Journal of Infrastructure, Policy and Development 2024, 8(8), 5934.
https://doi.org/10.24294/jipd.v8i8.5934

Article

Market infrastructure integration and upgrading of resident consumption—Evidence from a panel of Chinese micro households

Qing Yang, Feini Liu*

College of Economics and Management, Nanjing Agricultural University, Nanjing 210095, China
*** Corresponding author:** Feini Liu, liufeini_0102@outlook.com

CITATION

Yang Q, Liu F. (2024). Market infrastructure integration and upgrading of resident consumption—Evidence from a panel of Chinese micro households. Journal of Infrastructure, Policy and Development. 8(8): 5934. https://doi.org/10.24294/jipd.v8i8.5934

ARTICLE INFO

Received: 22 April 2024
Accepted: 8 May 2024
Available online: 12 August 2024

Abstract: Using long-term household data from the China Family Panel Studies (CFPS), we examine the impact of market infrastructure integration on Chinese residents' consumption structure improvement. The findings demonstrate that market infrastructure integration not only enhances household consumption but also particularly facilitates this improvement among rural areas and low-income groups. On one hand, market infrastructure integration boosts households' ability to consume by increasing their income and wage income shares. On the other hand, it stimulates enterprises to invest more in product innovation, thereby enhancing the quality of consumer goods. Additionally, the influence of market infrastructure integration in promoting consumption is bolstered by internet technology and financial inclusion. However, these factors primarily stimulate demand for basic necessities rather than contributing to a shift toward higher-quality products and thus hinder efforts to upgrade the consumption structure.

Keywords: market infrastructure integration; consumption upgrading; supply quality; consumption needs; consumption structures; consumption levels

1. Introduction

China achieved rapid economic growth after reform and opening up[1] by relying on the development strategy of high investment and exports (Glick and Spiegel, 2011). However, after China entered the new normal of economic development[2], its economic growth rate slowed, and the driving forces of investment and exports weakened (Lemoine and Unal, 2017). Consumption have become important driving forces supporting China's economic growth (Chen et al., 2022). At this time, the Chinese government set a new development goal of expanding domestic demand. In other words, they rely on consumption to drive economic growth, especially the consumption for development and enjoyment (Lukin et al., 2018)[3]. The Chinese government has also proposed to construct a new development pattern with domestic circulation as the main body[4]. During this period of transition, the establishment of integration of market infrastructure became a key component of the process[5]. According to Yi and Zhou (2016), market integration refers to the elimination of isolation between multiple local markets within a region. Under the framework of market integration, goods, resources, and factors can move more freely within the area. This implies the creation of a unified market environment nationwide, characterized by standardized basic institutional rules, high-standard connectivity of facilities, and high-level uniformity of markets for factors, resources, and goods and services. On the one hand, the integration of market infrastructure can enhance the breadth and depth of the market, promote the efficient allocation of market resources. This initiative can significantly improve the level of productivity (Clemens, 2011). Furthermore, higher

productivity can stimulate consumption by increasing household income and reducing the cost of goods (Partridge et al., 2021). On the other hand, China's experience shows that market segmentation can hinder economic development due to rising transaction costs and declining resource allocation efficiency (Bian et al., 2019). Additionally, consumer confidence is influenced by relevant economic indicators, and thus, a slow economic growth environment and underdeveloped markets can have a negative impact on household consumption (Pavithra and Velmurugan, 2023).

There was a steady increase in both per capita consumption expenditures and the aggregate marketization index across provinces from 2010 to 2019[6]. Specifically, per capita consumption expenditures increased from 9378 yuan to 21,559 yuan. At the same time, the overall marketization index for each province increased from approximately 6.9 units to approximately 7.8 units. These ongoing upward trends show that as market infrastructure integrates, consumption volume also increases. The data also indicate that consumers' marginal propensity to consume remains stable at around 67%. Spending on enjoyment and development tends to grow slowly and can sometimes even decline when the marketization index increases. When market infrastructure integrates, it helps resources move better, leading to higher household incomes. This also makes income distribution fairer, reduces regional gaps, and boosts innovation. However, the rise of new technologies, including the digital economy, poses potential challenges by exacerbating disparities in income and consumption patterns (Peng and Dan, 2023). The widening of this gap could lead to increased socio-economic stratification, escalating the risks of poverty and inequality. Therefore, although market integration may offer a broader array of goods and services, its specific impact on household consumption remains unclear, necessitating further research.

The concept of consumption upgrading encompasses both a progressive rise in consumption volumes over time and a transition in the consumption framework (Huang and Qin, 2021). The former indicates an augmentation in "quantity," whereas the latter signifies enhancements in "quality" (Wu and Wang, 2023). This paper tries to answer a key question: can market integration promote the upgrading of household consumption? If there is a promotion effect, how can it be enhanced? At present, there are few studies on the impact of the integration of market infrastructure on consumption levels and consumption structures. Studies of the mechanism of action are even rarer. Qin and Zhang (2023) explored the role of integration of market infrastructure on provincial consumption, but households are the main micro subjects making consumption decisions. There may be large errors in the description of household consumption upgrading at the macro level. It is necessary to combine residents' behavior decision-making and mechanisms from the micro perspective.

This research employs data from the China Family Panel Studies (CFPS) covering the years 2010 to 2018 to analyze the relationship between market integration and changes in household consumption levels and structures. It specifically looks into the factors influencing consumer spending, including household income levels, income composition, regional income variations, and innovation in product offerings. Furthermore, the study considers the broader implications of internet access, financial inclusion, the situation of low-income groups, and the urban-rural divide.

The structure of this paper is as follows: Section 2 reviews the literature and

identifies gaps in existing research. Section 3 conducts theoretical analysis and proposes corresponding hypotheses. Section 4 describes the data used, variables, and empirical methodology. Section 5 presents the estimated results, along with mechanism analysis and tests for heterogeneity. Section 6 concludes the paper.

2. Literature review

Market integration theory says that when a region forms a single economic space, it can distribute resources more efficiently across the entire market (Fackler and Goodwin, 2001). Greater market integration leads to increased market efficiency, which in turn improves the market's ability to stabilize and balance supply and demand.

Scholars are actively researching the consumption upgrades among Chinese residents, with a focus on two main aspects: identifying the current status of consumption upgrades and the driving factors behind them. Recent theories suggest that upgrading involves not just consuming more but also moving towards higher-quality and more diverse consumption patterns (Wu and Wang, 2023). Urban areas show a trend toward such sophisticated consumption, focusing on diversity and quality (Fan et al., 2022). However, in the central and western regions, consumption is more basic and shows slower progression toward sophistication (Zhang and Zhang, 2023). The consumption upgrading index indicates that the majority of households are progressing positively, although some urban households may experience declines in the quality of their consumption (Yu et al., 2021).

