Study on the Impact of Digital Inclusive Finance on Residents' Cultural Consumption: Evidence From China

Qishui Chi[1] & Jiehui Chen[1]

[1] School of Business, Shantou University, Shantou, Guangdong, China

Correspondence: Qishui Chi, School of Business, Shantou University, 515063 Shantou, Guangdong, China. Tel: 86-158-1526-2450. E-mail: qschi@stu.edu.cn

Received: December 1, 2024 Accepted: December 21, 2024 Online Published: December 31, 2024

doi:10.5430/rwe.v15n1p25 URL: https://doi.org/10.5430/rwe.v15n1p25

Abstract

This article establishes a fixed effects spatial Durbin model to explore the impact of digital inclusive finance development on residents' cultural consumption. We found that the development of digital inclusive finance has a positive promoting effect on the cultural consumption of residents, indicating that the development of digital inclusive finance can significantly enhance the cultural consumption of local residents; The negative coefficient of spatial spillover effect indicates the need to strengthen cooperation and exchange between regions to promote communication and collaboration in digital inclusive finance. Based on the research findings, this article proposes policy recommendations such as emphasizing spatial spillover effects, breaking regional spatial and industrial boundaries to share the dividends of the digital economy.

Keywords: digital inclusive finance, residents' cultural consumption, spatial econometric model

JEL Classification: F49; G124; F832.7

1. Introduction

In recent years, with the development of science and technology and the popularization of the Internet, the digital economy, with its unique advantages and powerful driving force, is increasingly applied to daily life and production activities, and gradually develops into one of the driving forces to promote the continuous development of China's economy and society. In the "Opinions on Further Releasing Consumption Potential and Promoting Sustainable Recovery of Consumption" issued by the State Council on April 25, 2022, it was pointed out that "financial services should be optimized and inclusive finance should be actively developed.". In this context, the integration of digital technologies such as big data mining, blockchain, and cloud computing with the financial field is increasingly deepening, showing a trend of common development. This integration is also driving the continuous development of digital inclusive finance. With the widespread development of digital finance and the construction of digital infrastructure, the cultural consumption market is undergoing a new round of transformation and upgrading. Under the current situation, it is of great significance to explore the impact of digital inclusive finance on the cultural consumption of residents.

The existing literature on the relationship between digital inclusive finance and household consumption mainly focuses on three aspects: the impact of digital inclusive finance on household consumption level, the impact on household consumption structure, and the impact on the consumption gap between urban and rural residents. Huang Kainan and Hao Xiangru (2021) investigated whether digital finance has promoted consumption upgrading. The study found that the development of digital finance can promote residents' consumption upgrading through four channels: reducing liquidity constraints, optimizing payment environment, increasing property income, and enhancing residents' risk management capabilities. Li Ping (2023) shows that digital inclusive finance has increased the employment proportion of the tertiary industry and high-tech workers in the region, and the change in the employment structure has promoted the improvement of residents' income and consumption level. An Qiangshen et al. (2023) found that digital inclusive finance indirectly promotes the upgrading of consumer structure by improving residents' income and social security levels. Kaifeng Zhang et al. (2024) empirically analyzes the impact mechanism of digital inclusive finance on rural residents' consumption through the fixed effect model. Jiang Hongli and Jiang Pengcheng (2020) empirically studies the impact and mechanism of digital inclusive finance on residents' consumption level and structure. Research has found that digital inclusive finance has improved residents'

