

Article

A Study of Countermeasures to Activate the Consumption Potential of Urban Residents in Yangtze River Delta Region by Linking Supply and Demand Synergy

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Abstract: The global economic recovery is having trouble because of the epidemic. A key strategy for boosting China's economic vigor is to increase domestic demand. The goal of this essay is to examine the consumption habits of city dwellers from the standpoint of urban development. It also examines the barriers to consumption upgrading from both the supply and demand sides. Using the panel data of 41 prefecture-level cities in the Yangtze River Delta from 2005 to 2019, this study explores the distribution of cold and hot spots as well as the agglomeration of residents' marginal consumption tendencies using ArcGIS' Jenks method. We provide ideas and actions to raise inhabitants' consumption standards and levels in cold spot locations on the supply and demand sides. The empirical findings demonstrate that: (1) There are distinct spatial patterns in the seven categories of consumer goods consumption tendencies among urban residents in the Yangtze River Delta, (2) in contrast to hot spots, urban residents in cold spots are constrained by the supply side, and the demand for consumption upgrading has not yet been met. Hence, we can increase the capacity for consumption by raising resident income, altering their consumption patterns, and developing consumer marketplaces.

Keywords: consumption preference; panel data; city development; Jenks; supply and demand synergy



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1. Introduction

China urgently needs to enhance its economic vitality by increasing domestic demand because the pace of the global economic recovery has slowed due to the present slump and the effects of the COVID-19 epidemic.

To accelerate China's economic growth, the consumer market needs to be revived. Final consumption spending, gross capital formation, and net exports of goods and services will each contribute 1, 1.5, and 0.5 percentage points to economic growth in 2022 in China, the proportion of GDP is 32.8%, 50.1%, and 17.1%, respectively, according to the "troika's" contribution to economic growth [1]. Due to the effects of the epidemic, net exports of goods and services are not enough to support the economy, yet, gross capital formation and final consumer spending both contribute less than 65.4% of GDP in 2021. In the medium term, the pandemic is more plainly disrupting the consumer market, and in 2022, residents' willingness to consume is also diminishing as the issue of residents not daring to consume and the problem of uncomfortable consumption become more visible. Thus, there is a need to study how to increase the propensity of urban and rural populations to purchase as well as how to revive and improve the consumer market and consumption scale.

In order to increase the endogenous strength and dependability of the domestic general cycle, the 20th Congress of the Communist Party of China in 2022 (The Constitution of the Communist Party of China provides for the holding of a congress every five years to focus on the deployment of the Party's major policies, and 2022 is the twentieth) proposed

deepening structural reform on the supply side in addition to expanding domestic demand. It also proposed enhancing the fundamental role of consumption in economic development.

The Yangtze River Delta region has a high degree of economic development, a sizable population, and strong economic coordination, representing a high level of economic development in China. The Yangtze River Delta area, which includes the provinces of Zhejiang, Jiangsu, and Anhui, uses Shanghai as its economic hub. It contributes nearly a quarter of the nation's GDP and has an urbanization rate that is over 70% of the entire population, which is around 10% more than the national average [2]. The Yangtze River Delta building has also brought the cities and regions closer to the exchange of talent, industrial development, factor flow, and economic and trade activities. As a result, the Yangtze River Delta area has a sizable potential consumer market, and urban people's consumption levels are higher than those of the rest of the country.

The Yangtze River Delta's export-oriented economic development model, which was created over years of development, has, however, sustained relatively significant damage as a result of the epidemic, presenting a mismatch between domestic demand and supply and foreign demand-oriented production and supply [3]. The Yangtze River Delta's regional economy's sustainability and the development of multi-level consumer centers are both hampered by this mismatch, which makes it difficult to achieve the region's strategic goal of integration at the consumer level. This mismatch also prevents the development of a large domestic economic cycle. In order to promote regional economic stability, the Yangtze River Delta region must use consumer demand as a guide, adjust and optimize the industrial structure, overcome barriers, roadblocks, and challenges that arise when constructing the double cycle, and achieve successful supply-demand linkage and synergy [4]. This will allow the region to lead in forming a new development pattern nationwide and become a national model.

Due to its prominence in the country's economic development, the Yangtze River Delta region's inadequacies in the imbalanced development of supply and demand are also indicative of the entire nation. Using this location as the research subject is more prospective and can help the country demonstrate how to increase local demand and create supply-demand equilibrium.