The factors affecting consumption upgrading include economic conditions such as industrial innovation, credit availability, digital financial services, and income disparity. Innovations drive the shift toward advanced consumption by transforming product offerings (Sun and Xu, 2018), while credit solutions help people overcome financial barriers (Agarwal et al., 2023). At the same time, studies have also found that optimizing the industrial structure is conducive to stabilizing price fluctuations (Yang et al., 2024) and promoting household consumption. Digital finance boosts spending (Jiang, 2023), but significant income gaps can limit consumption ambitions, particularly among lower-income groups (Duarte et al., 2021). Rural consumption trends, once seen as limited by an aging population, are now influenced by changes in dependency ratios, with a mild impact on spending habits (Han and Cheng, 2020). Internet access in rural areas significantly enhances consumption levels and sophistication (Tian et al., 2023).

Further research highlights market integration's critical role in consumption upgrading by improving product quality, lowering prices, and elevating overall well-being. For instance, He (2017) noted that supply-side reforms, which facilitate the creation of a unified national market, capacity clearance, and consumption upgrading, are key measures for expanding domestic demand. Yang et al. (2019) examined the relationship between market integration and inter-provincial consumption. Zhu et al. (2022) pointed out that the driving effect of digital trade on consumption upgrading can only be fully realized when market integration reaches a certain level. Huang and Qin (2021) assessed the impact of a unified national market on both consumption levels and structures, finding that post-2012, the unified national market shifted from restraining to promoting consumer upgrades. Baquedano and Liefert (2014) validated

the price transmission effect of market integration on consumer markets using cases from 13 developing countries. At the same time, studies also indicate that for farmers, enhanced market integration substantially increases income, thereby facilitating consumption upgrades. This integration is also linked to a notable increase in happiness, especially among lower-income individuals (Fan et al., 2023; Jensen and Miller, 2018; Kebede, 2024; Li and He, 2024).

Despite the rich research on consumer upgrading, several gaps remain. First, previous literature primarily examines individual or household characteristics influencing consumer behavior, with insufficient discussion on the role of market construction. Second, households, as key decision-makers in consumption, have not been studied in terms of how a unified national market affects their decisions. Third, there is a significant deficiency in studies on the conditions under which market integration influences household consumption.

This paper analyzes the impact of a unified national market on household consumption, identifying the mechanisms through which it drives consumer upgrading. First of all, this paper enriches the research on the influencing factors of household consumption. Previous literature mainly explores the factors that affect household consumption from the perspective of individual or household characteristics, but there is an obvious shortage in the discussion of market construction. Secondly, the study fills a research gap by examining the relationship between infrastructure market integration and consumption from a micro-level household perspective. Finally, market "digitalization" is a new form of economic development, but China is faced with the problem of regional differences and subject differences in digital infrastructure and application capacity. This paper examines whether there is a gap between different regions and different subjects in the effect of market integration on consumption upgrading.

3. Mechanisms of action

Market infrastructure integration implies greater efficiency in the flow of factors, goods and services within the region. This can significantly influence consumer behavior. At the same time, it can also play a role in increasing residents' income, changing income distribution and narrowing regional wealth gap (Dobernig and Schanes, 2019; Wang et al., 2024).

First, market integration increases household income, easing financial constraints on spending. Research indicates that spending closely follows income trends, a pattern also observed in China (Addoum et al., 2019; Lu et al., 2022). By streamlining the movement of goods and labor, market integration spurs economic growth, creating jobs and boosting per capita income, especially in rural areas where labor shifts toward more lucrative nonfarm employment (Li and He, 2024). This shift not only elevates immediate spending needs but also allows for a broader range of consumption, from basic needs to development and leisure activities.

Furthermore, the integration of market infrastructure lifts household wage income, reducing the need for precautionary savings. Various challenges, such as low wages and uncertain income growth, particularly affect some groups, such as migrant workers, by limiting their spending (Long et al., 2010). Additionally, low-income

groups are more sensitive to product prices (Daniel, 2020; Jacob et al., 2022), and market infrastructure integration can help improve this situation. Market integration encourages the flow of capital across regions, enhancing local industries and increasing wage levels. It also promotes employment, especially in nonagricultural sectors for rural workers, making wage income a larger part of household earnings. Wage income, being more stable and predictable than entrepreneurial income, builds consumer confidence and reduces the urge to save for emergencies (Fulford, 2020), encouraging spending on higher quality and more varied goods and services. Consumer confidence not only directly impacts spending but also stimulates labor supply. Its enhancement playing a role in expanding domestic demand (Liu et al., 2019).

Additionally, market integration plays a crucial role in reducing income disparities between regions, unlocking spending potential among lower-income groups. China's significant urban–rural divide contributes to stark regional development and income differences. These gaps restrict spending growth among middle- and lower-income households, leading to varied consumption patterns across demographics (Li et al., 2014). By enabling the free flow of labor, goods, and technology, market integration helps increase incomes in rural areas, narrowing the urban–rural income divide (Dorn and Zweimüller, 2021). This effect is particularly pronounced in poorer regions, where it can broadly and effectively increase incomes (Cai et al., 2020), offering lower-income individuals greater opportunities for economic advancement free from local protectionism or the need for personal networks (Hu and Shen, 2023).

In summary, market integration not only meets a wide range of consumer preferences but also, importantly, lifts the income constraints tied to these preferences, fostering increased competition and innovation among businesses. This leads to a richer variety of products and services, enhancing consumer satisfaction and driving up consumption (De Roest et al., 2018; Jajja et al., 2017). As companies aim to meet consumer demands more closely, they focus on improving product quality, triggering a cycle of innovation driven by consumer needs (Ding, 2023). Thus, market integration leads to significant improvements in supply-side dynamics, encouraging ongoing advancements in consumption patterns.

Figure 1 presents the theoretical hypothesis framework of this study. Based on these insights, this study proposes two hypotheses:

Hypothesis 1: Market infrastructure integration can help raise per capita consumption and upgrade the consumption structure.

Hypothesis 2: Market infrastructure integration can improve household consumption level and consumption structure upgrading by increasing household income, increasing the proportion of wage income, reducing regional income gap and promoting enterprise and industrial innovation.

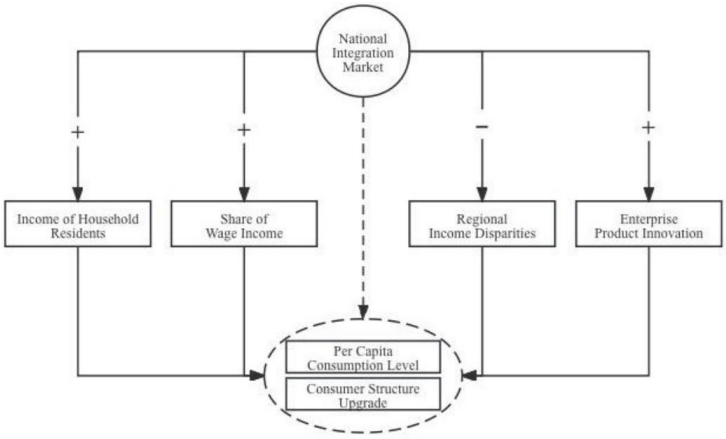

Figure 1. Theoretical hypothesis.