consumption levels and optimized their consumption structure. Li Xiaozhong et al. (2023) found that digital inclusive finance can narrow the urban-rural income gap and improve the level of human capital to narrow the urban-rural consumption gap. Lu Yanqin and Zhao Bing (2019) empirically analyze whether digital inclusive finance can narrow the consumption gap between urban and rural residents. The results indicate that there is a positive correlation between the income gap and consumption gap between urban and rural residents in both static and dynamic panels. Li Zonghan et al. (2023) empirically analyzed through dynamic panel models and GMM estimation methods that digital inclusive finance can significantly promote the narrowing of the consumption gap between urban and rural residents, but there is regional heterogeneity and consumption type heterogeneity. Existing research is more limited to the rural perspective and less consideration is given to the influence of spatial factors. Wu et al. (2023) found that digital inclusive finance is beneficial for promoting the growth of household wealth. Digital inclusive finance can continuously improve the level of entrepreneurship and optimize the efficiency of financial asset allocation to promote household wealth accumulation, and the promoting effect of digital inclusive finance on household wealth growth is enhanced with the increase of total household wealth. Wang et al. (2023) empirically analyzed that digital inclusive finance can alleviate credit constraints on innovative small and medium-sized enterprises and contribute to green technology innovation in Chinese cities. Cui Haiyang (2017) conducted an empirical analysis of the consumption behavior of rural residents in China using the system generalized moment estimation method. The results showed that, from a national perspective, digital inclusive finance has a significant positive impact on the consumption of rural residents in China. Ali et al. (2023) found that digital inclusive finance, energy consumption, and economic growth are the main factors leading to environmental degradation in the emerging seven economies.

The above studies are more limited to the rural perspective and less consider the influence of spatial factors. There are many studies on the impact of digital inclusive finance on household wealth, innovation, environment, consumption, and other aspects in the literature on digital inclusive finance. However, there is relatively little research on the impact on residents' cultural consumption. This article is based on panel data from 31 provinces (cities, autonomous regions) in China from 2014 to 2022, and establishes a fixed effects spatial model to explore the impact of digital inclusive finance development on residents' cultural consumption. The possible contributions of this article include: Firstly, this article mainly studies the impact of digital inclusive finance on residents' cultural consumption. During the process of reviewing relevant literature, it was found that scholars pay more attention to the impact of digital inclusive finance on residents' consumption, while there is relatively less research directly targeting residents' cultural consumption. Secondly, this study is based on panel data from 31 provinces (cities, autonomous regions) from 2014 to 2022, with a wider range of research objects and a longer time span, which can comprehensively investigate the impact of digital inclusive finance on residents' cultural consumption. Thirdly, through sorting out, it can be found that most studies still focus on rural or urban perspectives, and more are limited to rural perspectives, with less consideration given to the influence of spatial factors in related research. This study does not differentiate between urban and rural perspectives, but directly approaches the research from a holistic perspective, and considers the influence of spatial factors in the construction of the model.

2. Variables and Data

2.1 Variable Selection

The dependent variable of this study is resident cultural consumption (cul), expressed as per capita education, culture, and entertainment consumption expenditure of residents in each province. The core explanatory variable is Digital Inclusive Finance (DFI), and the data comes from the Digital Finance Research Center of Peking University. The control variables in this article are as follows: (1) Economic development level (pgdp), measured as the logarithm of per capita GDP; (2) Resident income (inc), expressed as per capita disposable income of residents; (3) Industrial structure (ind), expressed as the proportion of added value of the tertiary industry to GDP; (4) Government behavior (gov) is expressed as local financial, cultural, tourism, sports, and media expenditures; (5) Education level (edu) is reflected by the average number of students enrolled in higher education institutions per 100000 population; (6) The price of cultural products and services (pri) is expressed using the Consumer Price Index for Education, Culture, and Entertainment Residents (last year=100); (7) The degree of economic openness (jck) is expressed as the total import and export of goods divided by the location of the operating unit. The government's investment in the cultural industry will have an impact on digital inclusive finance and resident cultural consumption, so the government's budget expenditure is used to represent government behavior. The improvement of economic openness provides favorable conditions for the development of digital inclusive finance and further promotes the growth of cultural consumption. Therefore, the degree of economic openness in a region does have a certain impact on the cultural consumption and digital inclusive finance of residents in the province.

2.2 Data

According to the research objectives, panel data from 31 provinces (cities, autonomous regions) in China from 2014 to 2022 are used as samples. The explanatory variable is digital inclusive finance, and the data is from the Peking University Digital Inclusive Finance Index (2014-2022) published by the Peking University Digital Finance Research Center. The data for other variables were obtained from the China Statistical Yearbook and the China Cultural and Related Industry Statistical Yearbook.