The purpose of this article is to: On the one hand, using ArcGIS, we will investigate the spatial agglomeration and distribution characteristics of cold and hot spots of marginal consumption propensity of residents in prefecture-level cities in the Yangtze River Delta region, and analyze the barriers, successes, and difficulties of consumption upgrading from both a supply and demand perspective. On the other hand, we suggest more specific and useful policy actions to boost domestic demand in the cold areas of the Yangtze River Delta region and enhance the quantity and quality of consumption. This is based on the theory of supply and demand balance and is guided by hot spots. The results of the model runs in this paper are significant. It was discovered that the seven categories of consumer goods consumption preferences of urban residents in the Yangtze River Delta displayed different spatial distribution patterns. In contrast to hot spots, urban residents in cold spots are constrained by the supply side, and the demand for consumption upgrading has yet to be satisfied, according to the study.

The following contributions and innovations may exist in this paper: (1) About data acquisition. The sample data in this paper uses the panel data of 42 prefecture-level cities in the Yangtze River Delta region, which contains more information and analyzes the issue in a more focused manner, as opposed to the provincial panel data that are frequently used in consumer preference studies, which are simple to obtain but have a small number of participants and little information. (2) Regarding the analytical viewpoint. While examining why urban inhabitants' consumption is insufficient in comparatively underdeveloped regions, this work introduces the theory of supply-demand equilibrium, which is novel from the perspective of issue analysis. (3) Concerning the analyzing tool. This work uses ArcGIS's natural break approach to investigate the distribution of cold hot spots at the prefecture-level city level in the Yangtze River Delta region and the clustering

of residents' marginal propensity to consume. (4) In the long run, the suggestions proposed in this article will serve as a reference foundation for improving the urban consumption network within the context of the domestic economic cycle and fostering the integration of the Yangtze River Delta consumption level.

2. Literature Review

From the perspective of the relationship between supply and demand, supply and demand should work together to improve domestic circulation, maximize inhabitants' consumption potential, and increase their desire to purchase. The economic cycle is represented by the supply side of products, which is represented by industries, and the demand side, which is represented by consumers, which determines when the next round of economic recirculation starts [5]. The consumer demand for branding, quality, personalization, and experience shows new trends and characteristics, which provide the direction for industrial upgrading from the demand side [6]. From the supply side, the new round of scientific and technological revolution promotes industrial change, and the industrial change produced by new science and technology like Internet, big data, and artificial intelligence changes the original way of life [7]. The new consumption is characterized by new business modes and new models like online shopping, mobile payment, and offline integration, which highlights the connotation of industrial change leading to change in the consumption [8]. Because of this, industrial upgrading encourages consumer upgrading, while consumption upgrading encourages industrial upgrading. These two factors encourage synergistic growth, which in turn encourages societal improvement [9].

Unfortunately, China frequently fails to accomplish the effective synergy between consumer upgrading and industry development due to a number of problems, including information asymmetry and weak institutional procedures. The construction of the domestic economic cycle has been plagued by numerous roadblocks and breakpoints as a result [10], which has a negative impact on the underlying national policy depending on local demand to support the steady growth of China's economy. Therefore, in order to increase domestic demand, it is vital to consider how to maintain a balance between supply and demand.

According to the *Intermediate Microeconomics a Modern Approach*, people's consumption is primarily determined by their capacity and will to consume [11]. The amount that inhabitants are willing to spend per unit increase in income, or marginal propensity to consume, is the consequence of consumption decisions at a particular income level, as opposed to consumption ability, which is often defined by income. The tendency to consume is a crucial indication of residents' desire and preference for consumption and using it as a starting point to examine preferences is a crucial angle from which to examine residents' consumption issues. The propensity to consume is the measuring index utilized in the majority of domestic studies on consumption preferences. The research viewpoint adopted in these studies also includes the trend of change, influencing variables, geographical disparities, and the urban-rural divide. The three primary modeling techniques are ELES [12], AIDS [13], and panel data models [14].