4. Data, variables, and methodology

4.1. Variables

(1) Dependent variables: The dependent variable in the research is consumption upgrading. Following the approach of (Wang et al., 2023; Zhou, 2023), we measure consumption using per capita household consumption expenditure from the CFPS. Additionally, we assess the consumption structure by considering proportions of survival-type, development-type, and enjoyment-type consumption. Survival-type consumption includes expenditures on food, housing, and clothing; development-type consumption covers expenditures on household equipment, daily necessities, transportation, and communication; and enjoyment-type consumption includes expenditures on cultural, educational, entertainment activities, and healthcare.

(2) Core explanatory variable: The primary focus of the research is the state of the integration of market infrastructure. This market serves as the mechanism for establishing prices of goods and factors. An integration of market infrastructure, in this context, denotes a unified market and pricing system characterized by the alignment of prices for goods and factor resources across diverse regions of the country. The degree of the integration of market infrastructure in each region is assessed using the market index proposed by Fan et al. (2003). This index is constructed using a total of 25 indicators across five dimensions and is calculated using principal component analysis, reflecting the entire process of marketization. Thus, we can use this index to quantitatively and independently assess the economic significance of market integration. The index has gained widespread recognition in the academic community, with scholars such as Guo et al. (2022) and Yang et al. (2023) utilizing this method to measure the level of market integration. This marketization index encompasses five dimensions: government-market relations, nonstate economic development, product market maturity, factor market maturity, and the environment of market intermediaries and legal systems. Each indicator captures specific aspects of the integration of market infrastructure's degree, comprising various subindicators. Consequently, this marketization index provides a comprehensive reflection of the region's integration into the integration of market infrastructure.

(3) Control variables: Building on the literature, the research integrates control variables at the individual, household, and regional levels. Individual characteristics

of the household head include gender, age, education, occupation, pension and medical insurance, and health status. Household attributes include family size, age structure, income, and assets. The regional variables include per capita GDP and degree of openness. The household's age structure is assessed by the proportion of minors under 16 and seniors over 65. To address heteroscedasticity and extreme values in total household expenditure, net income, and assets, these variables are log-transformed. Sample variables related to income, expenditure, and economic development are taken from the 2010 baseline and adjusted using the consumer price index. **Table 1** presents a comprehensive overview of the variable definitions and descriptive statistics.

Table 1. Variables and definitions.

Variables	Variable definition	Mean	Sd
Lnconsu_ave	Per Capita Consumption Level (representing the natural logarithm (ln) of household per capita expenditure used for consumption.)	8.876	0.901
Consu_sur	Proportion of Survival Consumption (food expenditure, housing expenditure and clothing expenditure/total household expenditure)	0.501	0.672
Consu_dev	Proportion of Development Consumption (household equipment and daily necessities expenditure and transportation and communication expenditure/total household expenditure)	0.173	0.311
Consu_enj	Proportion of Enjoyment Consumption (culture, education and entertainment expenditure and health care expenditure/total household expenditure)	0.191	0.211
Market	Marketization Index	7.948	1.772
Gender	Gender of household head (1 = male; 0 = female)	0.508	0.500
Age	Age of household head (years)	42.60	21.34
Age2	Age squared	2270	1764
Edu	Education level of household head (years)	6.920	4.818
Marriage	Marital status of household head (1= married; 0= others)	0.755	0.430
Size	Family size	3.958	1.812
Ratio_child	Proportion of children in the household, %	11.61	15.68
Ratio_old	Proportion of elderly people in the family, %	14.16	27.59
Asset	Assets (no assets = 1; Others = 0)	0.0291	0.168
Medical_insurance	1 = health insurance, 0 = none	0.870	0.336
Property_rights	No house (others = 1; Full property/partial property = 0)	0.0943	0.292
Farming	Whether engaged in nonagricultural work (yes = 1; No = 0)	0.334	0.472
Per_capita_housing	Per capita housing area (unit)	38.62	35.60
Lnhhic	Household income (ln log of household income)	9.409	3.956
Lnsaving	Household deposits (ln log of household deposits)	1.815	10.05
Lnloan_nonhouse	Nonmortgage bank loans (ln log of nonmortgage bank loans)	−9.438	6.299
Lnloan_house	Bank loans for mortgages (ln log of bank loans for mortgages)	−8.707	7.392
Opening	Total import and export volume/GDP	0.288	0.322
GDP_per_capita	GDP per capita	3.956	1.967
Number of hhid	8468	8468	8468

4.2. Data sources and preprocessing

The research utilizes a continuous dataset spanning 2010 to 2018 from five waves of the China Family Panel Studies (CFPS). Using a stratified multistage sampling

method, the CFPS conducted on-site survey interviews with a target sample of 16,000 households across 25 provinces (municipalities and autonomous regions) in China. These survey results provide insights into social, economic, and demographic changes in Chinese society, making them highly representative. We have done the following preprocessing on the data. 1) merging and matching five rounds of family survey data based on family codes to create a balanced panel dataset and 2) excluding samples with missing or outlier values for research accuracy, resulting in a final dataset of 8,468 households with valid observations. Additional data were sourced from statistical yearbooks.

4.3. Econometric specification

To investigate the impact of the integration of market infrastructure on household consumption and mitigate potential biases from omitted individual and time effects, this research employs a robust two-way fixed-effects model for estimation. The fundamental econometric model is expressed as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \gamma Z_{it} + \mu_i + \sigma_t + \varepsilon_{it} \quad (1)$$

here, Y_{it} represents the dependent variable, X_{it} denotes the core explanatory variable, Z_{it} stands for the control variables, μ_i represents individual-specific effects that do not vary over time, σ_t denotes time-specific effects that are consistent across individuals, and εit represents the random error term. The subscript i refers to individuals, and t denotes time.

To investigate the mechanisms influencing residents' consumption upgrading in the integration of market infrastructure—specifically, the roles of family income, the share of wage income, regional income disparity, and product innovation—the research expands Equation (1) by introducing intermediary variables, aligning with the approach of Jiang (2022), to formulate Equation (2).

$$M_{it} = \beta_0 + \beta_1 X_{it} + \gamma Z_{it} + \mu_i + \sigma_t + \varepsilon_{it} \quad (2)$$

here, M_{it} represents the mechanism variables, specifically, family per capita income, income disparity among provinces, and the level of product and service innovation in each province. Income disparity among provinces is measured using the Theil index in the family's region (Shen et al., 2023). The level of product and service innovation in each province is gauged by the expenditure on developing new products by large-scale industrial enterprises (in ten thousand yuan) in the family's region.