3. Mechanism Analysis

From the current academic achievements, most scholars tend to favor digital inclusive finance as having a positive promoting effect on the cultural consumption of residents. Moreover, from the current research results, there are various factors that can have an impact on residents' cultural consumption.

In terms of direct impact, the development of digital inclusive finance reduces the threshold for financial services, can compensate for the high cost and low efficiency of traditional inclusive finance services, effectively reduce information asymmetry, and the development of digital inclusive finance can expand the scope of financial services and improve the financial environment. The development of digital inclusive finance can also alleviate liquidity constraints, provide convenience for residents to consume, and meet the growing needs of people for a better life. Therefore, digital inclusive finance has a direct promoting effect on the improvement of cultural consumption among residents.

In terms of indirect impact, digital inclusive finance indirectly affects residents' cultural consumption by influencing their income, including not only promoting effects but also crowding out effects. Crowding out effects refer to the effects of increased government expenditure leading to a decrease in private consumption or investment. The development of digital inclusive finance can effectively promote high-quality economic development, which means an improvement in resource utilization efficiency and social welfare. Therefore, it is inevitably accompanied by an increase in employment rates and wage levels. In addition, expanding the influence of digital inclusive finance can promote the improvement of financial service levels, thereby increasing household income. In addition, according to the Keynesian absolute income hypothesis, there is a functional relationship between consumption and income, indicating that the level of consumption is directly influenced by income, that is, as income increases, consumption also increases. Maslow's hierarchy of needs theory establishes the logical relationship between consumer behavior and psychological motivation. Consumer decision-making is determined by lower level unmet needs, and only when lower level needs are met can higher-level needs continue to be met. Spiritual needs are above material needs, and only after meeting basic survival needs will people pursue higher levels of cultural satisfaction. Therefore, cultural consumption presents a gradual development process with increasing income. Therefore, we can believe that there is a close connection between digital inclusive finance and resident cultural consumption.

4. Models

4.1 Spatial Weight Matrix

In spatial econometrics, the selection of spatial weight matrices is crucial. Among numerous choices, 0/1 adjacency matrix, economic distance weight matrix, economic geographic nested weight matrix, and geographic location weight matrix are the commonly used. The spatial weight matrix of this article is as follows:

$$Q = 1/(dfi_i - dfi_j) \quad (1)$$

Where dfi_i and dfi_j represent the mean values of the digital inclusive finance index for provinces i and j respectively.

4.2 Spatial Econometric Model

This article uses methods such as spatial econometrics for empirical analysis, but before exploring the deep relationship between digital inclusive finance and resident cultural consumption, a detailed examination of the spatial correlation between the two is needed. The spatial correlation aims to comprehensively reveal the correlation characteristics of variables in spatial distribution. The global Moran index is commonly used to describe the spatial distribution of variables, and the range of the index is negative one to one. If the index is greater than zero, the variable exhibits a positive correlation in space; If the index is less than zero, the variable exhibits negative correlation in space; The index approaches zero, and the variables have almost no correlation in space. The larger the absolute value, the stronger the spatial correlation. The formula is as follows:

$$Moran's\ I = \frac{\sum_i \sum_j Q_{ij}(K_i - \overline{K})}{S^2 \sum_i \sum_j Q_{ij}} \tag{2}$$

$$S^2 = \frac{1}{n}\sum_i \left(K_j - \overline{K}\right) \tag{3}$$

$$\overline{K} = \frac{1}{n}\sum_i K_i \tag{4}$$

Where K_i and K_j represent the sample values of digital inclusive finance and resident cultural consumption in provinces i and j respectively. Q_{ij} is an element of the spatial matrix Q (i, j). It can be concluded that there is a high degree of spatial correlation between digital inclusive finance and resident cultural consumption during the sample study period. To explore the specific impacts, it has been decided to use spatial econometric models as tools. When using spatial econometric models, the processing of variable data is crucial. To reduce heteroscedasticity, the variables are logarithmically processed. Therefore, constructing a spatial Durbin model:

$$lncul_{it} = \alpha + blndfi_{it} + \theta Qlndfi_{it} + \beta_s \sum_{s=1}^{9} Z_{sit} + \gamma_s \sum_{s=1}^{9} QZ_{sit} + \rho(Qlncul)_{it} + \eta_t + \varepsilon_{it} \tag{5}$$

