

Urbanization, Aging, and Urban-Rural Consumption Upgrading: A Mechanism Study Based on Inter-Provincial Panel Data in China

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Abstract

Based on panel data of urban and rural residents' consumption from 31 provinces, autonomous regions, and municipalities in China from 2011 to 2023, this study systematically explores the evolutionary characteristics, regional differences, and driving mechanisms of urban and rural residents' consumption structure upgrading by constructing a demand income elasticity model, a Gini coefficient decomposition model, and a regional consumption upgrading convergence analysis. The study finds that the consumption structure of urban and rural residents is shifting from subsistence-oriented to development-oriented and enjoyment-oriented, with the urban-rural income gap being the primary factor influencing consumption differentiation. Residential consumption exhibits high income elasticity across all dimensions, particularly in urban areas. Regional consumption upgrading differences show a dynamic pattern of eastern regions leading, central regions catching up, and western regions differentiating, with the growth rate of intra-regional differences exceeding that of inter-regional differences, reflecting the intensifying phenomenon of consumption stratification within regions. This paper proposes policy recommendations from the dimensions of urbanization effects and income distribution structure, aiming to promote the coordinated upgrading of urban and rural consumption and contribute to the realization of the goal of common prosperity.

Keywords

Urban and rural residents' consumption structure; consumption upgrading; income distribution gap; Gini coefficient; demand elasticity; regional differences

1. Introduction

Against the backdrop of China's economic shift from high-speed growth to high-quality development, the upgrading of residents' consumption structure has become an important driving force for promoting the domestic circulation and facilitating the sustained and healthy development of the economy. However, the consumption gap between urban and rural areas and between regions remains significant, restricting the release of overall consumption potential and the

advancement of the common prosperity process. Currently, urban and rural residents' consumption in my country is undergoing a structural transformation from subsistence consumption such as food and clothing to service consumption such as housing, education, and medical care, but this transformation process exhibits obvious unbalanced characteristics between urban and rural areas and between regions.

Existing research mostly focuses on the analysis of factors influencing consumption structure or explores urban and rural consumption differences from a single dimension, lacking a systematic examination of the multi-dimensional interaction mechanisms of urban and rural areas, regions, and income distribution. Based on this, this paper uses provincial panel data from China from 2011 to 2023, and comprehensively applies demand elasticity analysis, Gini coefficient decomposition and regional convergence test to systematically examine the evolution path of urban and rural residents' consumption structure upgrading, the impact mechanism of urban-rural income gap and regional economic differentiation on consumption upgrading, and policy tools that can effectively promote consumption structure optimization and income distribution fairness.

2. Theoretical Basis and Research Review

Research on the mechanism by which urbanization influences urban and rural consumption upgrading has reached a core consensus based on empirical analysis using inter-provincial panel data: multi-dimensional paths and regional differentiation. Existing research generally believes that urbanization's driving effect on urban and rural consumption upgrading is not a single linear effect, but rather a transmission through multiple mediating mechanisms, with significant inter-provincial differences in the intensity of the effect. Liu et al. (2023), based on inter-provincial panel data from 2008 to 2022 in my country, empirically found using a mediating effect model that urbanization promotes urban and rural consumption upgrading through three paths: population agglomeration effect, industrial structure optimization effect, and public service equalization effect. Among these, population agglomeration can activate the consumption potential of rural residents through a consumption demonstration effect, while the service-oriented industrial structure can further enhance the consumption level of urban residents. This transmission mechanism is significantly more effective in eastern provinces than in central and western provinces. Chen Yang (2022) further refined the regional differences in his research. His threshold regression analysis based on inter-provincial panel data showed that once the urbanization rate crosses a specific threshold, its driving effect on urban and rural consumption upgrading significantly increases. In the eastern region, which has already crossed the threshold, urbanization is mainly driven by innovation in consumption scenarios, while in the central and western regions, the driving effect is mainly dependent on

infrastructure improvement due to low-quality urbanization and limited factor mobility. Furthermore, some studies focus on the unique value of new urbanization. Zhou Xiaoliang et al. (2024), based on inter-provincial panel data, found that new urbanization effectively alleviates rural residents' consumption constraints by breaking down the urban-rural dual structure and promoting the two-way flow of urban and rural factors. Its driving effect on rural consumption upgrading is significantly higher than that on urban areas, becoming a key lever for narrowing the urban-rural consumption gap.

