote rural residents can now shop online with just a few clicks on their screens, receiving desired items directly to their doorsteps. This significantly alleviates transportation challenges and limited product choices caused by geographical remoteness, unlocking consumption opportunities and unleashing potential. Meanwhile, digital payments have demonstrated positive effects in boosting consumption. Traditional cash payments carry multiple inconveniences: high risks of loss from carrying large amounts, potential counterfeit bills causing trust issues, and inhibition of spending behavior. Digital payments effectively address these problems. Firstly, they offer faster transaction speeds without the time-consuming process of counting cash. Secondly, they prevent insufficient cash reserves for purchases and greatly reduce the risk of loss. Lastly, they completely eliminate the need to verify authenticity, eliminating counterfeit risks altogether. These optimizations in payment methods and speed effectively stimulate rural residents' consumption willingness, unleashing greater potential that ultimately reflects in gradually narrowing consumption disparities between urban and rural areas.

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

Secondly, digital inclusive finance lowers credit barriers for rural residents, reducing monetary constraints on their consumption. In China's traditional financial market, widespread financial exclusion persisted for decades, imposing severe liquidity constraints on rural households. Compared to consumers with minimal restrictions, those facing tighter liquidity constraints had significantly lower consumption capacity [21]. The emergence of digital inclusive finance has transformed this landscape by making credit access more convenient and accessible. Without cumbersome verification procedures or physical branches, services like Alipay Huabei, JD Baitiao, and Jiebei have enabled rural residents to obtain loans swiftly. Their "consume now, repay later" model with interest-free terms resonates better with rural communities, alleviating geographical mobility constraints while boosting consumption capacity and narrowing the urban-rural consumption gap. Furthermore, big data analytics from financial institutions providing these services can collect crucial information about rural residents' loan preferences and repayment capabilities, effectively reducing information asymmetry risks and costs – a win-win scenario that promotes the development of financial institutions.

Thirdly, digital inclusive finance enables rural residents to access easily accessible insurance services, thereby reducing precautionary savings while simultaneously boosting consumption. The precautionary savings theory posits that when consumers lack assurance of future income, they tend to increase precautionary savings as a safeguard against uncertain risks, which consequently decreases consumption expenditure [22]. Digital inclusive finance streamlines the previously cumbersome insurance processes, allowing big data to precisely deliver relevant insurance information to residents in need. Rural residents can obtain financial insurance services with minimal time investment, featuring transparent and secure mechanisms that are readily accepted by them. This significantly reduces future uncertainties for rural communities, decreases precautionary savings, unleashes their consumption potential, and effectively narrows the consumption gap between urban and rural populations.

Therefore, hypothesis 2 is proposed: Digital inclusive finance can narrow the consumption gap between urban and rural areas by promoting payment convenience, easy access to credit and insurance protection.

Digital inclusive finance integrates traditional financial inclusion with digital technologies. Generally, regions with stronger economic development possess more technological resources, while those with weaker economies have fewer. This creates greater marginal utility for rural residents in underdeveloped areas who face limited access to financial services. Moreover, developed regions with higher urbanization rates have smaller proportions of rural populations, leaving less developed areas with greater potential for improvement. The consumption disparity caused by digital inclusive finance has significantly impacted both economically backward cities and rural areas.

Therefore, hypothesis 3 is proposed: the impact of digital inclusive finance on urban and rural consumption differences shows heterogeneity in regional, which is reflected in that the impact on underdeveloped areas is greater than that on developed areas.

This paper will analyze and study the above three hypotheses.

4. Variable Selection, Data Sources and Model Setting

4.1. Variable Selection

4.1.1. Explained Variable

Urban-rural consumption gap (GAP), refers to the difference in consumption ability and consumption level between urban residents and rural residents. According to literature, there are many ways to measure the urban-rural consumption gap. Here, we draw on the

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

measurement method of Cheng Mingwang and Zhang Jiaping [23], and use the following formula to calculate:

$$GAP_{i,t} = \frac{Expu_{i,t}}{Exp_{i,t}} \times \ln \frac{Expu_{i,t} / Popu_{i,t}}{Exp_{i,t} / Pop_{i,t}} + \frac{Expr_{i,t}}{Exp_{i,t}} \times \ln \frac{Expr_{i,t} / Popr_{i,t}}{Exp_{i,t} / Pop_{i,t}}$$

In the formula, $Exp_{i,t}$ represents the total consumption expenditure of Jiangsu Province's i cities in t. The calculation method involves multiplying the corresponding urban population by the per capita urban consumption expenditure. $Expr_{i,t}$ indicates the rural consumption expenditure of Jiangsu Province's cities in t, calculated by multiplying the corresponding rural population by the per capita rural consumption expenditure. $Pop_{i,t}$ represents the total population of Jiangsu Province's cities in t, while $Popu_{i,t}$ and $Popr_{i,t}$ denote the urban and rural population counts respectively.