In equation (5), $lncul_{it}$ represents the cultural consumption of residents in the i-th province in the t-th year; $lndfi_{it}$ represents the digital inclusive finance index of the i-th province in year t; Q is the spatial weight matrix set in this article; Zit represents control variables, including resident income, level of service industry development, government behavior, level of economic development, level of education, price of cultural products and services, and degree of economic openness. η_t represents the fixed effect at the time point, while ε_{it} represents the disturbance term.

5. Empirical Analysis

5.1 Estimation Results of Spatial Econometric Models

This test is used to determine whether there is a spatial relationship between variables and the type of spatial relationship. If all are significant, further testing is required. According to Table 1, both the P-value of the Lagrange multiplier and the robust Lagrange multiplier are zero. In spatial lag, the P-value of the Lagrange multiplier is zero, while the P-value of the robust Lagrange multiplier is 0.001, both of which are significant. Therefore, LR testing is needed to make further judgments.

Table 1. LM test results

Test	Lagrange Multiplier Value	Lagrange Multiplier P-value	Robust Lagrange Multiplier Values	Robust Lagrange Multiplier P-value
Spatial Error	30.743***	0.000	29.057***	0.000
Spatial Lag	12.840***	0.000	11.154***	0.001

Note: ***,**,*respectively indicate significant at the 1%, 5%, and 10% significance levels, the same below in this article.

5.2 Likelihood Ratio (LR) Test

The likelihood ratio test is used to test whether the spatial Durbin model will degrade, that is, whether the spatial lag model or spatial error model can be used instead. If the test result is significant, it indicates that the spatial Durbin model will not degrade and should continue to be chosen. According to Table 2, it can be concluded that the Log likelihood value of the spatial Durbin model is the highest, and the LR test results are significant at a 1% confidence level, indicating that the spatial Durbin model should be used.

Table 2. LR Inspection Results

	LR Statistic Value	P-value
H0: Can be converted to a spatial lag model	22.75	0.0019
H0: Can be converted to a spatial error model	22.62	0.0020
Spatial Durbin Model Log Likelihood Value	339.33	
Log likelihood Value of Spatial Lag Model	327.95	
Spatial Error Model Log Likelihood Value	328.02	

5.3 Hausman Test

In the field of economics, linear regression models are widely used analytical tools to reveal the dependency relationships between variables and predict future trends. Economists have developed a series of testing methods, among which the Hausman test is an important and commonly used one to test whether the assumptions of linear regression models are valid. The core purpose of the Hausman test is to examine whether there is significant multicollinearity between the independent variables in the regression model. Multicollinearity, which refers to the high correlation between multiple independent variables, greatly affects the stability of the model and the accuracy of coefficient estimation. It uses chi square statistics as an analytical tool to determine whether there is multicollinearity between independent variables by calculating the value of the statistics. If the calculated chi square statistic value is significant, it indicates a serious multicollinearity between the independent variables in the model, which will directly affect the estimated values of the model coefficients and may lead to the loss of the model's predictive ability. According to Table 3, the results of the Hausman test are significant, indicating that the Hausman test has been passed. Therefore, a fixed effects model is used in this article.