Regarding the mechanism of aging's impact on urban and rural consumption upgrading, empirical studies based on inter-provincial panel data have formed a research pattern of dual effects and mechanism disagreements. Existing research on the overall impact of aging on consumption upgrading presents three main viewpoints: inhibition theory, promotion theory, and threshold effect theory. The core disagreement lies in the differences in the mechanisms of influence. Zhao Wei et al. (2023), who hold the suppression theory, empirically demonstrated using inter-provincial panel data from 2009 to 2023 that population aging inhibits urban and rural consumption upgrading through two pathways: reducing labor participation rates and increasing residents' precautionary savings propensity. This suppression effect is more pronounced in rural areas, primarily due to the imperfect rural social security system and the heavy burden of medical and elderly care expenditures on the elderly population. Li Juan et al. (2022), who hold the promotion theory, empirically found using inter-provincial panel data that aging has spurred new consumption demands related to the silver economy. This has driven urban and rural consumption upgrading through a mechanism of optimizing the consumption demand structure. Among these, the increased proportion of consumption in healthcare, elderly care services, and age-friendly products has become a new growth point for consumption upgrading, and this effect is more prominent in developed eastern provinces. The threshold effect theory integrates the two viewpoints mentioned above. Wang Hao et al. (2024), based on threshold regression analysis using inter-provincial panel data, showed that the impact of aging on urban and rural consumption upgrading has a social security level threshold. When the social security level crosses a specific threshold, the consumption-promoting effect of aging outweighs the inhibitory effect, exhibiting a positive driving effect. However, due to lower social security levels, central and western provinces are still in the stage where aging inhibits consumption upgrading.

The interaction mechanism between urbanization and aging has become a new hot topic in recent years based on inter-provincial panel data research. Its core lies in revealing the inherent logic of their synergistic effect on urban and rural consumption upgrading. Existing research generally believes that urbanization and aging do not act on consumption upgrading in isolation, but rather have a significant

interactive moderating effect, mutually mitigating or reinforcing their respective impacts on consumption upgrading. Zhang Lei et al. (2023), based on inter-provincial panel data from 2008 to 2022, conducted an interaction term test, which showed that urbanization and aging have a synergistic regulatory effect on urban and rural consumption upgrading. Urbanization, by improving elderly care facilities and enhancing social security, effectively mitigates the inhibitory effect of aging on consumption upgrading, especially in provinces with large population inflows, where this synergistic effect is more prominent. Conversely, a moderate level of aging can force urbanization to transform towards age-friendly models, promote the age-friendly transformation of consumption scenarios, and further release consumption potential. Lin Li et al. (2022), on the other hand, focused on regional heterogeneity. Based on inter-provincial panel data, they found that the interaction effect between urbanization and aging in the eastern region is positively synergistic, with both jointly promoting urban and rural consumption upgrading. However, in the central and western regions, due to low-quality urbanization and rapid aging, the interaction effect is negative, further widening the urban-rural consumption gap.

3. Data Sources and Research Design

3.1. Data Sources

The data used in this study mainly comes from the National Bureau of Statistics and the China Economic Information Network database, encompassing panel data on urban and rural residents' consumption from 31 provinces, autonomous regions, and municipalities in my country from 2011 to 2023. Core observation indicators include consumption expenditure, the old-age dependency ratio of the resident population, the urbanization rate of the resident population, residents' income, and data related to high-level goods and services consumption.

3.2. Descriptive Statistical Analysis

Based on 279 samples, covering three dimensions: total population, urban areas, and rural areas, the core variables include consumption expenditure, component consumption, the old-age dependency ratio, the urbanization rate, and residents' income. The old-age dependency ratio and the urbanization rate show complete uniformity in mean and standard deviation across the three dimensions, with mean values of 16.46 and 61.09, and standard deviations of 4.57 and 12.02, respectively. Consumption and income exhibit significant urban-rural stratification: the mean consumption expenditure and income in urban areas are much higher than those in the total population and rural areas, while the corresponding mean values in rural areas are only 12520.12 and 15548.28, respectively. The differences in consumption categories also reflect the significant income and consumption gap between urban

and rural areas in my country, which is gradually narrowing.