In the model robustness test of the empirical part, the above measured index GAP is replaced by the per capita consumption of urban residents compared with that of rural residents ($GAP1$), so as to verify the reliability of the benchmark regression.

4.1.2. Core Explanatory Variables

The Digital Inclusive Finance Index (DFI), jointly collected, compiled, and calculated by China's Peking University and Ant Group, includes the following dimensions: coverage breadth, usage depth, and digitalization level. The usage depth dimension comprises six business indicators: payment, credit, insurance, money market funds, digital, and investment. Higher values in these indices indicate more developed digital inclusive finance and higher operational maturity of related businesses. To prevent issues such as heteroskedasticity and improve data stability, logarithmic transformation was applied to these indices before regression analysis. Subsequent analyses will also utilize sub-indices from payment, credit, and insurance sectors for further investigation.

4.1.3. Control Variable

Following the approach of predecessors such as Yi Xingjian and Zhou Li [5], we selected government fiscal policy (FIN) as one of the control variables. The calculation method is based on the ratio of local general public budget expenditure to the corresponding GDP from the previous period. Government policies and financial support for rural areas can help increase rural residents' marginal propensity to consume, enabling them to develop consumption capacity and boost their confidence in spending. This approach ultimately helps narrow the consumption gap between urban and rural areas.

The industrial structure (IS) is measured by the ratio of value added in the tertiary industry to the total. Improved external economic conditions can help rural areas attract favorable production factors, optimize industrial structures, and leverage the exemplary role of consumption to positively influence rural residents' spending behaviors. This enhances their consumption capabilities and further narrows the urban-rural consumption gap.

Urbanization level (UL) is measured by the ratio of urban population to total population. This metric reflects regional development status: higher UFL indicates fewer rural residents and faster economic growth. Such urbanization drives rural economic progress, enhances rural households' consumption capacity, and ultimately narrows the urban-rural consumption gap.

The urban-rural income gap ($URIG$) is measured by the ratio of urban residents 'per capita disposable income to rural residents' per capita disposable income. Income levels significantly influence consumption capacity [24]. Scholars such as Shen Huicui and Zhu Yangyang [25]

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

argue that income serves as the prerequisite for consumption. If the urban-rural income gap narrows, it indicates relative increases in rural residents' income, which would correspondingly enhance their consumption capacity and reduce the urban-rural consumption disparity.

4.2. Data Source

This study focuses on thirteen cities in Jiangsu Province, utilizing panel data spanning 2011 to 2024. As a region with relatively developed economy, Jiangsu has seen rapid urban development driven by policy support, while rural areas lag behind in growth, creating a significant urban-rural disparity that facilitates the research framework. The province also demonstrates robust digital finance development, featuring a well-established digital inclusive financial service network that enhances rural residents 'access to financial services. Moreover, Jiangsu's internal economic landscape features pronounced regional disparities-southern Jiangsu (developed) contrasts with northern Jiangsu (relatively underdeveloped)-which provides valuable opportunities for analyzing geographical heterogeneity. Leveraging Jiangsu's comprehensive data, this study investigates how digital inclusive finance influences consumption differences between urban and rural areas, ultimately proposing targeted policy recommendations tailored to the province's specific conditions.

The digital inclusive finance index uses the data released by Peking University, covering the period from 2011 to 2024. The remaining data are collected from the statistical yearbook of Jiangsu Province and the sections of people's livelihood, population and finance in the statistical yearbook of each city, and the required economic indicators are selected.

4.3. Model Setting

4.3.1. Panel Model

$$GAP_{i,t} = \alpha_0 + \alpha_1 DFI_{i,t} + \beta X_{i,t} + \eta_i + \upsilon_{i,t} \quad (1)$$

In the aforementioned model, $GAP_{i,t}$ is the dependent variable, representing the consumption gap between urban and rural residents in the t year i city. $DFI_{i,t}$ is the core explanatory variable, referring to the digital inclusive finance index in the t year i city. $X_{i,t}$ refers to the aforementioned control variables, including the government fiscal policy $FIN_{i,t}$ in the t year i city, the industrial structure $IS_{i,t}$ in the t year i city, the urbanization level $UL_{i,t}$ in the t year i city, and the urban-rural income gap $URIG_{i,t}$ in the t year i city, η_i which are used to control for individual fixed effects. $\upsilon_{i,t}$ is the independent and identically distributed classical error term, and α_0、α_1、β is the parameter to be estimated. Using this constructed model, we conduct an empirical study on the consumption differences between urban and rural households in China under digital inclusive finance.