Table 3. Hausman test results

	Coef.
Chi2(7)	105.45
Prob>chi2	0.0000

5.4 Benchmark Regression Analysis

The LR test determined that the time point effect model is more suitable. The Hausman test indicates that fixed effects at time are more suitable than random effects models. Therefore, the fixed effect space Durbin model was chosen at the time point. Table 4 shows the regression estimation results of the model. The regression coefficient for the core explanatory variable of inclusive finance is 0.4669. This indicates that whenever the digital inclusive finance index increases by one unit, the cultural consumption of residents will increase by 0.4669%, which means that the better the development of digital inclusive finance, the more it can stimulate the potential of cultural consumption of residents.

In the controlled variables, the regression coefficients of resident income, industrial structure, government behavior, education level, cultural product and service prices, and economic openness are positive, indicating that resident income, industrial structure, government behavior, education level, cultural product and service prices, and economic openness can promote the expenditure of resident cultural consumption, but the impact of cultural product and service prices is not significant enough; The regression coefficient of economic development level is negative, indicating that the level of economic development has a restraining effect on residents' cultural consumption.

The spatial lag coefficient of resident income is negative, indicating that as resident income increases, the cultural consumption of residents in surrounding areas will show a downward trend; The coefficients of economic development level, industrial structure, government behavior, education level, cultural product and service prices, and economic openness are all positive, indicating that the above variables have a promoting effect on the cultural consumption of residents in the surrounding areas. However, the impact of economic development level, resident income, government behavior, education level, and prices of cultural products and services is not significant.

Table 4. Spatial econometric regression results

Variable	Coefficient	Standard Deviation
lndfi	0.4669*	0.2692
lninc	2.4685***	0.2381
lnind	0.0788**	0.0321
lngov	0.1200***	0.0358
lnpgdp	-0.3498***	0.0660
lnedu	0.3239***	0.0824
lnpri	0.4186	0.5453
lnjck	0.0897***	0.0190
Q*lndfi	-9.7287	17.4973
Q*lninc	-24.6758	27.3719
Q*lnind	27.4166***	8.3730
Q*lngov	10.1002*	5.9396
Q*lnpgdp	3.5759	9.5393
Q*lnedu	14.4229	12.8679
Q*lnpri	116.0410	90.8483
Q*lnjck	6.9240**	3.3412
R^2	0.484	
Log-L	349.5171	

5.5 Spatial Effect Decomposition

Due to spatial lag and other factors, the direct estimated values of the model cannot accurately reflect the actual impact of each variable. It is necessary to use partial differential method to calculate the estimation results, which can be divided into direct, indirect, and total effects. Table 5 shows the decomposition results of the effects. The direct effect represents the impact of explanatory and control variables on the cultural consumption of residents in the local area, while the indirect effect represents the impact on the cultural consumption of residents in surrounding areas.

The decomposition result is: (1) In the direct effect, the explanatory variable of digital inclusive finance has a significant promoting effect on residents' cultural consumption, indicating that the development of digital inclusive finance can stimulate the potential of residents' cultural consumption. This means that when other variables remain unchanged, for every unit increase in digital inclusive finance, the cultural consumption of residents in this province will increase by 0.486%. The spatial spillover effect coefficient of digital inclusive finance is negative and not significant, which means that the improvement of digital inclusive finance may weaken the cultural consumption of residents in neighboring areas. (2) In the direct effect, the resident income coefficient is 2.527. When other variables remain constant, for every unit increase in income, the cultural consumption of residents in this province will increase by 2.527%. This indicates that the increase in resident income can promote cultural consumption among residents. The indirect effect coefficient of resident income is negative and significant at a 5% confidence level, indicating that resident income has a "siphon effect" on the cultural consumption of residents in surrounding areas, that is, an increase in resident income has a negative impact on the cultural consumption of residents in neighboring provinces. As the income of residents in this province increases, the income gap between regions increases. For reducing the gap, surrounding areas may adjust their consumption strategies, especially in terms of cultural consumption expenditures. (3) In the direct effect, the results of industrial structure indicate that for every unit increase in industrial structure, the cultural consumption of residents in this province will increase by 0.06%. This means that the optimization of industrial structure can significantly enhance the cultural consumption of residents in this province. The indirect effect coefficient of industrial structure is 0.599, which means that the industrial structure has a significant stimulating effect on the cultural consumption of residents in the surrounding areas. The industrial structure reflects the economic development stage and overall level of a country or region. Therefore, the