Table 1. Descriptive statistics of key variables

	VARIABLES	N	Mean	SD	Min	Max
ALL	consumexpense	279	19,603.88	7,570.62	7,316.95	48,879.30
	l_cons1	279	5,058.36	3,158.77	1,553.01	18,302.54
	l_cons2	279	0.24	0.04	0.18	0.42
	oadr	279	16.45	4.57	7.01	28.77
	ur	279	61.08	12.02	26.23	89.33
	income	279	28,242.18	12,542.85	10,730.00	79,610.00
Town	consumexpense	279	24,782.19	6,924.45	14,636.88	51,294.60
	l_cons1	279	6,420.91	3,203.38	3,236.83	19,836.44
	l_cons2	279	0.24	0.04	0.18	0.43
	oadr	279	16.45	4.57	7.01	28.77
	ur	279	61.08	12.02	26.23	89.33
	income	279	37,617.10	11,827.38	21,803.86	84,034.00
Rural areas	consumexpense	279	12,520.12	4,236.50	4,822.07	27,483.37
	l_cons1	279	2,907.42	1,268.86	836.40	8,325.54
	l_cons2	279	0.22	0.03	0.15	0.34
	oadr	279	16.45	4.57	7.01	28.77
	ur	279	61.08	12.02	26.23	89.33
	income	279	15,548.28	6,154.41	6,276.59	39,729.42

Based on inter-provincial urban and rural resident consumption data, this paper analyzes the evolution of consumption structure. Key variables involved in the study include consumption expenditure, the old-age dependency ratio of the resident population, the urbanization rate of the resident population, and the urban-rural income ratio.

Formula for calculating income elasticity of demand:

$$EM_i = \frac{\partial X_i / X_i}{\partial Y / Y} = \xi_i \frac{Y}{X_i P_i} = \xi_i \frac{Y}{C_i}$$

Where X_i represents the actual demand for the i -th good, P_i represents its price, and EM_i represents the income elasticity of demand.

$$G = \frac{1}{n^2 u} \sum_{j=1}^k \sum_{h=1}^k \sum_{i=1}^{n_j} \sum_{r=1}^{n_h} |y_{ji} - y_{hr}|$$

$$G = G_w + G_{nb} + G_t$$

$$G = \sum_{j=1}^k G_{jj} p_j s_j$$

$$G_{nb} = \sum_{j=2}^k \sum_{h=1}^{j-1} G_{jh} (p_j s_h + p_h s_j) D_{jh}$$

$$D_{jh} = \frac{d_{jh} - p_{jh}}{d_{jh} + p_{jh}}$$

$$G_{jj} = \frac{2}{n_j^2 \mu_j} \sum_{i=1}^{n_j} \sum_{r=1}^{n_j} |y_{ji} - y_{jr}|$$

$$G_{jh} = \frac{1}{n_j n_h (\mu_j + \mu_h)} \sum_{i=1}^{n_j} \sum_{r=1}^{n_h} |y_{ji} - y_{hr}|$$

$$CS_{it} = \sum_{i=1}^2 \frac{P_{it}}{P_t} \left(\frac{survive_{it}}{C_{it}} \times 1 + \frac{develop_{it}}{C_{it}} \times 2 + \frac{denjoy_{it}}{C_{it}} \times 3 \right)$$

Where n is the total sample size (number of provinces), μ is the mean of the consumption upgrade index of all provinces, y_{ji} and y_{hr} are the consumption upgrade indices of the i -th province in region j and the r -th province in region h , respectively, k is the number of regions (e.g., East, Central, West), n_j and n_h are the number of provinces in region j and region h , respectively, CS_{it} is the consumption structure upgrade, C_{it} and P_{it} are the total consumption and total population in urban or rural areas, and $survive_{it}$, $develop_{it}$, $denjoy_{it}$ represent survival consumption, development consumption, and enjoyment consumption, respectively.