To explore how digital inclusive finance influences urban-rural consumption disparities, we test Hypothesis 2: Digital inclusive finance narrows the consumption gap between urban and rural areas through three dimensions-payment convenience, credit accessibility, and insurance coverage. By replacing the digital inclusive finance index in the original model with its sub-indices, we developed the following updated model:

$$GAP_{i,t} = \alpha_0 + \alpha_1 DFI_{x,i,t} + \beta X_{i,t} + \eta_i + \upsilon_{i,t} \quad (2)$$

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Following the methodology of Professor Zhang Xun et al. [12], we selected the "Payment Services" ($DFI_{1,i,t}$) component from the classification index to measure digital inclusive finance's impact on payments, the "Credit Services" ($DFI_{2,i,t}$)component for assessing its influence on credit, and the "Insurance Services" ($DFI_{3,i,t}$)component to evaluate its effect on insurance.

4.3.2. Regional Heterogeneity Analysis

Given the significant disparities in economic scale and digital finance development among Jiangsu's prefecture-level cities, the impact of digital finance on consumption gaps between urban and rural residents may vary substantially across regions. Based on Jiangsu's geographical location and economic development, the province is divided into three groups: Southern Jiangsu (Nanjing, Suzhou, Wuxi, Changzhou), Central Jiangsu (Nantong, Yangzhou, Zhenjiang), and Northern Jiangsu (Taizhou, Xuzhou, Yancheng, Suqian, Huai 'an, Lianyungang). Using Model (1), we conduct regression analysis for each group to compare the magnitude of consumption gaps between urban and rural areas in regions with different development statuses, thereby assessing the extent of digital finance's influence on consumption disparities.

5. An Empirical Study on the Impact of Digital Inclusive Finance on the Consumption Gap between Urban and Rural Residents

All empirical results in this paper are obtained by Stata17.0 software.

5.1. Descriptive Statistical Analysis

Table 1. Variable basic descriptive statistics

Variable name	Logo	Sample size	Mean	Median	S.D	Min	Max
The gap between urban and rural consumption	GAP	182	0.030	0.027	0.0143	0.00773	0.0743
Digital financial inclusion	DFI	182	5.202	5.337	0.458	3.919	5.749
Government fiscal policy	FIN	182	0.124	0.112	0.0308	0.0851	0.200
Industrial structure	IS	182	0.462	0.459	0.0507	0.376	0.630
Urbanization level	UL	182	0.665	0.652	0.0851	0.498	0.868
Urban-rural income gap	URIG	182	1.991	1.984	0.167	1.645	2.457

As shown in Table 1, there are 182 valid samples between 2011 and 2024. The urban-rural consumption gap recorded a maximum value of 0.0743 and a minimum of 0.00773 during this period, with a standard deviation of 0.0143. This indicates relatively low dispersion, suggesting moderate fluctuations in the urban-rural consumption gap over the years. While regional disparities exist, the significant gap between the highest and lowest values highlights notable differences among prefecture-level cities in Jiangsu Province. After logarithmic transformation, the digital inclusive finance index data showed relative stability, with growth rates varying across Jiangsu's prefecture-level cities during different phases. Control variables reveal notable variations in government fiscal policy standard deviations and their corresponding fluctuations, indicating that differing fiscal policies implemented by local governments at various stages have contributed to variations in budget expenditures.

5.2. Correlation Analysis

Before regression, correlation analysis was carried out on all research variables to investigate the relationship of each variable and test the multicollinearity in the model. The results are shown in Table 2.

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The correlation coefficient matrix shows that half of the explanatory variables are significantly correlated. From the perspective of research experience, when the correlation coefficient between variables exceeds 0.7, multicollinearity may occur. However, most of the correlation coefficients of explanatory variables are less than 0.7, which can be verified through the independence test of explanatory variables.

Table 2. Correlation matrix of explanatory variables

	lnDFI	FIN	IS	URIG	UL
lnDFI	1				
FIN	-0.167*	1			
IS	0.671***	-0.362***	1		
URIG	-0.175**	-0.232***	0.286***	1	
UL	0.519***	-0.503***	0.657***	0.0820	1

Note: *, ** and *** represent the significance level of 10%,5% and 1% respectively.