optimization of industrial structure can to some extent stimulate local economic vitality and drive the overall growth of cultural consumption among residents in the region and surrounding areas. Therefore, the total effect coefficient is positive. (4) The direct effect coefficient of government behavior is positive. This indicates that when other variables remain constant, for every unit increase in government behavior, the cultural consumption of residents in this province will increase by 0.113%. This means that government actions have a significant positive impact on the cultural consumption of residents in this province, and it also means that the strong support provided by the government plays an important role in the orderly development of the cultural market. The improvement of cultural consumption among residents also depends on the attention and investment of the Chinese government in cultural related industries. (5) The direct effect coefficient of economic development level is negative, indicating that for every unit increase in economic development level, the cultural consumption of residents in this province will decrease by 0.359%. Due to the rapid development of digital economy and Internet technology in recent years, the ecology of cultural industry has also undergone new changes, and people's demand for cultural consumption is increasing. However, due to the structural shortage and the more prominent contradiction between supply and demand in the cultural industry, the situation of the cultural market is more severe, which to some extent restricts the growth of cultural consumption, especially the expenditure of residents on cultural consumption. (6) According to Table 5, the direct effect coefficient of education level is a positive number. This indicates that when other variables remain constant, for every unit increase in education level, the cultural consumption of residents in this province will increase by 0.321%. The indirect effect coefficient of education level is positive, but not significant. This indicates that the improvement of education level has a significant promoting effect on the cultural consumption of residents in the region. (7) The increase in prices of cultural products and services has a positive impact on the cultural consumption of residents in the local area and surrounding provinces, but the degree of impact is limited. (8) In the direct effect, the coefficient of economic openness is positive. This means that when other variables remain constant, for every unit increase in economic openness, the cultural consumption of residents in this province will increase by 0.086%. This indicates that the improvement of economic openness can significantly promote the cultural consumption of residents. The indirect effect coefficient of economic openness is 0.128, indicating that economic openness can promote the improvement of cultural consumption among residents in surrounding areas. Overall, the degree of economic openness has a certain promoting effect on the cultural consumption of residents in the local and surrounding areas, and more importantly, it has an impact on the cultural consumption of residents in the surrounding areas.

Table 5. Effect Decomposition Results

Variable	Direct Effects	Indirect Effects	Total Effect
lndfi	0.486*	-0.327	0.159
lninc	2.527***	-1.388**	1.139*
lnind	0.060*	0.599***	0.660***
lngov	0.113***	0.197	0.310**
lnpgdp	-0.359***	0.180	-0.179
lnedu	0.321***	0.260	0.581**
lnpri	0.358	2.384	2.742
lnjck	0.086***	0.128*	0.214***

5.6 Robustness Testing Under Different Spatial Weight Matrices

This article constructs a spatial weight matrix based on per capita GDP:

$$Q = 1/\left|G_i - G_j\right| \tag{6}$$

Where G_i and G_j represent the average per capita GDP of provinces i and j during the sample study period, respectively. To verify the robustness of the regression results, the spatial weight matrix was replaced for another regression, and the results in Table 8 were compared with those in Table 6. The coefficients and significance are found to be the same, thus verifying its robustness.

Table 6. The results of Robustness Test

Variable	Coefficient	Standard Deviation
lndfi	0.4667*	0.2691
lninc	2.4687***	0.2381
lnind	0.0789**	0.0321
lngov	0.1200***	0.0358
lnpgdp	-0.3497***	0.0660
lnedu	0.3240***	0.0824
lnpri	0.4193	0.5452
lnjck	0.0897***	0.0189
Q*lndfi	-9.6443	17.4942
Q*lninc	-24.8378	27.3680
Q*lnind	27.4892***	8.3812
Q*lngov	10.1121*	5.9390
Q*lnpgdp	3.6065	9.5388
Q*lnedu	14.4419	12.8655
Q*lnpri	116.2124	90.8550
Q*lnjck	6.9442**	3.3425

5.7 The Other Robustness Tests

The method of measuring indicators by replacing variables is to replace the explained variable with the average cultural consumption tendency of residents. Comparing the results of Tables 7 and 4, it was found that the coefficients and significance were similar, thus verifying their robustness. The above robustness tests all indicate that the empirical results are robust. In summary, the model adopted in this article has good robustness.