4. Empirical Results and Analysis

4.1. Comparative Analysis of Demand Elasticity

By comparing the price elasticity and income elasticity of demand for housing and food, the significant differences between the two consumption types in the overall consumption structure are clearly demonstrated. Price elasticity measures consumers' sensitivity to price changes, while income elasticity reflects the impact of income fluctuations on consumption demand. Data shows that the price elasticity of housing demand is much higher than that of food, while the opposite is true for income elasticity, with food having a higher income elasticity. These differences in elasticity are mainly determined by the fundamental differences between the two consumption types in terms of necessity, substitutability, and consumption level.

The main conclusions and mechanism analysis focus on three main aspects: differences in utility and price elasticity, differences in income elasticity and consumption stratification, and differences in substitutability and policy sensitivity, as detailed below.

4.1.1. Differences in the Necessity and Price Elasticity of Attributes

Food, as a basic survival product, exhibits low price sensitivity, corresponding to its relatively low price elasticity. Even if food prices rise, consumers must maintain a basic level of consumption and can only make minor adjustments by changing their consumption structure, such as reducing consumption of non-essential items or shifting to more affordable alternatives. In contrast, housing demand offers greater flexibility: when real estate or rental prices rise, consumers can cope by reducing

living space, extending leases, or moving to cheaper areas, making housing demand more price-sensitive. Figure 4.4 shows that the price elasticity of housing demand is 0.8, meaning a 1% price increase leads to a 0.8% decrease in housing demand—a figure significantly higher than the price elasticity of food, which is 0.2.

4.1.2. Income Elasticity and Differences in Consumption Structure

The income elasticity of food demand is only 0.5, indicating that after income growth, residents invest their extra income in areas such as housing and education to improve consumption, rather than significantly increasing food spending. In contrast, the income elasticity of housing demand is 1.5, meaning that a 1% increase in income leads to a 1.5% increase in housing spending, highlighting the central role of housing in the modernization of consumption. For example, urban residents tend to optimize their living conditions after income growth, such as buying more spacious apartments or choosing better residential areas, rather than increasing food consumption. This phenomenon is closely related to the crowding-out effect of urbanization, where increasing housing spending reduces spending in other areas and exacerbates the economic burden on low- and middle-income groups.

4.1.3. Differences in Substitutability and Sensitivity to Policy

Food consumption has no effective substitutes, especially for staple foods and vegetables, whose demand is inelastic. Price changes depend more on global supply chains and production costs, while the effects of political intervention are limited. In contrast, housing demand is more flexible, subject to both political measures such as social housing and rent subsidies, and spatial changes such as agglomeration effects. For example, government measures, such as home purchase bans or interest rate adjustments, can directly influence people's housing decisions. Meanwhile, the inelasticity of food demand makes it more of a stabilizer in the consumer market than a primary target of political measures. The elasticity data shown in Figure 4.4 confirms this trend: housing demand responds more directly to political intervention, while the inelasticity of food demand remains relatively stable.

In summary, by comparing and analyzing demand elasticity, this study reveals the dual attributes of rigid demand and elastic demand for improvement in housing and food consumption behavior, providing crucial support for understanding the characteristics of urban-rural consumption differentiation and clarifying the core direction of policy regulation.

Table 2 shows the demand-income elasticity of eight categories of consumption expenditure across three dimensions: total, urban, and rural. It primarily reflects the differences in the response of different consumption categories to income changes and the characteristics of urban-rural differentiation. Overall, only housing consumption elasticity is greater than 1 in all dimensions: 1.50 for total, 1.66 for urban, and 1.06 for rural, highlighting the core position of housing in consumption

upgrading. Urban residents are also more sensitive to income in housing consumption.

Significant urban-rural differences exist: the elasticity of food, tobacco and alcohol, clothing, and transportation and communication is higher in rural areas than in urban areas, reflecting that even with income growth, rural residents still prioritize meeting basic living and travel needs. Conversely, the elasticity of education and culture and healthcare is higher in urban areas than in rural areas, with rural education and culture elasticity at only 0.41, reflecting the gap in urban and rural consumption levels. Among other categories, healthcare and daily necessities have elasticities below 1, falling into the category of necessities, and the urban-rural differences are relatively mild.