In order to study the multicollinearity between variables more accurately, the variance expansion factor VIF of each variable can be observed, and the results are shown in Table 5.3.

Table 3. explanatory variable VIF

Variable	VIF	1/VIF
lnDFI	2.51	0.398
FIN	1.410	0.711
IS	1.950	0.514
URIG	1.170	0.856
UL	2.150	0.465
Mean VIF	1.670	

As can be seen from the VIF value in Table 3, in the benchmark regression, the VIF value of explanatory variables is far less than 10, which indicates that there is no multicollinearity of explanatory variables and the regression analysis can be carried out.

5.3. Unit Root Test

Since the panel data in this paper has a time series spanning 14 years, to avoid spurious regression, we use unit root test. The test results are shown in Table 4. From the test results, the p-values are all smaller than 0.05, which can reject the null hypothesis: the existence of unit root. Therefore, it can be concluded that the data is stationary.

Table 4. Rooted test p values

Variable	Test p values
lnDFI	0.0000
FIN	0.0003
IS	0.0000
URIG	0.0000
UL	0.0000

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5.4. Regression analysis

Table 5. Results of benchmark regression

Explanatory variable	M(1)	M(2)	M(3)	M(4)
	GAP	GAP	GAP	GAP
lnDFI	-0.019***	-0.017***	-0.016***	-0.009***
	(0.002)	(0.003)	(0.003)	(0.003)
FIN	0.146***	0.129***	0.127***	0.152***
	(0.028)	(0.030)	(0.033)	(0.029)
IS		-0.041*	-0.039*	-0.121***
		(0.024)	(0.026)	(0.027)
UL			-0.002	-0.008*
			(0.015)	(0.013)
URIG				0.033***
				(0.006)
constant term	0.112***	0.118***	0.119***	0.043**
	(0.011)	(0.012)	(0.012)	(0.017)
Sample size	182.000	182.000	182.000	182.000
F	76.61	52.76	39.27	46.37
Sig.F	0.0000	0.0000	0.0000	0.0000
r2	0.547	0.557	0.557	0.652
r2_a	0.540	0.546	0.543	0.637

Note: 1) The significance level represented by *, ** and *** is 10%,5% and 1% respectively.
2) The value in parentheses is the standard error.

Given the varying consumption levels between urban and rural residents in prefecture-level cities across different periods, regression analyses were conducted using both Random Effects (RE) and Fixed Effects (FE) models. The Hausman test results rejected the null hypothesis. The F-test indicated that the fixed effects model outperformed the pooled effects model. Therefore, the fixed effects model was adopted as the benchmark regression framework. Controlling variables mentioned earlier were sequentially introduced into this benchmark model, with regression results presented in Table 5.

The benchmark regression analysis in Table 5.5 shows that increasing the number of control variables improves the model's R^2, indicating appropriate expansion of control variables. Across different control variable combinations, the Digital Financial Inclusion Index (DFI) consistently demonstrates no positive effect on urban-rural consumption disparity at the 1% significance level, suggesting that developing digital financial inclusion could reduce this gap. When all control variables are included, the regression coefficient for DFI stands at-0.009, meaning a 1% increase in DFI reduces the urban-rural consumption gap by 0.009 per capita, strongly supporting Hypothesis 1. This aligns with existing research showing traditional financial markets exclude small and micro enterprises and low-income groups like rural residents from accessing convenient financial services. However, Jiangsu Province's promotion of digital financial inclusion has significantly lowered market entry barriers, enabling better service delivery to long-tail groups and stimulating farmers' consumption potential, thereby narrowing the urban-rural consumption disparity. Among control variables, government fiscal policy (FIN) positively affects urban-rural consumption disparity, as its implementation widens this gap. The regression coefficient for FIN is 0.152, passed at the 1% significance level, indicating a 0.152 increase in consumption disparity per 1% rise in government fiscal policy.