Table 7. The results of other Robustness Test

Variable	Coefficient	Standard Deviation
lndfi	0.4485*	0.2707
lninc	1.4958***	0.2366
lnind	0.0838***	0.0321
lngov	0.1203***	0.0359
lnpgdp	-0.3519***	0.0673
lnedu	0.3293***	0.0825
lnpri	0.4151	0.5482
lnjck	0.0913***	0.0188
Q*lndfi	-12.9990	17.4345
Q*lninc	-27.6534	27.1696
Q*lnind	30.0123***	8.5133
Q*lngov	11.5282*	5.9857
Q*lnpgdp	0.0933	9.4692
Q*lnedu	22.0436*	12.8006
Q*lnpri	107.5693	99.6000
Q*lnjck	7.5357**	3.3266

6. Conclusion and Suggestions

This article adopts the spatial Durbin model to explore the impact of digital inclusive finance on residents' cultural consumption and its spatial spillover effects. The study used panel data from 31 provinces (cities, autonomous regions) in China from 2014 to 2022. Through this study, we have drawn the following three conclusions. Firstly, based on the Moran index calculation, the cultural consumption of residents in 31 provinces (cities, autonomous regions) in China was positively spatially autocorrelated from 2014 to 2022. And the roughly increasing values indicate that over time, the spatial dependence of cultural consumption among residents in each province is becoming stronger. Secondly, regardless of whether there are controlled variables, digital inclusive finance significantly promotes cultural consumption among residents. This means that digital inclusive finance can promote the improvement of cultural consumption among residents, and the driving effect is not accidental, but has stability and universality. Through its unique advantages, digital inclusive finance breaks the limitations of traditional financial services, allowing more residents to participate in the cultural consumption market. Thirdly, the spatial spillover effect coefficient of digital inclusive finance is negative and not significant, which means that the promotion and popularization of digital inclusive finance may weaken the cultural consumption of residents in neighboring areas, but this impact is relatively limited. With the development of digital inclusive finance, financial resources in some regions may become more concentrated, leading to a relative decrease in financial resources in neighboring areas. Fourthly, an increase in resident income can increase the cultural consumption of residents in the province, and the increase in resident income has a restraining effect on the cultural consumption of neighboring provinces. The optimization of industrial structure can significantly promote the cultural consumption of residents in the local area, and the improvement of industrial structure can also significantly promote the cultural consumption of residents in neighboring provinces. Government actions have a significant promoting effect on the cultural consumption of residents in the region. The degree of economic openness has a certain promoting effect on the cultural consumption of residents in the local and surrounding areas, and more importantly, it has an impact on the cultural consumption of residents in the surrounding areas.

Based on the above research conclusions, this article proposes the following suggestions: Firstly, establish comprehensive digital inclusive financial institutions and strengthen the construction of new financial infrastructure to enhance the coverage of digital inclusive financial services. Promoting the development of digital inclusive finance can provide high-quality financial services to more groups, further enhancing its role in promoting cultural consumption among residents. The government needs to guide the relevant industries in a reasonable direction, standardize industry rules and layout, and promote integration between various industries. Secondly, continuously promote the upgrading of residents' cultural consumption. With the shift in consumer attitudes, there will be a structural shortage of high-quality cultural services. Therefore, it is necessary to encourage enterprises to continuously promote innovation in cultural products and services. The government should deepen cultural innovation, utilize new digital technologies to enrich cultural consumption content, and promote the deep integration of digital economy and real economy. Thirdly, spatial spillover effects should be given due attention. The indirect effect coefficient of digital inclusive finance is negative, indicating that the impact of digital inclusive finance on cultural consumption of residents in surrounding provinces is limited. So, it is necessary to strengthen cooperation and communication between regions, break down spatial and industrial boundaries between regions, share the dividends of the digital economy, and achieve mutual benefit and win-win results.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Sciedu Press.