In summary, the data confirms the divergence in consumption structures between urban and rural areas: urban areas focus on improved living standards such as housing and healthcare, while rural areas still prioritize basic needs. This provides data support for the precise formulation of differentiated consumption upgrading policies for urban and rural areas.

Table 2. Comparison of Demand Elasticity

VARIABLES	All	Town	Rural areas
EM_ce_foodtobaccoliquor	0.65	0.63	0.83
EM_ce_clothing	0.45	0.24	0.66
EM_ce_resident	1.50	1.66	1.06
EM_ce_dailyuse	0.71	0.67	0.84
EM_ce_trafficconmmunicate	0.73	0.71	0.93
EM_ce_educateculture	0.72	0.70	0.41
EM_ce_healthcare	0.77	0.81	0.74
EM_ce_othersupervices	1.05	0.98	0.86

4.2. Evolution of Regional Consumption Upgrading Disparities

The dynamic changes in regional economic differentiation and urban-rural income gap directly reflect regional differences in consumption upgrading. Combining the time-series trends of intra-regional differences, inter-regional differences, and hypervariable density, this paper systematically elucidates the evolutionary characteristics of regional differences in my country's consumption upgrading process, echoing the income distribution driving mechanism revealed by the Gini coefficient.

The paper depicts the annual fluctuations of regional consumption upgrading disparities in my country from 2014 to 2022. The horizontal axis represents the year, and the vertical axis limits the index values to a range of 0-0.5. The three broken lines correspond to intra-regional differences, inter-regional differences, and hypervariable density, clearly presenting the co-evolutionary trajectory of these three types of differences.

4.2.1. Core Trends and Data Analysis are as follows: Stage 1 (2014-2017)

A period of stable differentiation. All three indices showed a moderate upward trend: hypervariable density increased from 0.40 in 2014 to 0.42 in 2017, intra-regional differences increased from 0.25 to 0.28, and inter-regional differences increased from 0.15 to 0.18. While targeted poverty alleviation policies have slowed income inequality, regional responses to consumption upgrading have lagged: eastern coastal cities have taken the lead in expanding service consumption, while central and western regions remain dominated by goods consumption. Differences in consumption pace among cities within the region and the divergence in industrial layout across regions have collectively contributed to the slow accumulation of consumption disparities.

Phase Two (2017-2020): Accelerated Differentiation Period. All three indices entered a rapid upward trajectory: the supervariability density exceeded 0.45, intra-regional disparities rose to 0.31, and inter-regional disparities rose to 0.21. This period is highly correlated with the later stages of Phase Three of the Gini coefficient test—although rural income growth surpassed urban growth, the threshold effect of consumption upgrading became apparent: first-tier cities, through the digital economy and high-end service industry upgrades, exacerbated consumption stratification, while rural areas in central and western regions, constrained by infrastructure and income levels, lagged behind in consumption upgrading. Furthermore, uneven population flow and industrial transfer between regions further amplified consumption disparities.

Phase Three (2020-2022): A Period of Continued Growth. All three indices continued their upward trend: the supervariability density climbed to 0.48, the regional disparity rose to 0.33, and the inter-regional disparity increased to 0.23. The lagging recovery of the service sector after the pandemic, the sluggish employment recovery of low-income groups, coupled with the differentiated implementation of regional economic policies—eastern urban clusters continued to lead the way by cultivating new consumption scenarios, while the lagging transformation of traditional industries in the Northeast and Central and Western regions resulted in insufficient momentum for consumption upgrading, ultimately driving a simultaneous widening of consumption disparities and income gaps.

Overall, the persistently high supervariability density and the faster growth rate of regional disparities reflect that the regional differentiation in my country's consumption upgrading stems not only from the spatial gap between the east, central, and west, but also from the differentiation of consumption levels among different cities within regions. This further confirms that regional income imbalance is the core root cause of the widening disparities in consumption upgrading.

4.2.2. Dagum Gini Coefficient Decomposition

This section uses the China Regional Gini Coefficient Trend (2014-2022) chart as the core analytical framework. This chart compares the annual changes in the Gini

coefficient at the eastern, central, western, and national levels using line graphs. Red represents the eastern region (0.307 in 2022), blue represents the central region (0.132), green represents the western region (0.177), and black represents the national level (0.280), clearly presenting the spatiotemporal characteristics of regional income disparity.