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This likely occurs because urban areas concentrate most fiscal expenditures, exacerbating the urban-rural consumption gap. The industrial structure (IS) exerts a negative influence on the consumption gap between urban and rural residents, meaning that as industrial development progresses, the disparity in consumption between these regions will gradually narrow. The regression coefficient for industrial structure stands at-0.121, which passes the significance test at the 1% level. This indicates that for every 1% increase in industrial structure, the consumption gap between urban and rural residents decreases by 0.121. This phenomenon may stem from industrial upgrading enabling rural residents to participate in tertiary industries, thereby freeing them from primary industry constraints. Consequently, both consumption desire and purchasing power improve, reducing the urban-rural consumption gap. Urbanization level (UL) negatively impacts this disparity, meaning urbanization reduces consumption differences between urban and rural residents. The regression coefficient for urbanization stands at-0.008, passing the significance test at the 10% level. This suggests that for every 1% increase in urbanization, the consumption gap narrows by 0.008. This effect likely arises because urbanization's spillover effects extend to surrounding rural areas, stimulating development and diversifying consumption patterns among rural residents, which consequently lowers the consumption level gap between urban and rural regions. Meanwhile, the urban-rural income gap (URIG) positively influences consumption disparities between cities and countryside, indicating that income differences between urban and rural areas directly lead to consumption disparities. The regression coefficient of the income gap between urban and rural residents is 0.033, which passes the test at the significance level of 1%. This means that every increase of 1 in the income gap between urban and rural residents will expand the consumption gap by 0.033, because income is the premise of consumption, and the income level greatly affects the consumption power.

5.5. Robustness Test

Table 6. The regression results of the robustness test of replacing the explanatory variable index

Explanatory variable	M(1)	M(2)	M(3)	M(4)
	GAP1	GAP1	GAP1	GAP1
lnDFI	-0.234***	-0.334***	-0.340***	-0.206***
	(0.032)	(0.041)	(0.042)	(0.042)
FIN	0.486	1.093**	1.268**	1.728***
	(0.480)	(0.488)	(0.533)	(0.465)
IS		1.430***	1.293***	-0.190
		(0.394)	(0.428)	(0.432)
UL			0.197	-0.390*
			(0.239)	(0.209)
URIG				0.592***
				(0.089)
Constant term	2.902***	2.684***	2.630***	1.252***
	(0.188)	(0.189)	(0.200)	(0.271)
N	182.000	182.000	182.000	182.000
F	28.83	25.44	19.20	29.41
Sig.F	0.0000	0.0000	0.0000	0.0000
r2	0.312	0.377	0.381	0.542
r2_a	0.301	0.362	0.361	0.524

Note: 1) The significance level represented by *, ** and *** is 10%,5% and 1% respectively.

2) The value in parentheses is the standard error.

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

In order to test the robustness of the benchmark regression results, we replaced the dependent variable by replacing the index of urban-rural consumption gap between Cheng Mingwang and Zhang Jia's balance quantity with the ratio of urban residents' per capita consumption to rural residents' per capita consumption (denoted as GAP1). Then, we conducted a new regression analysis using model (1), and the regression results are shown in Table 6.

Regression analysis in Table 6 shows that after substituting the dependent variable, the estimated results remain consistent with the benchmark regression. The coefficient of the Digital Financial Inclusion Index remains significantly negative at the 1% level, indicating that digital financial inclusion plays a positive role in narrowing the consumption gap between urban and rural areas. This robust result demonstrates that digital financial inclusion effectively reduces the consumption disparity between urban and rural regions.

5.6. Impact Pathway Analysis

Based on the analysis above, we can conclude that digital inclusive finance plays a role in narrowing the urban-rural consumption gap. As mentioned in the theoretical analysis earlier, digital inclusive finance enhances payment convenience, lowers credit access barriers for rural residents, and provides accessible insurance services, thereby reducing the consumption disparity between urban and rural areas. The following regression analysis examines the impacts of payment ($\ln PAY$), credit ($\ln CRE$), and insurance ($\ln INS$) on the urban-rural consumption gap through three pathways. The regression results are presented in Table 7 below.

Table 7. Conduction mechanism test results

	M(1)	M(1)	M(1)
	GAP	GAP	GAP
lnPAY	-0.0104***		
	(0.003)		
lnCRE		-0.0099***	
		(0.004)	
lnINS			-0.004**
			(0.002)
FIN	0.155***	0.159***	0.145***
	(0.029)	(0.030)	(0.030)
IS	-0.113***	-0.138***	-0.151***
	(0.027)	(0.026)	(0.025)
UL	0.008*	0.006	0.006
	(0.013)	(0.013)	(0.013)
URIG	0.032***	0.035***	0.038***
	(0.006)	(0.006)	(0.005)
Constant term	0.047***	0.051**	0.023
	(0.017)	(0.021)	(0.016)
N	182.000	182.000	182.000
F	47.88	44.13	43.02
Sig.F	0.0000	0.0000	0.0000
r2	0.659	0.640	0.634
r2_a	0.645	0.626	0.620

Note: 1) The significance level represented by *, ** and *** is 10%,5% and 1% respectively.

2) The value in parentheses is the standard error.