5. Results and discussion

5.1. Preliminary regression

The analysis, outlined in **Table 2**, examines the relationship between market integration and various spending categories. Market integration positively correlates with overall household consumption, as shown in Column (1), where a one standard deviation increase in the market integration index corresponds to a 0.032 increase in the logarithm of per capita household consumption. This result, which is significant at the 10% level, suggests that as the market becomes more integrated, household consumption levels rise. A typical case can also verify this conclusion. Feidong County in Hefei, Anhui Province, actively promotes the integrated development of

building photovoltaics, aiming to establish a demonstration base for the industrial application of new energy. The project is expected to achieve an annual output value of no less than 40 billion RMB and create jobs for 2000 local residents upon completion. Furthermore, between 2019 and 2020, the local tourism industry attracted nearly ten million visitors, generating a total revenue of nearly 5 billion RMB. This clearly demonstrates that the market infrastructure integration can spur economic development and boost consumption.

The analysis also shows that market integration leads to a shift in how households allocate their budgets. Specifically, there is a notable reduction in the proportion of spending on basic survival needs and an increase in spending for developmental purposes, with both effects being significant at the 10% level. A one standard deviation improvement in market integration results in a 0.051 decrease in survival spending and a 0.009 increase in developmental spending[7]. These shifts represent a 10.2% reduction in survival spending and a 5.2% increase in developmental spending relative to average spending levels, supporting Hypothesis 1.

Table 2. Baseline regression.

Variables	**Lnconsu_ave**	**Consu_sur**	**Consu_dev**	**Consu_enj**
	(1)	**(2)**	**(3)**	**(4)**
Market	0.018*	−0.029*	0.005*	0.001
	(0.009)	(0.016)	(0.003)	(0.003)
Edu	0.000	−0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)
Marriage	−0.021	−0.012	0.002	−0.005
	(0.016)	(0.008)	(0.008)	(0.005)
Age	0.001	0.002**	0.001	−0.001
	(0.002)	(0.001)	(0.001)	(0.001)
Age2	−0.000	−0.000	−0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Gender	−0.007	−0.006	−0.000	−0.001
	(0.008)	(0.008)	(0.005)	(0.003)
Farming	−0.007	0.010*	0.006	−0.015***
	(0.010)	(0.005)	(0.004)	(0.004)
Size	−0.111***	−0.008***	0.004**	0.012***
	(0.005)	(0.003)	(0.002)	(0.002)
Ratio_child	−0.001***	0.001**	0.000	−0.001***
	(0.000)	(0.001)	(0.000)	(0.000)
Ratio_old	−0.000*	−0.000	−0.000*	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Lnhhic	0.006***	0.000	0.000	−0.001*
	(0.001)	(0.000)	(0.000)	(0.000)
Property_rights	0.062***	0.014*	−0.002	0.002
	(0.016)	(0.007)	(0.005)	(0.005)

Table 2. (*Continued*).

Variables	Lnconsu_ave	Consu_sur	Consu_dev	Consu_enj
	(1)	(2)	(3)	(4)
Asset	−0.121***	0.012	−0.010**	−0.009
	(0.026)	(0.012)	(0.005)	(0.008)
Lnsaving	0.002***	0.001	0.000	−0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Lnloan_house	0.007***	−0.001**	0.000	−0.002***
	(0.001)	(0.000)	(0.000)	(0.000)
Lnloan_nonhouse	0.008***	−0.003***	0.000	0.002***
	(0.001)	(0.000)	(0.000)	(0.000)
Medical_insurance	0.038***	−0.036	−0.013**	−0.004
	(0.013)	(0.025)	(0.006)	(0.004)
Per_capita_housing	0.001***	−0.000	0.000	−0.000***
	(0.000)	(0.000)	(0.000)	(0.000)
Opening	−0.012	−0.091***	0.050***	0.024*
	(0.044)	(0.020)	(0.012)	(0.014)
GDP_per_capita	0.066***	−0.002	−0.004	−0.005
	(0.010)	(0.008)	(0.003)	(0.004)
Constant	8.636***	0.664***	0.107***	0.215***
	(0.091)	(0.109)	(0.036)	(0.029)
Observations	34,183	34,183	34,183	34,183
R-squared	0.193	0.008	0.003	0.022
Number of hhid	8468	8468	8468	8468

Notes: Robust standard errors are indicated within parentheses. ***$p < 0.01$, **$p < 0.05$, and *$p < 0.1$. The notation and formatting for robust standard errors and significance levels are also consistently applied in the subsequent table.

5.2. Robustness test

To confirm the robustness of our initial findings, we conducted a series of tests. Following the approach suggested by Cao et al. (2018), we first created indices for market segmentation, including for commodity, service, capital goods, and labor markets, using the price index method. These indices were then added as independent variables in our robustness checks, as illustrated in **Table 3**. In addition, we analyze the different types of consumption separately. **Table 4** presents the estimation results for subsistence consumption, development consumption and enjoyment consumption, respectively. The results from these comprehensive evaluations support our original conclusions, reinforcing the credibility of our findings.

In **Table 3**, especially in Column (1), the coefficient of the market segmentation index is positive but insignificant. This implies that the development of integration of market infrastructure may temporarily promote the circulation of goods and the increase of per capita consumption of residents. But these effects may be short-lived when there are no corresponding changes in household income and structure. This implies that for lasting impact, market integration efforts need to effectively promote the flow of labor and capital.

Table 3. Using the degree of market segmentation as an independent variable.

Variables	Lnconsu_ave	Consu_sur	Consu_dev	Consu_enj
	(1)	(2)	(3)	(4)
Index	3.239	6.094**	−3.434*	−2.343
	(5.893)	(3.099)	(1.903)	(1.542)
Constant	8.762***	0.441***	0.147***	0.224***
	(0.060)	(0.041)	(0.026)	(0.020)
Control variables	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes
Observations	34,183	34,183	34,183	34,183
R-squared	0.193	0.008	0.003	0.022
Number of hhid	8468	8468	8468	8468

Further research indicates that establishing an integration of market infrastructure with a focus on enhancing capital and labor mobility is crucial for achieving substantial and enduring improvements in consumption patterns. Such a market not only provides a wider range of investment and employment options but also strengthens residents' consumption capabilities. Moreover, it lays the foundation for the foundational economic conditions necessary for evolving consumption behaviors (Min et al., 2022; Wang and Li, 2023). This emphasizes the importance of a comprehensive market integration strategy that not only increases the immediate availability of goods and services but also addresses the underlying economic factors essential for raising consumption levels.

Table 4. Refined consumption structure variables.