Key findings and trend analysis: From the perspective of horizontal differences, the Gini coefficient in the eastern region has consistently been the highest, reaching 0.307 in 2022, significantly higher than the national average of 0.280, reflecting that income stratification is more pronounced in the east due to industrial upgrading and resource agglomeration effects. The Gini coefficient in the central region has been the lowest for a long time (0.132 in 2022) and has the smallest fluctuation range, reflecting its relatively balanced industrial structure and more stable income distribution. The Gini coefficient in the western region decreased from 0.225 in 2014 to 0.177 in 2022, reflecting the positive effect of targeted poverty alleviation and the Western Development Strategy on narrowing the internal income gap. From a timeline perspective, the Gini coefficient in eastern China remained stable with a slight increase from 2014 to 2019. It briefly declined in 2020 due to the impact of the pandemic but then rebounded, highlighting the resilience of the eastern economy. The Gini coefficient in central China fluctuated at a low level, then declined slightly after 2020, which is related to the equalization of employment brought about by industrial relocation. The Gini coefficient in western China continued to decline, then stabilized and rebounded after 2021, reflecting the diminishing marginal effect of policies. The national Gini coefficient first stabilized and then declined, then rebounded slightly after 2020, echoing the conclusion in Section 4.2.1 regarding the widening income gap after the pandemic.

Data Comparison and Policy Implications: Significant differences in Gini coefficients between regions reflect deep-seated contradictions such as unbalanced industrial layout and uneven resource allocation. Policy effectiveness verification shows that poverty alleviation policies in western China have led to a cumulative decrease of 21% in its Gini coefficient. However, the wage gap between high-income industries and traditional industries within eastern China continues to widen, requiring anti-monopoly and redistribution policies to balance internal income. Central China, on the other hand, needs to further consolidate income equality through industrial relocation to avoid falling into a low-growth, low-differentiation trap. Overall, the divergent characteristics of regional Gini coefficients provide empirical evidence for formulating differentiated income distribution policies that control the divergence in the east, boost growth in the central region, and prevent a rebound in the west.

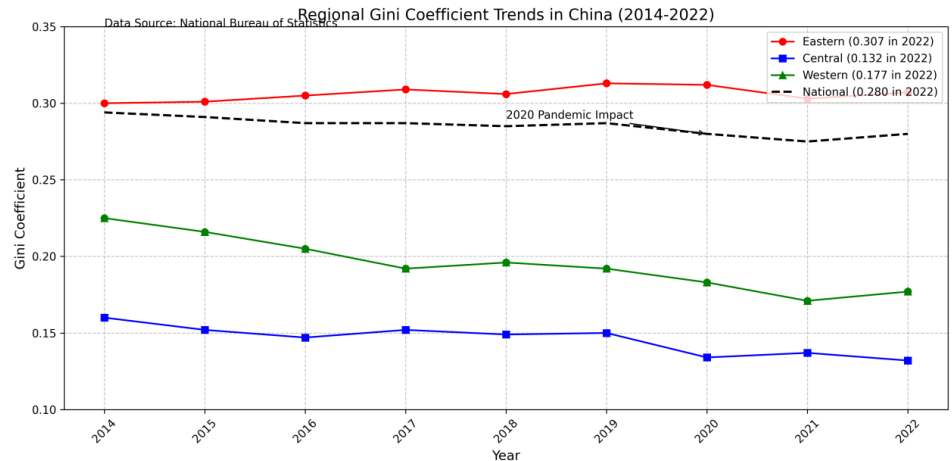


Figure 1. Contribution of the Gini coefficient

4.3. Urbanization Effects

4.3.1. Structural Analysis of Regional Disparity Evolution

Following the analysis of the evolution of the Gini coefficient and consumption upgrading differences in Section 4.2, the structural differentiation of regional development is both the core cause of widening income inequality and the underlying logic of consumption upgrading stratification. This section uses the comprehensive analysis of regional differences (2014-2022) as the core analytical basis. This chart adopts a dual-axis design: blue bars represent inter-regional differences, and red broken lines represent intra-regional differences. The horizontal axis represents the year, the left vertical axis represents the inter-regional difference value, and the right vertical axis represents the intra-regional difference value. By comparing the evolution trends of these two types of differences, the structural contradictions in my country's regional development are revealed, echoing the previously discussed correlation mechanism between income distribution and consumption upgrading.