Studying the factors that affect consumption preferences has produced a wealth of findings, particularly from the perspectives of consumption habits, income distribution, macro policy, and social security, all of which have the potential to alter consumption tendencies. From an income viewpoint, the economic disparity of urban families can be greatly reduced through income redistribution to lower the income of high-income households and enhance the income level of low-income households [14], the effects of various income sources on the varied consumption expenditures of rural populations in central and western China differ [15]. From a macroeconomic policy perspective, unanticipated fiscal policy shocks have a negative effect on the population's marginal propensity to consume [16], tax reduction measures have a strong positive effect on expanding consumption [17], rate increases and increases in agricultural employment as a share of total employment have a negative effect on fruit consumption [18]. What is more, habit development slows down

the rate of change in residents' consumption and prevents the increase in consumption propensity [19]. Urban inhabitants who participate in social security have a larger marginal propensity to consume than those who do not [20]. Population aging has a positive impact on rural residents' service consumption [21].

The spatial analysis approach of ArcGIS is one of the geographical aspects that scholars have recently begun to gradually add to the study of residents' consumption issues. ArcGIS is a platform for gathering, managing, organizing, sharing, and publishing geographic data. For regional planning [22], resource forecasts [23], mineral structure [24], and other purposes, it can be utilized for geographic analysis, spatial statistics, visualization, and spatial modeling. Any field involving maps and spatial data can be used. ArcGIS can be used to examine the spatial evolution characteristics of urban living services in the area of consumption [25]. Its natural breakpoint classification approach, which can graphically display the inter-provincial spatial disparities in resident consumption [26], has the biggest variance across groups and the smallest variance within groups (<https://pro.arcgis.com/zh-cn/pro-app/latest/help/mapping/layer-properties/data-classification-methods.htm>, accessed on 20 March 2023).

The following are the key issues with local and international experts' study on the topic of consumption preference: (1) Due to data availability constraints, the majority of scholars conduct research using national or provincial-level data without considering the variations among municipalities within provinces and cities, even though lower-level urban and rural consumption capacity and characteristics within provinces and cities are what have the greatest influence on provincial and municipal consumption patterns, (2) although researchers have just started to focus on the impact of geospatial determinants on economic growth, they have not yet discussed the spatial aspects of consumer preferences and their regional imbalance, (3) the question of the compatibility between industrial supply and consumer intents has received scant attention in the literature, particularly with regard to the examination of the effects of new features of industrial supply on consumption demand in new sectors and new modes, (4) the present research concentrate on the supply side, and there is little literature on supply-demand synergy. Few studies have examined the relationship between supply and demand from a linkage and synergy viewpoint.

3. Materials and Methods

3.1. Consumption Function Selection

Today, economic consumption theory has become a more sophisticated academic theoretical framework. The development of Chinese consumption theory is a part of the larger consumption theory system, according to a comparison of Chinese and Western consumption theories [27]. The validity of consumption theories, including the absolute income hypothesis [28], the persistent income hypothesis [29], and the life-cycle hypothesis [30] in China, has been confirmed by numerous Chinese experts. Given that Chinese consumers exhibit "short-sighted" consumption patterns that rely more on current income than lifetime income [31], it is more appropriate to use the Keynesian absolute income hypothesis as the theoretical foundation for this paper [32]. This is because an empirical study based on the absolute income hypothesis can overcome the systematic errors caused by the estimation method of the persistent income hypothesis. Thus, this research proposes to use the Keynesian simple consumption function to develop a panel data model to explore the impact of current disposable income on consumer spending based on the characteristics of Chinese consumers' behavior and the data characteristics of the study population.

3.2. Identification and Estimation of Panel Data Model

The term "panel data model" is often used. Cross-sectional data, which is a two-dimensional time series data acquired by continuous observation of many distinct cross-sectional persons for various times, is combined with time series data to form panel data.

The following equation, for K qualities of N individuals at T The panel data model is presented as follows. The panel data model's fundamental structure is

$$y_{it} = \alpha_{it} + x_{it}\beta_{it} + \varepsilon_{it} \quad i = 1, 2, \dots, n; t = 1, 2, \dots, T \quad (1)$$

The x_{it} is used to indicate the income of urban residents in different regions, the β_{it} is used to indicate the consumption propensity of urban residents in different regions for different categories of consumer goods, the y_{it} is used to express the consumer spending on different categories of consumer goods in different regions. K is the number of explanatory variables, and n is the total number of cross-sectional individuals, and T is the total number of observational periods, and ε_{it} is the random perturbation term. In this model, $K = 1, n = 41, T = 15$.