	Subsistence consumption			Development consumption		Enjoyment consumption	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables	food1	dress1	house1	daily1	trco1	med1	EEC1
Market	−0.017***	0.000	−0.012	0.001	0.003***	−0.001	0.002
	(0.005)	(0.001)	(0.013)	(0.003)	(0.001)	(0.002)	(0.002)
Constant	0.508***	0.032***	0.124	0.042	0.066***	0.148***	0.067***
	(0.059)	(0.008)	(0.082)	(0.034)	(0.011)	(0.021)	(0.022)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	34,183	34,183	34,183	34,183	34,183	34,183	34,183
R-squared	0.014	0.011	0.013	0.002	0.017	0.008	0.031
Number of hhid	8468	8468	8468	8468	8468	8468	8468

Notes: (1) to (7), respectively represent the percentage of household expenditure on food, clothing, housing, household equipment and daily necessities, transportation and communication, education and entertainment, and medical care.

5.3. Heterogeneity

The impact of market integration on achieving sustainable and inclusive growth

is a critical concern. Advances in technology, such as the digital economy and inclusive finance, while accelerating economic cycles and factor mobility, risk widening income and consumption disparities, potentially deepening the "digital divide" and "financial exclusion" (Peng and Dan, 2023). To address these challenges, this study analyses heterogeneity based on variables such as household registration, income levels, Internet penetration, and the development of inclusive finance.

The analysis categorizes the sample by household registration, differentiating between rural and urban residents, and explores how market integration impacts rural households[8]. The findings indicate that market integration reduces spending on basic necessities while increasing expenditures on developmental goods and services among rural families, signaling an upgrade in their consumption patterns toward greater quality and variety (**Table 5**).

Table 5. Rural areas.

Variables	**Lnconsu_ave**	**Consu_sur**	**Consu_dev**	**Consu_enj**
	(1)	**(2)**	**(3)**	**(4)**
Market	0.100***	−0.004	−0.001	0.001
	(0.010)	(0.005)	(0.003)	(0.003)
Market*Village	−0.014	−0.028**	0.007***	−0.002
	(0.009)	(0.012)	(0.003)	(0.003)
Village	0.062	0.262*	−0.048**	0.033
	(0.077)	(0.151)	(0.022)	(0.022)
Constant	7.799***	0.452***	0.158***	0.211***
	(0.091)	(0.064)	(0.033)	(0.025)
Control variables	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes
Observations	33,646	33,646	33,646	33,646
R-squared	0.172	0.004	0.003	0.023
Number of hhid	8464	8464	8464	8464

Additionally, using the median 40% of China's per capita disposable income as a poverty benchmark (Khan et al., 2017), this study examines the effects of market integration on families within this income bracket. The results show that there is a complex relationship between market integration and the consumption preferences of economically disadvantaged groups (**Table 6**). On one hand, market integration reduces the per capita consumption level of relatively poor households. On the other hand, it increases the proportion of developmental consumption expenditure of households. One possible explanation is that low-income groups are price sensitive and more inclined to subsistence consumption. Market integration can help reduce product prices and increase product choices, thereby indeed stimulating consumption among low-income groups.

Table 6. Heterogeneity of low-income groups.

Variables	Lnconsu_ave	Consu_sur	Consu_dev	Consu_enj
	(1)	(2)	(3)	(4)
Market	0.022**	−0.029*	0.004	0.001
	(0.009)	(0.017)	(0.003)	(0.003)
Market* Pinkun	−0.017**	0.000	0.003*	−0.002
	(0.007)	(0.006)	(0.002)	(0.002)
Pinkun	−0.038	−0.022	−0.028**	0.034**
	(0.054)	(0.037)	(0.012)	(0.016)
Constant	8.646***	0.669***	0.114***	0.207***
	(0.091)	(0.114)	(0.037)	(0.030)
Control variables	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes
Observations	34,183	34,183	34,183	34,183
R-squared	0.200	0.008	0.003	0.023
Number of hhid	8468	8468	8468	8468

This study further investigated the role of Internet penetration in shaping household consumption patterns (**Table 7**). Internet penetration seems to influence consumption structure together with the level of market integration. Compared with development consumption and enjoyment consumption, subsistence consumption is easier to integrate into online shopping platforms. In this case, e-commerce plays a role capable of changing consumption habits, and there are synergies with market integration.

Table 7. Heterogeneity of the internet penetration rate.

Variables	Lnconsu_ave	Consu_sur	Consu_dev	Consu_enj
	(1)	(2)	(3)	(4)
Market	0.009	−0.046***	0.009**	0.004
	(0.015)	(0.015)	(0.004)	(0.005)
Market*Internate	0.000	0.001***	−0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Internate	−0.001	−0.004**	0.000	0.001
	(0.004)	(0.002)	(0.001)	(0.001)
Constant	8.668***	0.791***	0.091**	0.193***
	(0.149)	(0.098)	(0.042)	(0.045)
Control variables	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes
Observations	34,183	34,183	34,183	34,183
R-squared	0.193	0.008	0.003	0.022
Number of hhid	8468	8468	8468	8468

In the final analysis (**Table 8**), the interaction term between inclusive finance and the integration of market infrastructure is used to examine changes in the relationship with residential consumption upgrading. We find that with the development of inclusive finance, the promotion effect of market infrastructure integration on total consumption increases. However, the impact of the integration of market infrastructure on the upgrading of consumption structure is also weakened. This shift may be attributed to inclusive finance enhancing residents' investment and early consumption capacities. The impact of alleviating income constraints for consumption upgrading through investment returns might have a temporal lag. Simultaneously, inclusive finance often enhances residents' ability for early consumption through platforms with strong "internet attributes," impacting the probability of purchasing survival-type products. Additionally, diverse online consumption methods and increased shopping choices and leisure experiences somewhat replace traditional expenditures such as travel and communication.

Table 8. Heterogeneity of inclusive financial development.

Variables	Lnconsu_ave	Consu_sur	Consu_dev	Consu_enj
	(1)	(2)	(3)	(4)
Market	−0.008	−0.052***	0.011**	0.006
	(0.013)	(0.019)	(0.005)	(0.004)
Market* Index_aggregate	0.000**	0.000**	−0.000**	−0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Index_aggregate	−0.001	−0.001	−0.001	0.001**
	(0.001)	(0.001)	(0.001)	(0.000)
Constant	9.257***	1.023***	0.117**	0.130***
	(0.143)	(0.125)	(0.057)	(0.044)
Control variables	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes
Observations	28,192	28,192	28,192	28,192
R-squared	0.104	0.005	0.003	0.012
Number of hhid	8452	8452	8452	8452

5.4. Mechanism analysis

Building on the exploration of how market integration influences consumption dynamics, this research delves into its effects on household income, wage income proportion, regional income disparities, and corporate investments in new product development. The results presented in **Table 9** span these areas, showing how market integration impacts household income (Ln(hhinc)), wage income share (Ratio_wage), regional income inequality (Unequal), and regional investments in innovation (Ln(innovate)).