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

As shown in the table above, the regression coefficients for payment, credit, and insurance are all negative, indicating that all three pathways have passed the test. This confirms Hypothesis 2: Digital inclusive finance narrows the urban-rural consumption gap by enhancing payment accessibility, improving credit availability, and strengthening insurance coverage. Comparing the absolute values of these coefficients reveals that payment has the largest absolute value, demonstrating its most significant impact in narrowing the urban-rural consumption gap and playing the most crucial role among the three pathways.

5.7. Regional Heterogeneity Analysis

The economic scale and development levels of prefecture-level cities within Jiangsu Province vary significantly. Geographically, the province is divided into three regions: Southern Jiangsu, Central Jiangsu, and Northern Jiangsu, with their economic development progressing from Southern Jiangsu (the most prosperous) to Northern Jiangsu (relatively underdeveloped). This geographical disparity has created a developmental gap in digital economy and financial sectors. Consequently, the impact of digital inclusive finance on urban-rural consumption differences exhibits distinct regional characteristics. To analyze this, we conducted regression analysis using a fixed-effects panel model across these regions, with the results presented in Table 8.

Table 8. Results of regional heterogeneous grouped regression

	(1)	(2)	(3)
	GAP	GAP	GAP
lnDFI	-0.003**	-0.006	-0.009*
	(0.003)	(0.007)	(0.009)
FIN	-0.005	0.042*	-0.021
	(0.075)	(0.192)	(0.105)
IS	-0.015*	-0.078	-0.352***
	(0.049)	(0.129)	(0.120)
UL	-0.026***	-0.058**	-0.006
	(0.009)	(0.022)	(0.042)
URIG	0.057**	0.089	-0.020
	(0.023)	(0.062)	(0.049)
Constant term	-0.052	-0.108	0.280**
	(0.064)	(0.163)	(0.122)
N	70.000	42.000	70.000
F	30.71	11.57	22.48
Sig.F	0.0000	0.0000	0.0000
r2	0.793	0.725	0.738
r2_a	0.747	0.637	0.678

Note: 1) The significance level represented by *, ** and *** is 10%,5% and 1% respectively.
2) The value in parentheses is the standard error.

In Table 8, the regression results for southern Jiangsu (Region 1), central Jiangsu (Region 2), and northern Jiangsu (Region 3) are presented respectively. Analyzing the direct correlation between digital inclusive finance and urban-rural consumption disparities through regression coefficients reveals distinct regional patterns: In southern Jiangsu, a 1% increase in digital inclusive finance reduces urban-rural consumption disparity by 0.003. In central Jiangsu, this reduction stands at 0.006 per 1% increase, while northern Jiangsu shows the most significant effect with a 0.009 decrease per 1% growth. This pattern aligns with Hypothesis III: Digital inclusive finance demonstrates heterogeneous impacts across regions, showing stronger

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

effects in underdeveloped areas compared to developed regions. Historically, financial resources were predominantly concentrated in developed regions, leaving underdeveloped areas vulnerable to financial exclusion. The scope and depth of financial services remained inadequate. Building on this foundation, the integration of traditional financial operations with modern digital technologies-particularly leveraging big data-to drive widespread adoption of financial services has effectively addressed the shortcomings of conventional systems. Consequently, digital finance now provides rural residents in economically underdeveloped regions with more accessible and efficient financial solutions. This advancement significantly enhances the marginal utility of digital finance for rural populations in these areas, thereby boosting their consumption capacity and narrowing the urban-rural consumption gap more markedly.

6. Conclusion and Policy Recommendations

The 20th National Congress of the Communist Party of China emphasized the comprehensive advancement of rural revitalization, highlighting the critical importance of rural development. Efforts should focus on narrowing the urban-rural gap and boosting rural consumption, which will contribute to China's healthy economic growth and social harmony. The integration of emerging technologies like internet and big data with finance has created numerous new possibilities. Digital inclusive finance, with its lower entry barriers, demonstrates unparalleled accessibility and inclusivity compared to traditional financial services. Moreover, it plays a positive role in stimulating consumer spending. Against this backdrop, this study uses Jiangsu Province as a case study, employing panel data from various cities across Jiangsu from 2011 to 2024 to empirically analyze the impact of digital inclusive finance on urban-rural consumption disparities. Through examining the pathways through which digital inclusive finance affects consumption differences between cities and rural areas, the research yields two key conclusions: First, the consumption gap between urban and rural areas can be alleviated through digital inclusive finance, a finding supported by robustness tests. Second, the financial inclusion mechanism-enhancing payment convenience, improving credit accessibility, and strengthening insurance coverage-naturally narrows the urban-rural consumption gap, with payment convenience showing the most significant impact. Finally, regional heterogeneity analysis reveals that digital inclusive finance's effects on consumption disparities vary across regions, particularly demonstrating stronger impacts in less developed areas of Jiangsu compared to developed ones. Based on these findings, the study proposes the following policy recommendations.