The model, however, can neither be estimated nor utilized for prediction since the available degrees of freedom NT in the model are less than the number of model parameters $NT(K + 1)$. Instead, it is only used to explain certain scenarios conceptually. A structural limitation must be applied to the model before any extrapolation can be done. We presume that the parameters change depending on the individual rather than over time. As a result, we may adjust the appropriate regression equation for each person.

$$y_{it} = \alpha_i + x_{it}\beta_i + \varepsilon_{it} \quad i = 1, 2, \dots, n; t = 1, 2, \dots, T \quad (2)$$

H_1 : The regression slope coefficient is the same, while the cutoff is different, i.e., $\beta_1 = \beta_2 = \dots = \beta_N$

$$y_{it} = \alpha_i + \beta x_{it} + \varepsilon_{it} \quad (3)$$

H_2 : The regression cutoff is the same, while the slope coefficient is different, i.e., $\alpha_1 = \alpha_2 = \dots = \alpha_N$

$$y_{it} = \alpha + x_{it}\beta_i + \varepsilon_{it} \quad (4)$$

H_3 : T The slope and intercept are the same, i.e., $\alpha_1 = \alpha_2 = \dots = \alpha_N, \beta_1 = \beta_2 = \dots = \beta_N$

$$y_{it} = \alpha + \beta x_{it} + \varepsilon_{it} \quad (5)$$

The three constraint models mentioned above are known as mixed regression model, variable coefficient model, and variable intercept model, respectively.

The panel data model must first be carefully set up in order to avoid producing significant estimation mistakes. In actuality, the analysis of the covariance test technique may be used to create the F-statistic to identify the model.

$$F_2 = \frac{(S_3 - S_1)/[(n-1)(K+1)]}{S_1/[n(T-K-1)]} \sim F((n-1)(K+1), n(T-K-1)) \quad (6)$$

H_3 test is performed, and if F_2 is smaller than the critical value, then the original hypothesis is not rejected, and the mixed regression model is chosen, otherwise the original hypothesis is rejected, and a new F-statistic is further constructed that

$$F_1 = \frac{(S_2 - S_1)/[(n-1)K]}{S_1/[n(T-K-1)]} \sim F((n-1)K, n(T-K-1)) \quad (7)$$

H_1 is tested, and if F_1 is smaller than the critical value, then the original hypothesis is not rejected, and the variable intercept model is chosen, otherwise the original hypothesis is rejected, and the variable coefficient model is chosen. Where S_1, S_2, S_3 are the residual sums of squares of the variable coefficient model, the variable truncation model, and the mixed regression model, respectively.

Second, the fixed and random effects of the model are judged.

Since this paper selects all the prefecture-level cities in the Yangtze River Delta region, which is essentially equal to the total of the sample, the fixed-effects model is more gen-

eralizable than the random-effects model from the perspective of qualitative analysis if the researcher makes inferences conditional only on the sample's own effects [33,34]. The decision between the two is quantitatively dependent on whether $\text{cov}(\delta_i, \varepsilon_{it})$ is considerably equal to zero. The random-effects model is used if $\text{cov}(\delta_i, \varepsilon_{it})$ is significantly equal to zero, otherwise, the fixed-effects model is used. Consequently, in order to assess whether the model is a fixed effect or random effect, this study combines statistical testing with qualitative research.

3.3. Data Sources and Study Scoping

The China Statistical Yearbook classifies urban residents' consumption expenditure as including food, housing, clothing, household equipment, transportation and communication, culture, education and entertainment, health care, and other goods and services. However, because the scope of other goods and services is broad and there is no specific reference, this paper only looks at the consumption of seven major commodities.

The relevant data were taken from the prefecture-level and provincial statistical yearbooks as well as the Statistical Yearbook of Yangtze River and Pearl River Delta, Hong Kong, Macao, and Taiwan (The data of prefecture-level cities can be obtained from the following website: <https://data.cnki.net/yearBook?type=type&code=A>, accessed on 21 March 2023), covering the period 2005–2019, and include 42 prefecture-level cities in three provinces and one city in the Yangtze River Delta region [35]. Meanwhile, this research used 2005 as the base year and deflated the independent and dependent variables, respectively, using the urban consumer price index of each province in order to remove the impact of inflation on the analytic results and boost the credibility of the data.