Column (1) reveals a significant positive impact of market integration on household income, with a coefficient of 0.170 at the 1% level, highlighting its role in boosting residents' income and enhancing consumption standards. This not only

implies that market integration can directly increase residents' income but also has the potential to boost consumer confidence to upgrade consumption pattern. However, in Column (2), the coefficient of the core variable is 0.671, indicating that consumption upgrading faces challenges. Because market integration does not have a significant effect on changing the income structure and reducing precautionary savings. The analysis of regional income inequality in column (3) shows a reduction in disparities, as evidenced by a coefficient of −0.005 at the 1% level. It indicating the role of market integration in leveling regional economies and encouraging spending among lower-income groups. On the one hand, market integration can improve regional infrastructure conditions, reduce transaction costs, and facilitate the free flow of resources over a wider area. On the other hand, low-income areas can leverage market integration to attract foreign investment and technology, driving local industrial upgrading and increasing job opportunities. Therefore, economic and market integration benefits go beyond just industrial growth and jobs; they also directly shape how residents consume. With increased resource mobility and reduced transaction costs, consumers can access a wider variety of goods and services at lower prices. Finally, the coefficient of the core variable in Column (4) is 0.011 at the level of 5%. This suggests that market integration facilitates the development of new products, improves the quality of supply and promotes advanced consumer demand. Innovation frequently brings vitality to industries and the economy, enhancing consumers' positive expectations about the future economic state.

Table 9. Mechanism analysis.

Variables	Lnhhic	p_wage	unequal	lpro_money_cpi
	(1)	(2)	(3)	(4)
Market	0.170***	0.671	−0.005***	0.011**
	(0.053)	(0.447)	(0.000)	(0.005)
Constant	8.376***	31.655***	0.202***	13.671***
	(0.553)	(4.724)	(0.002)	(0.084)
Control variables	Yes	Yes	Yes	Yes
Individual-fixed effect	Yes	Yes	Yes	Yes
Year-fixed effect	Yes	Yes	Yes	Yes
Observations	34,183	33,121	34,183	28,192
R-squared	0.047	0.101	0.809	0.517
Number of hhid	8468	8454	8468	8452

6. Conclusion

This study examines how integrating market infrastructure across China has influenced residents' consumption patterns, using data from the China Family Survey between 2010 and 2018. The key findings include the following: (1) The integration of market infrastructure has promoted the overall improvement of household consumption. Specifically, market integration improves per capita consumption levels. At the same time, market integration promotes the shift of consumption structure from survival to development oriented consumption. (2) In addition, the impact of

promoting market infrastructure integration has shown characteristics that are beneficial to the poor. (3) The widespread use of Internet technology and the growth of inclusive finance have boosted residents' overall consumption but have slowed down the evolution of consumption patterns. (4) In terms of mechanism analysis, market integration promotes consumer upgrading by increasing household income, changing income structure, reducing regional income inequality, and increasing investment in product innovation by regional enterprises. Based on the above findings, this article proposes the following policy recommendations:

First, the labor market should be unified to enhance the income of low-income groups. Crucially, the income distribution system can be improved by directing mechanisms and subsidies to middle- and lower-income groups. Focus on developing consumption markets in rural and low-income areas, making them drivers for expanding the domestic consumption market. Rural e-commerce platforms and logistics networks should be supported, enabling easy access to products and services. Job skills training should be strengthened, and employment rights and benefits for low-income groups should be improved.

Second, continued supply-side reforms are needed to enhance product differentiation and quality upgrades, addressing overcapacity and unmet consumer desires. First, product quality standards and certification systems should be established and reinforced to boost consumer confidence. Second, innovation investment should be encouraged through policies such as tax incentives and R&D subsidies to improve product and service quality. Finally, under new consumption patterns, the focus should be on integrating online and offline consumption, linking the internet with healthcare, cultural tourism, and education training across regions.

Third, the construction of a modern commercial circulation system should be promoted, and the smooth flow of urban–rural "microcirculation" should be facilitated. The circulation industry and transportation system should be continuously enhanced. Smart logistics can be utilized for efficient product supply matching, and market competition can be encouraged to increase variety and fully meet people's consumption needs. Innovation in e-commerce and logistics should be encouraged to improve efficiency, supported by digital infrastructure, digital payments, and improved logistics infrastructure for cost reduction and interconnected urban–rural networks.

Fourth, implement differentiated strategies for market infrastructure integration based on income levels in different regions. On one hand, in low-income areas, focus in the short term on enhancing infrastructure construction, improving regional transportation, communication, and energy facilities to better integrate these areas into domestic and international markets. On the other hand, in high-income areas, strengthen the efficiency of existing infrastructure in the short term, such as improving logistics systems and optimizing digital network infrastructure. In the long run, it is necessary not only to encourage and guide industrial transformation and upgrading, but also to strengthen regional cooperation and exchanges, so as to support the economic diversification of high-income regions.

Author contributions: Conceptualization, QY; methodology, FL; software, FL; validation, QY and FL; formal analysis, QY and FL; data curation, QY and FL;

writing—original draft preparation, QY; writing—review and editing, FL; visualization, QY; supervision, QY; funding acquisition, QY. All authors have read and agreed to the published version of the manuscript.

Funding: This work was supported by the National Natural Science Foundation project of China (No.72073068).

Conflict of interest: The authors declare no conflict of interest.

Notes

1. Reform and opening up refers to a revolution carried out by the Chinese government on the road of socialist construction since 1978 with the aim of liberating and developing productive forces.
2. China's top leader Sets out 'new normal' for First Time: http://www.xinhuanet.com//world/2014-11/09/c_1113175964.htm
3. Adhere to the strategic basis of expanding domestic demand: https://www.gov.cn/zhengce/2021-03/08/content_5591332.htm
4. Opinions of the CPC Central Committee and The State Council on Accelerating the Building of an Integration of market infrastructure: https://www.gov.cn/gongbao/content/2022/content_5687499.htm
5. The CPC Central Committee and The State Council issued the Outline of the Strategic Plan for Expanding Domestic Demand (2022–2035): https://www.gov.cn/gongbao/content/2023/content_5736706.htm
6. Data from China's National Bureau of Statistics: https://data.stats.gov.cn
7. A one standard deviation increment (1.772) in the integration of market infrastructure's magnitude is associated with a 0.032 rise in the logarithm of per capita family consumption. This same increment results in a 0.051 decrease in the fraction of family survival consumption and a 0.009 enhancement in the share of family development consumption.
8. The origin of a resident from a village was coded as Village = 1; if not, it was assigned a 0.