4.3.2. Regional Disparities

Sectoral Differentiation Dominates: The regional disparity value steadily increased from 0.15 in 2014 to 0.23 in 2022, with an average annual increase of approximately 0.01. This trend corroborates the conclusion in Section 4.2.1 that the Gini coefficient in Stage Three (2013-2020) exacerbated income inequality due to regional economic differentiation. The per capita GDP gap between the eastern and central-western regions widened from 2.7 times in 2014 to 3.2 times in 2022. The siphon effect of industrial upgrading and resource agglomeration has enabled the eastern region to continue to lead, while the transformation of traditional industries in the central and western regions has lagged behind. This not only widens the

income gap between regions but also directly leads to gradient differences in consumption upgrading, which is highly consistent with the analysis of regional consumption upgrading dynamics in Section 4.4.

4.3.3. Intra-regional Disparities

Internal Stratification Intensifies: The intra-regional disparity value increased from 0.25 in 2014 to 0.33 in 2022, a faster growth rate than inter-regional disparities, indicating more significant income and consumption differentiation within the same region (e.g., between eastern urban clusters and counties, or between western urban and rural areas). Taking the eastern region as an example, the gap in per capita disposable income between core cities and counties increased from 1.8 times in 2014 to 2.3 times in 2022; the gap in consumption expenditure between rural and urban areas in the west remained at 2.1 times.

Imbalance in Factor Flow: Capital and talent continue to concentrate in core cities within the region, while counties and rural areas face pressure from factor outflows. A weak industrial base leads to insufficient endogenous growth momentum, further amplifying the stratification effect of income and consumption within the region.

4.3.4. Analysis of Mechanism Differences

The differences between regions mainly stem from policy inclination and path dependence of industrial layout: the eastern region relies on its first-mover advantage to form high-end industrial clusters, while the central and western regions are constrained by infrastructure and business environment, making it difficult to break through development bottlenecks; the differences within the region are related to the urban-rural dual structure and the Matthew effect of factor agglomeration: core cities continuously absorb resources through economies of scale, while counties and rural areas lack industrial support.

A horizontal comparison of coverage and quality indicators in public services such as education, healthcare, and transportation between urban and rural areas reveals the following key findings and underlying mechanisms:

Housing Consumption:** Demand elasticity was the highest across all three sample types, with urban areas showing significantly higher elasticity than rural areas. Rural areas, constrained by income levels and industrial bases, exhibited relatively lower elasticity, reflecting urban-rural differences in housing consumption.

Food, Tobacco, and Alcohol:** Rural areas showed higher elasticity than urban areas, indicating that rural residents are more sensitive to basic consumption after income growth, still in a transitional phase from subsistence-oriented to improvement-oriented consumption. Urban areas, on the other hand, showed lower elasticity for food, tobacco, and alcohol, reflecting a shift in their consumption structure towards service-oriented upgrading.

Education and Culture: Urban areas showed significantly higher elasticity than rural

areas. The concentration of high-quality educational resources in urban areas makes residents more willing to invest in education. Rural areas, however, suffer from insufficient educational resources and high teacher turnover rates, resulting in lower elasticity. This further confirms the constraint of the capacity poverty trap on consumption upgrading.

Other Categories: Elasticity in categories such as healthcare and transportation/communication was generally higher in urban areas than in rural areas, reflecting a shift in urban consumption upgrading towards service-oriented sectors such as healthcare and cultural tourism. Rural areas, however, still focus on meeting basic needs, highlighting the gradient differentiation in urban and rural consumption structures.