The missing individual data of Suqian city, Lishui city, and Quzhou city were compensated by the interpolation method. Chaohu city towns' data are incomplete, so they are excluded from the empirical analysis. This paper is based on the Keynesian simple consumption function, and the independent variable is urban per capita disposable income, denoted by the letter x , the dependent variable is consumption expenditure of various types of consumer goods, denoted by the letter y . The consumption expenditure of food is represented by y_1 , clothing by y_2 , housing by y_3 , household equipment by y_4 , transportation and communication by y_5 , education and entertainment by y_6 , and health care by y_7 .

4. Results

4.1. Unit Root Test

The panel data are checked for smoothness before regression analysis in order to prevent the issue of "pseudo-regression" in the panel model. The first-order difference test is used to evaluate the smoothness of the non-smooth data, whereas the regression analysis may be done directly on the smooth data in the conventional regression model, which is based on smooth data variables. The two types of panel unit root tests are homogenous and heterogeneous, respectively. In this study, the smoothness of each variable is examined using the Fisher-Augmented Dickey–Fuller (ADF) test and the Low Load Cycle (LLC) test. Table 1 displays the test results.

Table 1. Unit root test results.

Inspection Method	LLC Inspection	ADF Inspection	Conclusion
x	10.8306	4.8798	non-stationary
y_1	−5.35028 ***	87.4942	non-stationary
y_2	−3.4867 ***	47.4958	non-stationary
y_3	2.9381	12.8728	non-stationary
y_4	−1.70615 **	62.0453	non-stationary
y_5	−1.04431	37.5677	non-stationary
y_6	−3.89788 ***	73.6657	non-stationary

Table 1. Cont.

Inspection Method	LLC Inspection	ADF Inspection	Conclusion
y7	3.3084	45.5026	non-stationary
Dx	−16.7542 ***	286.214 ***	Smooth and stable
Dy1	−23.1622 ***	413.038 ***	Smooth and stable
Dy2	−17.0055 ***	232.7804 ***	Smooth and stable
Dy3	−21.0431 ***	332.409 ***	Smooth and stable
Dy4	−22.0264 ***	471.179 ***	Smooth and stable
Dy5	−21.4638 ***	383.452 ***	Smooth and stable
Dy6	−21.8665 ***	367.044 ***	Smooth and stable
Dy7	−18.9222 ***	381.548 ***	Smooth and stable

Note: *** indicates that the original hypothesis is rejected at a 1% significance level; ** indicates that the original hypothesis is rejected at a 5% significance level. The raw data of income, food, clothing, housing, household equipment, transportation and communication, education and entertainment, and health care are all denoted by the initials x, y1, y2, y3, y4, y5, y6, and y7, respectively. The data of them for first-order differencing using Eviews are denoted by Dx, Dy1, Dy2, Dy3, Dy4, Dy5, Dy6, and Dy7, respectively.

According to the test results, per capita disposable income, food, clothing, housing, household equipment, transportation and communication, education and entertainment, and health care are all stationary and first-order single integer series for towns and cities, but none of their first-order difference series are.

4.2. Co-Integration Test

We may proceed to determine whether there is a co-integration relationship between the two variables and then whether there is a long-run equilibrium relationship if the two data have unit roots and are single integers of the same order. In order to confirm the co-integration of the panel data, this study runs the Kao test and Pedroni test on the variables with co-integration through Eviews 7.2 in the same sequence after passing the unit root test. Table 2 displays the test results.

Table 2. Co-integration test results.

	Kao Inspection	Pedroni Inspection	Conclusion
y1	−3.2368 ***		Co-integration
y2	1.742274 **		Co-integration
y3	−6.1588 ***		Co-integration
y4		−5.6008 ***	Co-integration
y5	−8.0537 ***		Co-integration
y6	−4.9870 ***		Co-integration
y7	−4.5448 ***		Co-integration

Note: *** indicates that the original hypothesis is rejected at a 1% significance level; ** indicates that the original hypothesis is rejected at a 5% significance level.

The following test results show that there is a cointegration relationship between urban per capita disposable income and the following variables: Food, clothing, housing, transportation and communication, education and entertainment, and health care. The relationship between urban per capita disposable income and household equipment does not pass the Kao test, but this paper still believes that it exists because of the Pedroni test.

4.3. Model Selection

1. Judging the type of model

The residual sums of squares were obtained by regressing the variable coefficient model, the variable truncation model, and the mixed regression model through Eviews 7.2, respectively, S_1 , S_2 , S_3 and construct the F-statistic separately to calculate the values of F2 and F1.