References

Addoum, J. M., Delikouras, S., & Korniotis, G. M. (2019). Consumption-Income Sensitivity and Portfolio Choice. The Review of Asset Pricing Studies, 9(1), 91–136. https://doi.org/10.1093/rapstu/ray005

Agarwal, S., Hadzic, M., Song, C., et al. (2023). Liquidity Constraints, Consumption, and Debt Repayment: Evidence from Macroprudential Policy in Turkey. The Review of Financial Studies, 36(10), 3953–3998. https://doi.org/10.1093/rfs/hhad024

Baquedano, F. G., & Liefert, W. M. (2014). Market integration and price transmission in consumer markets of developing countries. Food Policy, 44, 103–114. https://doi.org/10.1016/j.foodpol.2013.11.001

Bian, Y., Song, K., & Bai, J. (2019). Market segmentation, resource misallocation and environmental pollution. Journal of Cleaner Production, 228, 376–387. https://doi.org/10.1016/j.jclepro.2019.04.286

Cai, J., Liu, F., & Xia, X. (2020). Rural industry convergence, nonagricultural employment and rural households' income: Microscopic evidence based on Liupanshan area. Journal of Arid Land Resources and Environment, 34(2), 73–79. https://doi.org/10.13448/j.cnki.jalre.2020.38

Cao, C., Zhang, T., & Liu, X. (2018). Does Market Segmentation Boost State-owned Enterprises' Competitive Position in Product Market? Journal of Financial Research, 3, 121–136.

Chen, Y., Yang, W., & Hu, Y. (2022). Internet Development, Consumption Upgrading and Carbon Emissions—An Empirical Study from China. International Journal of Environmental Research and Public Health, 20(1), 265. https://doi.org/10.3390/ijerph20010265

Daniel, C. (2020). Is healthy eating too expensive? How low-income parents evaluate the cost of food. Social Science & Medicine, 248, 112823. https://doi.org/10.1016/j.socscimed.2020.112823

De Roest, K., Ferrari, P., & Knickel, K. (2018). Specialisation and economies of scale or diversification and economies of scope? Assessing different agricultural development pathways. Journal of Rural Studies, 59, 222–231. https://doi.org/10.1016/j.jrurstud.2017.04.013

Ding, Y. (2023). The impact of agricultural industrial agglomeration on farmers' income: An influence mechanism test based on a spatial panel model. PLOS ONE, 18(9), e0291188. https://doi.org/10.1371/journal.pone.0291188

Dobernig, K., & Schanes, K. (2019). Domestic spaces and beyond: Consumer food waste in the context of shopping and storing

routines. International Journal of Consumer Studies, 43(5), 480–489. Portico. https://doi.org/10.1111/ijcs.12527

Dorn, D., & Zweimüller, J. (2021). Migration and Labor Market Integration in Europe. Journal of Economic Perspectives, 35(2), 49–76. https://doi.org/10.1257/jep.35.2.49

Duarte, R., Miranda-Buetas, S., & Sarasa, C. (2021). Household consumption patterns and income inequality in EU countries: Scenario analysis for a fair transition towards low-carbon economies. Energy Economics, 104, 105614. https://doi.org/10.1016/j.eneco.2021.105614

Fackler, P. L., & Goodwin, B. K. (2001). Spatial price analysis. Handbook of agricultural economics, 1, 971–1024. https://doi.org/10.1016/S1574-0072(01)10025-3

Fan, C., Law, S. H., Ibrahim, S., et al. (2022). The New Economic Era Analysis of the Structure System of Chinese Household Consumption Expenditure Based on the ELES Model. Computational Intelligence and Neuroscience, 2022, 1–8. https://doi.org/10.1155/2022/3278194

Fan, G., Wang, X., Zhang, L., & Zhu, H. (2003). Marketization Index for China's Provinces. Economic Research Journal, 3, 9–18+89.

Fan, X., Jin, S., & Chen, Z. (2023). Who Benefits from Domestic Market Integration? Journal of Happiness Studies, 24(6), 2083–2109. https://doi.org/10.1007/s10902-023-00672-0

Fulford, S. L. (2020). Demand for emergency savings is higher for low-income households, but so is the cost of shocks. Empirical Economics, 58(6), 3007–3033. https://doi.org/10.1007/s00181-018-1590-9

Glick, R., & Spiegel, M. M. (2011). Asia's role in the post-crisis global economy. Peterson Institute.

Guo, M., Guo, J. & yang, R. (2022). National Audit Management System Reform, Marketization Degree and Total Factor Productivity of State-Owned Enterprises. Nankai Economic Studies, 1, 22–38,55.

Han, X., & Cheng, Y. (2020). Consumption- and productivity-adjusted dependency ratio with household structure heterogeneity in China. The Journal of the Economics of Ageing, 17, 100276. https://doi.org/10.1016/j.jeoa.2020.100276

He, D. (2017). Great power transformation and expanding domestic demand: The internal logic of China's structural reform. Economist, 8, 19–26.

Hu, H., & Shen, J. (2023). Promote Common Prosperity Through the Construction of a Unified Domestic Market: On the Smooth Path of Domestic Circulation. South China Journal of Economics, 12, 143–158. https://doi.org/10.19592/j.cnki.scje.401909

Jacob, J., Vieites, Y., Goldszmidt, R., et al. (2022). Expected Socioeconomic-Status-Based Discrimination Reduces Price Sensitivity Among the Poor. Journal of Marketing Research, 59(6), 1083–1100. https://doi.org/10.1177/00222437221097100

Jajja, M. S. S., Kannan, V. R., Brah, S. A., et al. (2017). Linkages between firm innovation strategy, suppliers, product innovation, and business performance. International Journal of Operations & Production Management, 37(8), 1054–1075. https://doi.org/10.1108/ijopm-09-2014-0424

Jensen, R., & Miller, N. H. (2018). Market Integration, Demand, and the Growth of Firms: Evidence from a Natural Experiment in India. American Economic Review, 108(12), 3583–3625. https://doi.org/10.1257/aer.20161965

Jiang, A. (2023). The impact of digital finance on online shopping. Finance Research Letters, 56, 104089. https://doi.org/10.1016/j.frl.2023.104089

Jiang, T. (2022). Mediating Effects and Moderating Effects in Causal Inference. China Industrial Economics, 5, 100–120. https://doi.org/10.19581/j.cnki.ciejournal.2022.05.005

Kebede, H. A. (2022). Market integration and separability of production and consumption decisions in farm households. Journal of Development Economics, 158, 102939. https://doi.org/10.1016/j.jdeveco.2022.102939

Kebede, H. A. (2024). Gains from market integration: Welfare effects of new rural roads in Ethiopia. Journal of Development Economics, 168, 103252. https://doi.org/10.1016/j.jdeveco.2024.103252

Khan, A. R., Griffin, K., Riskin, C., & Renwei, Z. (2017). Household Income and Its Distribution in China. In: Chinese Economic History Since 1949. Brill.