First, actively promote the development of digital inclusive finance. Research findings indicate that digital inclusive finance can contribute to narrowing the urban-rural consumption gap. Governments should establish appropriate legal and policy frameworks to facilitate technological advancements in finance, encourage fintech companies to enhance innovation, explore new financial service models, and promote the establishment of a robust digital inclusive finance system. This will empower both traditional financial institutions and online financial platforms to deeply engage in digital inclusive finance, providing rural residents with diversified, innovative, and highly tailored digital financial products. Such measures aim to alleviate liquidity constraints for rural populations, boost consumption levels, drive the growth of digital inclusive finance services, meet rural residents' needs, improve their quality of life, unleash consumption potential, and ultimately achieve the goal of bridging the urban-rural consumption gap.

Second, advancing technological development through innovations like the Internet of Things (IoT) and big data empowers digital finance with robust technological foundations. Digital inclusive finance demonstrates distinct advantages over traditional models, primarily driven

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

by rapid advancements in digital technologies. By leveraging big data analytics, mobile communication systems, and cloud computing capabilities, this financial model reduces service costs, enhances service quality, effectively manages risks, and diversifies product offerings – representing a successful integration of inclusive finance with emerging technologies. Vigorous technological innovation drives the creation of novel financial products and services, expanding the scope and depth of digital inclusive finance systems. Research indicates that payment convenience plays a crucial role in narrowing urban-rural consumption disparities. Through continuous optimization of payment processes using big data and cloud computing technologies, we can continually improve payment efficiency, speed, and security.

Third, we must strengthen the regulatory framework for digital inclusive finance to ensure its stable and healthy development. As a relatively emerging sector, digital finance remains underdeveloped with regulatory gaps and incomplete legal frameworks, creating significant hidden risks. Regulatory authorities should therefore enhance oversight by standardizing big data collection processes, improving transparency in information disclosure, and continuously innovating supervisory mechanisms based on practical needs. These measures will protect stakeholders' rights, achieve comprehensive regulatory coverage, and ultimately foster sustainable growth in digital inclusive finance.

Fourth, promote coordinated development of digital inclusive finance between economically advanced and underdeveloped regions. Analysis of regional heterogeneity reveals that in Jiangsu Province, digital inclusive finance plays a greater role in narrowing the urban-rural consumption gap in less developed areas than in more economically advanced regions, indicating greater marginal utility in underdeveloped regions. Therefore, prioritizing the development of digital inclusive finance in these areas is crucial. The Jiangsu government should facilitate inter-regional financial information exchange, break down barriers to financial development across southern, central, and northern Jiangsu, and channel technological resources, services, and capital from southern Jiangsu to underdeveloped northern regions. This will enable the economic advantages of southern Jiangsu to radiate to central and northern areas. Additionally, governments should establish tailored digital inclusive finance policies based on regional characteristics, fully leverage local strengths, reduce disparities in financial development across regions, and ultimately narrow the consumption gap between urban and rural areas.

Fifth, we should promote the theories and practical experiences of digital inclusive finance to enhance rural households' acceptance of this financial model. Governments can utilize diverse media channels-including brochures, TV programs, radio broadcasts, and online platforms-to educate rural residents about the benefits of digital inclusive finance and accessible financial services. This approach will help farmers better understand and embrace new digital financial solutions, reducing their initial resistance to emerging technologies. Rural residents now enjoy nearly identical financial services as urban counterparts, with more convenient payments, faster loan processing, and insurance products offering stronger protection. These improvements help narrow the urban-rural consumption gap and foster coordinated regional development.

References

[1] Ye Lu, Wang Jimin. Multi-dimensional Urban-Rural Disparities and China's Inclusive Economic Growth [J]. Journal of South China Agricultural University (Social Sciences Edition), 2021,20(02): 66-79.

[2] Levchenko,A.A., Financial liberalization and consumption volatility in developing countries[J]. IMF Economic Review, Vol.52,No.2,2005.

[3] Beaton K. Credit constraints and consumer spending[R].Bank of Canada Working Paper,2009.

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

[4] Lan Leqin and Yang Zhuoran. Can Digital Inclusive Finance Enhance Residents' Consumption Levels? [J]. Journal of Financial Issues Research, 2021(12):49-57.