4.4. Regional Consumption Upgrading Dynamics

This section uses the convergence trend chart of regional consumption upgrading as the core analytical basis. This chart, through the kernel density curves of the consumption upgrading index in the eastern, central, and western regions from 2014 to 2022, presents the distribution and evolution characteristics of regional consumption upgrading: the horizontal axis represents the consumption upgrading index, and the vertical axis represents the density value. The gray/black curves represent the overall trend from 2014 to 2022, while the blue, orange, and green curves correspond to the eastern, central, and western regions, respectively.

4.4.1. Eastern Region

The curve shows a right-skewed distribution, and the density peak in 2022 shifted significantly to the right compared to 2014, reflecting the continued leading position of consumption upgrading in the east, with a prominent agglomeration effect of high-value-added service consumption and high-end goods.

4.4.2. Central Region

The curve shows a single-peak convergence shape, with the density peak gradually increasing, reflecting that the central region is accelerating its catch-up by relying on industrial transfer and e-commerce penetration policies, and the gap between its consumption upgrading pace and that of the east is continuously narrowing.

4.4.3. Western Region

The curve exhibits a bimodal distribution, reflecting a significant gap in consumption upgrading between core cities and rural counties in the west. This gap is constrained by both the urban-rural income dual structure and insufficient public service supply, requiring policy intervention to break the low-level cycle.

In summary, the differentiated characteristics of the kernel density curve reveal the dynamic pattern of regional consumption upgrading in my country: the east leading,

the central region catching up, and the west showing differentiation. This also provides empirical support for formulating differentiated policies for expanding and improving the eastern region, promoting coordinated upgrading in the central region, and addressing shortcomings in the western region, ultimately pointing towards the development direction of common prosperity.

5. Conclusions and Recommendations

This paper, combining relevant research and empirical analysis, finds that the consumption structure of urban and rural residents in my country is steadily shifting from a subsistence-oriented to a development-oriented and enjoyment-oriented model. The proportion of basic living expenses such as food and clothing continues to decline, while the proportion of service-oriented consumption such as housing, healthcare, education, culture, and entertainment is steadily increasing. However, significant consumption differentiation exists between urban and rural areas and between different regions. The eastern region and first-tier cities are leading the way in optimizing their consumption structure, while the central and western regions and rural areas are still dominated by basic necessities. The core reason for this difference is the imbalance in income distribution.

The urban-rural income gap is the primary cause of consumption stratification. The significant gap in per capita disposable income between urban and rural residents, particularly in property income, directly leads to the differentiation in urban and rural consumption demand. Imbalanced regional industrial layout widens the consumption gradient, with the eastern region's concentration of high-end resources driving consumption upgrading, while the central and western regions lag behind in optimizing their consumption structure. Industry wage disparities and the Matthew effect in education further amplify the income gap, causing consumption to tilt towards both high-end and basic necessities. International comparisons show that my country's Gini coefficient is higher than the global average, indicating significant room for improvement. Policies such as targeted poverty alleviation and regional transfer payments have shown positive effects in narrowing the income gap. Furthermore, urbanization and aging have an interactive effect on consumption upgrading, synergistically contributing to the transformation of consumption structure. The strength of this effect is constrained by regional development levels and the completeness of social security.

Based on these conclusions, to achieve the dual goals of coordinated consumption structure upgrading and income distribution optimization, the following suggestions are proposed: First, take urbanization as the core lever to optimize urban planning and industrial layout, promote the two-way flow of factors between urban and rural areas, improve rural public services, activate rural consumption potential, and narrow the urban-rural consumption gap. Second, focus on balanced regional development, increase support and transfer payments for industries in the central

and western regions, promote industrial upgrading and employment quality improvement, raise residents' income levels, and alleviate regional consumption disparities. Third, optimize the income distribution structure, improve the tax adjustment mechanism, raise the minimum wage standard, increase social security investment for low-income groups, and stabilize income expectations. Fourth, balance the coordinated development of aging and consumption upgrading, improve the old-age security system, promote age-friendly transformation of consumption scenarios, and cultivate new growth points for the silver economy. Fifth, strengthen the balanced allocation of educational resources, narrow the education gap, break the intergenerational transmission of income, and provide support for optimizing the consumption structure. Through multi-pronged efforts, steadily narrow the income gap, promote coordinated consumption upgrading between urban and rural areas and across regions, and contribute to the realization of the goal of common prosperity.

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