The journal and publisher adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

An, Q. S., Liu, J. J., & Li, W. X. (2023). Digital Inclusive Finance and the Upgrading of Household Consumption Structure: Mechanism and Empirical Evidence. *Journal of Yunnan University of Finance and Economics, 39*(3), 1-23. https://doi.org/10.16537/j.cnki.jynufe.000851

Cui, H. Y. (2017). Research on the Impact of Digital Inclusive Finance on Rural Residents' Consumption in China. *Review of Economic Research, 64*, 54-60. https://doi.org/10.16110/j.cnki.issn2095-3151.2017.64.009

Fan, W., Fengxiang, C., & Tao, L. (2023). The influence of digital inclusive finance on household wealth: A study based on CHFS data. *Finance Research Letters, 58*, 1-7. https://doi.org/10.1016/j.frl.2023.104460

Huang, K. N., & Hao, X. R. (2021). Has digital finance promoted the upgrading of residents' consumption. *Shandong Social Sciences, 1*, 117-125. https://doi.org/10.14112/j.cnki.37-1053/c.2021.01.018.

Jiang, H. L., & Jiang, P. C. (2020). Research on the effect of digital inclusive finance on the improvement of consumption on level and structure optimization. *Modern Finance and Economics-Journal of Tianjin University of Finance and Economics, 40*(10), 18-32. https://doi.org/10.19559/j.cnki.12-1387.2020.10.002

Kishwar, A., Du, J. G., Dervis., K., & Mehmet, A. (2023). Testing the role of digital financial inclusion in energy transition and diversification towards COP26 targets and sustainable development goals. *Gondwana Research, 121*, 293-306. https://doi.org/10.1016/j.gr.2023.05.006

Li, P., & Li, B. K. (2023). Development of Digital Inclusive Finance and Upgrading of Residents' Consumption. *Statistics & Decision, 39*(13), 144-149. https://doi.org/10.13546/j.cnki.tjyjc.2023.13.026

Li, X. Z., & Deng, J. (2023). Research on the Impact of Digital Inclusive Finance on Urban-rural Consumption Gap. *Journal of Hangzhou Electronics University (Social Sciences), 19*(3), 11-20. https://doi.org/10.13954/j.cnki.hduss.2023.03.002

Li, Z. H., & Zheng, J. H. (2023). The impact of digital inclusive finance on the consumption gap between urban and rural residents. *Modern Economic Research, 6*, 42-50. https://doi.org/10.13891/j.cnki.mer.2023.06.009

Lu, Y. Q., & Zhao, B. (2019). Digital inclusive finance and the consumption gap between urban and rural residents. *Finance and Economy, 12*, 76-81. https://doi.org/10.19622/j.cnki.cn36-1005/f.2019.12.010

Wang, M., Song, W., & Qi, X. (2023). Digital inclusive finance, government intervention, and urban green technology innovation. *Environmental Science and Pollution Research International, 1*, 1-14. https://doi.org/10.1007/s11356-023-29395-8

Wang, W. J., & Cao, L. N. (2023). Research on the Impact of Digital Financial Inclusion on Cultural Consumption Gap from the Perspective of Common Prosperity. *Nanjing Journal of Social Sciences, 1*, 149-158. https://doi.org/10.15937/j.cnki.issn1001-8263.2023.01.016

Zhang, K. F., Xie, N. X., & Wang. R. (2024). Research on the Impact of Digital Financial Inclusion on the Consumption of Rural Residents. *Journal of Humanities, Arts and Social Science, 8*(5), 1205-1210. https://doi.org/doi.org/10.26855/jhass.2024.05.024