[5] Yi Xingjian, Zhou Li. Does the development of digital inclusive finance significantly affect household consumption: Microeconomic evidence from Chinese households [J]. Financial Research, 2018(11):47-67.

[6] Jiang Hongli and Jiang Pengcheng. Research on the Impact of Consumption Level Improvement and Structural Optimization in Digital Inclusive Finance [J]. Journal of Modern Finance (Tianjin University of Finance and Economics), 2024,40(10):18-32.

[7] Zou Xinyue & Wang Wang. "Research on the Impact of Digital Inclusive Finance on Household Consumption: An Empirical Analysis Based on Spatial Econometric Models" [J]. Journal of Financial Economics, 2025,35(4):133–145.

[8] Huang Kainan, Hao Xiangru. Does Digital Finance Promote Consumer Upgrading? [J]. Shandong Social Sciences, 2021(01):117-125.

[9] Yan Jianjun & Feng Junyi. The Impact of Digital Inclusive Finance on Consumer Product Upgrading [J]. Consumption Economy, 2021,37(02):79-88.

[10] Wen Zhanjie, Liu Juntong, Zhu Jianqi. "Research on the Impact of Digital Inclusive Finance Development on Upgrading Residents' Consumption Structure" [J]. Journal of Financial Theory Exploration, 2023(05):55-64.

[11] Zhang Tongjin, Cai Kuaning. Has digital inclusive finance narrowed the consumption gap between urban and rural residents? -- An empirical test based on China's provincial panel data [J]. Economic Issues, 2022(09):31-39.

[12] Zhang Xun, Yang Tong, Wang Chen, et al. Digital Finance Development and Household Consumption Growth: Theory and China Practice [J]. Management World, 2020,36(11):48-63.

[13] He Zongyue and Song Xuguang. How the Development of Digital Finance Influences Household Consumption [J]. Finance & Trade Economics, 2020,41(08):65-79.

[14] Luo Juan and Li Baozhen. A Study on the Impact of Digital Inclusive Finance on Consumption Inequality in China-- Evidence from the China Household Finance Survey and County-Level Data [J]. Consumption Economics, 2024,37(04):75-83.

[15] Xu Yadong and Zhang Yingliang. The Impact of Urban-Rural Income Disparity on Rural Consumption: "Inhibitory Effect" or "Demonstration Effect"? [J]. Rural Economy, 2021(08):18-28.

[16] Chang Wentao. Effectiveness of Public Finance Expenditure on Basic Services in Alleviating Consumption Disparities Between Urban and Rural Residents [J]. Learning & Exploration, 2025(03):103–110.

[17] Wang Jian and Zhao Kai. "Research on the Impact of Urbanization and Aging on the Consumption Gap Between Urban and Rural Residents: A Theoretical Model and Empirical Analysis" -- Journal of Yunnan University of Finance and Economics, 2020,36(08):38-54.

[18] Wang Xiaofang, Credit Environment, Financial Efficiency and Rural Economic Growth [J]. Finance and Economics Research, 2021(12):105-111.

[19] Dai Xu and Dong Yawen. Empirical Analysis of the Impact of Rural Financial Development on Rural Residents' Consumption [J]. Taxation and Economy, 2019(02):29-36.

[20] Deaton.,A., Understanding Consumption[J]. Oxford,UK:Clarendon Press,1992.

[21] Campbell, J. Y. and N. G. Mankiw, 1991."The Response of Consumption to Income: A Cross -Country Investigation,"European Economic Review,35(4) ,pp. 723 ~767.

[22] CABALLERO R J. Earnings uncertainty and aggregate wealth accumulation[J].The American Economic Review,1991,81(4):859-871.

[23] Cheng Mingwang and Zhang Jiaping. Internet Development and the Consumption Gap Between Urban and Rural Residents in the New Era [J]. Journal of Quantitative & Technical Economics, 2019,36(7):22-41.

[24] Nachiket M, Bindu A. Inclusive Financial Systems: Some Design Principles and a Case Study[J].Economic and Political Weekly,2007,42(13):1121-1126.

ISSN: 2692-7608 DOI: 10.6981/FEM.202510_6(10).0006

[25] Shen Huicui, Zhu Yangyang, and Huang Dayong. The Impact of Digital Inclusive Finance on the Consumption Gap Between Urban and Rural Residents-- Based on Panel Data Analysis in Western Regions [J]. Xinjiang Agricultural Reclamation Economy, 2022(08):33-44.