Lemoine, F., & Unal, D. (2017). China's Foreign Trade: A "New Normal." China & World Economy, 25(2), 1–21. Portico. https://doi.org/10.1111/cwe.12191

Li, W., & He, W. (2024). Revenue-increasing effect of rural e-commerce: A perspective of farmers' market integration and employment growth. Economic Analysis and Policy, 81, 482–493. https://doi.org/10.1016/j.eap.2023.12.015

Li, Y., Wang, J., Liu, Y., et al. (2014). Problem regions and regional problems of socioeconomic development in China: A perspective from the coordinated development of industrialization, informatization, urbanization and agricultural modernization. Journal of Geographical Sciences, 24(6), 1115–1130. https://doi.org/10.1007/s11442-014-1142-y

Liu, X., Jiang, W. & Hu, J. (2019). A Study on Confidence, Monetary Policy and China's Economic Fluctuation Based on TVP-VAR Model. Chinese Journal of Management Science, 8, 37–46.

Loecker, J. D., Goldberg, P. K., Khandelwal, A. K., & Pavcnik, N. (2016). Prices, Markups and Trade Reform. Econometrica, 84(2), 445–510. https://doi.org/10.3982/ECTA11042

Long, H., Liu, Y., Li, X., et al. (2010). Building new countryside in China: A geographical perspective. Land Use Policy, 27(2), 457–470. https://doi.org/10.1016/j.landusepol.2009.06.006

Lu, Y., Zhou, Y., Liu, P., et al. (2022). A Study on the Influence of the Income Structure on the Consumption Structure of Rural Residents in China. Sustainability, 14(16), 10380. https://doi.org/10.3390/su141610380

Lukin, E., Leonidova, E., & Sidorov, M. (2018). Boosting Domestic Demand as a Driving Force of Economic Growth (on the Example of Domestic Tourism Sphere). Economic and Social Changes: Facts, Trends, and Forecasts, 4(58). https://doi.org/10.15838/esc.2018.4.58.8

Min, S., Guo, L., & Ma, B. (2022). On the Construction of New Development Pattern in Ethnic Areas--From the Perspective of Consumption Upgrading Theory. Journal of Northwest Minzu University (Philosophy and Social Sciences), 4, 123–133. https://doi.org/10.14084/j.cnki.cn62-1185/c.2022.04.012

Partridge, M., Tsvetkova, A., & Betz, M. (2021). Are the most productive regions necessarily the most successful? Local effects of productivity growth on employment and earnings. Journal of Regional Science, 61(1), 30–61. Portico. https://doi.org/10.1111/jors.12499

Pavithra, M., & Velmurugan, R. (2023). Factors associated with consumer confidence. E3S Web of Conferences, 449, 04013. https://doi.org/10.1051/e3sconf/202344904013

Peng, Z., & Dan, T. (2023). Digital dividend or digital divide? Digital economy and urban-rural income inequality in China. Telecommunications Policy, 47(9), 102616. https://doi.org/10.1016/j.telpol.2023.102616

Qin, S., & Zhang, Y. (2023). Market integration and consumer spending. Applied Economics Letters, 1–7. https://doi.org/10.1080/13504851.2023.2257922

Shen, H., Luo, T., Gao, Z., et al. (2023). Digital financial inclusion and the urban–rural income gap in China: empirical research based on the Theil index. Economic Research-Ekonomska Istraživanja, 36(3). https://doi.org/10.1080/1331677x.2022.2156575

Sun, Z., & Xu, X. (2018). Industrial Innovation and Consumption Upgrade: An Empirical Study Based on the Perspective of Supply-side Structural Reform. China Industrial Economics, 7, 98–116. https://doi.org/10.19581/j.cnki.ciejournal.2018.07.005

Tian, Z., Wang, R., & Tan, Y. (2023). Research on the influence mechanism of internet use on rural residents' consumption level in China——The mediating effect of consumption literacy. PLOS ONE, 18(11), e0294723. https://doi.org/10.1371/journal.pone.0294723

Wang, M., & Li, Z. (2023). Digital Inclusive Finance and Enterprise Innovation: Theoretical Logic and Empirical Test. Journal of Management, 36(1), 102–119. https://doi.org/10.19808/j.cnki.41-1408/F.2023.0008

Wang, Y., Huang, H., Liu, J., et al. (2023). Rural Industrial Integration's Impact on Agriculture GTFP Growth: Influence Mechanism and Empirical Test Using China as an Example. International Journal of Environmental Research and Public Health, 20(5), 3860. https://doi.org/10.3390/ijerph20053860

Wang, Y., Sun, B., Zhang, T., et al. (2024). Can polycentric cities provide more and higher-order consumer amenities? Evidence from shopping malls in China. Applied Geography, 164, 103198. https://doi.org/10.1016/j.apgeog.2024.103198

Wu, Z., & Wang, Y. (2023). Consumer finance and consumption upgrading: An empirical study of CHFS. Finance Research Letters, 54, 103784. https://doi.org/10.1016/j.frl.2023.103784

Yang, L., Yu, J., Gong, S. & Ding, D. (2023). Will the integration of urban and rural labor markets improve export quality: A quasi-natural experiment based on the 2006 urban-rural coordinated employment pilot. China Soft Science, 11, 159–174.

Yang, Q., Qiao, S., & Ying, R. (2024). Agricultural industrial scale, price random fluctuation, and profitability levels: evidence from China's pig industry. Frontiers in Sustainable Food Systems, 8. https://doi.org/10.3389/fsufs.2024.1291743

Yang, W., Wang, L. & Zhang, Y. (2019). Research on the Border Effect of Inter-City Consumption Flows: A Case Study of the Middle Reaches of the Yangtze River. Finance & Trade Economics, 7, 127–142.

Yi, M., & Zhou, S. (2016). China's Labor Market Integration and the Effect of Economic Openness. Review of Development Economics, 20(1), 164–175. https://doi.org/10.1111/rode.12215

Yu, J., Shi, X., & Cheong, T. S. (2021). Distribution dynamics of China's household consumption upgrading. Structural Change

and Economic Dynamics, 58, 193–203. https://doi.org/10.1016/j.strueco.2021.05.012

Zhang, Y., & Zhang, Q. (2023). Income Disparity, Consumption Patterns, and Trends of International Consumption Center City Construction, Based on a Test of China's Consumer Market. Sustainability, 15(4), 2862. https://doi.org/10.3390/su15042862

Zhou, Q. (2023). Research on the impact of digital economy on rural consumption upgrading: evidence from China family panel studies. Technological and Economic Development of Economy, 29(5), 1461–1476. https://doi.org/10.3846/tede.2023.19511

Zhu, H., Zhao, Q. & Wang, C. (2022). Research on Digital Trade-Driven Consumption Upgrading under the Background of National Unified Market Construction. Journal of Business Economics, 10, 5–22.