The town data corresponding to the checklist, the $F_{0.05}(80,533) = 1.2978$, the $F_{0.05}(40,533) = 1.4140$. From Table 3 below, it can be seen that food, clothing, housing, household equipment, transportation and communication, culture, education, and entertainment, as well as health care, are all variable coefficient models. The comparison results in the model types of urban residents' consumption functions.

Table 3. F-test results for model selection.

	S1	S2	S3	F1	F2	Type
y1	35,837,841	54,081,934	214,286,123	6.7834	33.1748	Variable coefficient
y2	12,510,347	20,555,386	64,553,217	8.5689	27.7159	Variable coefficient
y3	154,247,558	265,776,058	544,678,573	9.6346	16.8641	Variable coefficient
y4	16,048,062	29,469,576	42,775,924	11.1441	11.0963	Variable coefficient
y5	102,219,540	137,463,601	228,632,550	4.5943	8.2394	Variable coefficient
y6	29,653,295	53,137,606	131,257,543	10.5529	22.8284	Variable coefficient
y7	19,855,414	29,052,510	47,938,889	6.1722	9.4234	Variable coefficient

2 Determine the fixed effects and random effects of the model

The text employs the modified statistic and the overidentification test to correct for the endogeneity problem, which renders the results of the Hausman statistic negative (explanatory variables are correlated with individual effects) [36]. The results of the quantitative tests of the seven models are shown in Table 4. These seven models were chosen as fixed effects models following a combined qualitative and quantitative review due to the potential for data distortion during data processing.

Table 4. Results of Hausman test for model selection.

	Statistical Quantities	p-Value	Conclusion
y1	27.6500	0.0000	Fixed effects
y2	12.3500	0.0004	Fixed effects
y3	82.3400	0.0000	Fixed effects
y4	3.7900	0.0514	Fixed effects
y5	8.5800	0.0034	Fixed effects
y6	14.6700	0.0001	Fixed effects
y7	1.9300	0.1647	Random effects

4.4. Empirical Results

In the 1980s, Clive W.J. Granger conducted research that showed there is no pseudo-regression issue if the variables are cointegrated, which means they have a long-term stable connection with one another. This study, which is based on the analysis above, aims to develop seven consumption function models for urban residents in order to examine the marginal propensity of each cross-section for consumption of food, clothing, housing, household equipment, transportation and communication, education and entertainment, and health care, respectively. The model is a variable coefficient fixed-effect model. The regression results of consumption propensity of consumer goods in various cities are shown in Table A1.

The Yangtze River Delta region's prefecture-level cities and towns were utilized to spatially depict the marginal propensity to consume (MPC) data of seven key categories of consumer goods using the Natural Breaks (Jenks) categorization and ArcGIS-10.2 software. Figure 1a–g below shows how the MPC of various consumer goods categories is divided into four tiers from low to high, with the MPC increasing from white to black. The four tiers are referred to as cold spot area, colder spot area, hotter value area, and hot spot area, respectively, from low to high.

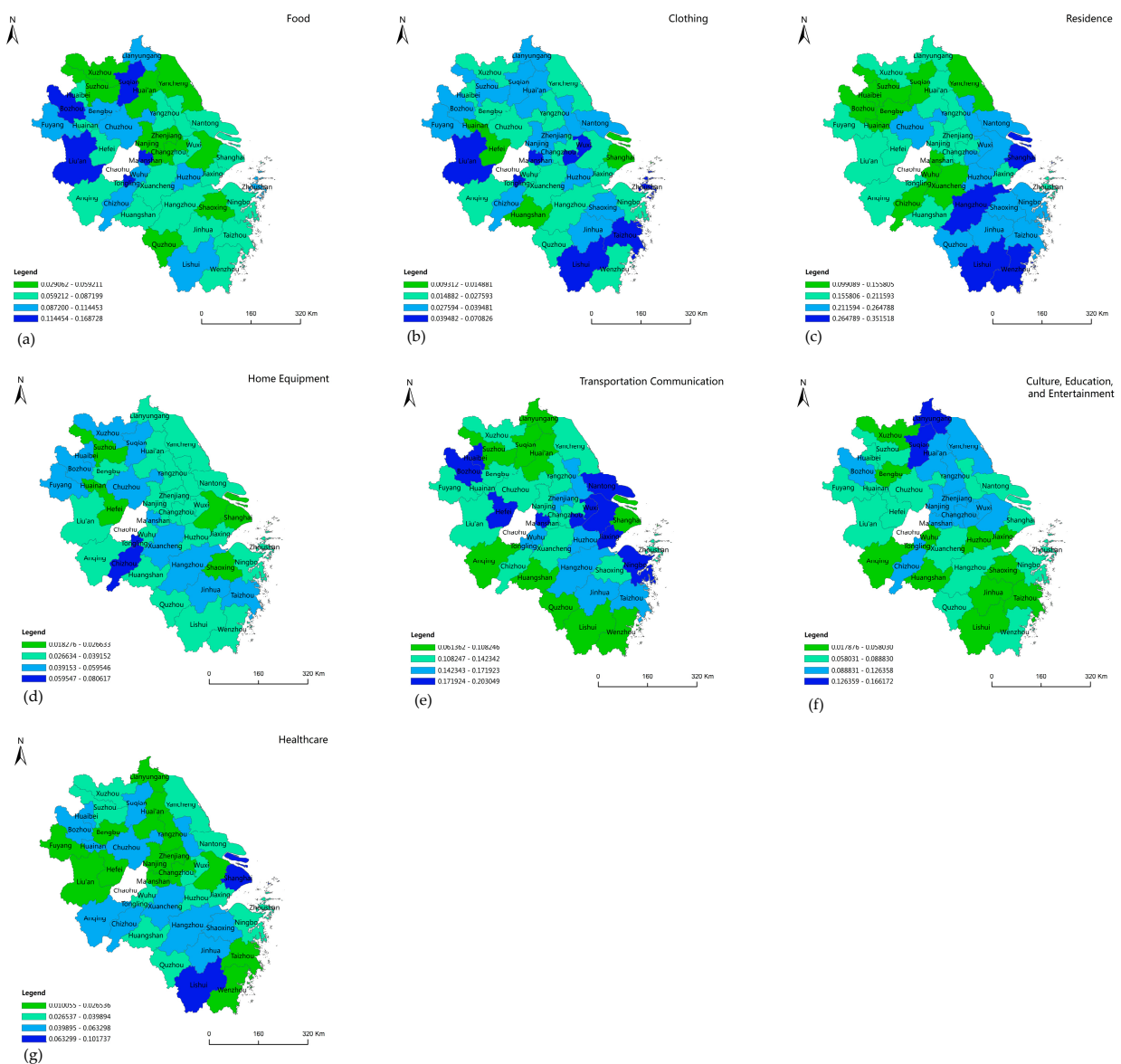


Figure 1. (a–g) Spatial distribution of the seven categories of consumer goods preference cold hotspots of urban residents in the Yangtze River Delta.

To make the city information in this map clearer, a table is drawn to display the city classification results of different consumer goods. For detailed information, see Table A2.

5. Discussion

In conjunction with this image, this section examines the spatial distribution of cold spots and hot spots as well as the clustering of consumption preferences for seven distinct categories of consumer goods among urban Yangtze River Delta people. Second, it looks at the features of supply and demand for things like food, clothing, housing, household goods, communication and transportation, culture entertainment and education, and health care in the hotspots. Finally, we examine the supply and demand sides of the consumption upgrading obstacles in the cold spot locations.

5.1. Food Consumption

The demand for increased food consumption exceeds the availability of agricultural products. Grain and vegetable consumption among inhabitants is progressively falling, but meat, poultry, eggs, and egg products are rising more quickly, edible oils, and aquatic

goods are expanding more slowly, and sugar consumption is largely steady with few ups and downs [37]. Residents' eating patterns are evolving and improving, with food ration consumption steadily declining and processed food consumption steadily rising, with ready-to-eat processed food consumption continuing to climb [38]. The quest for health, environmental preservation, and conservation is replacing the goal of quantitative happiness among consumers [39,40]. There is a local impact on the food supply. The local impact of food supply is real. Aiming for "self-sufficiency," the food market consists of edible farm goods, processed foods, and catered meals. The majority of the raw materials are sourced from the consuming location [38]. To achieve "self-sufficiency," the raw resources are primarily acquired from the consuming location. The availability of agricultural goods in cold climates has the following challenges: It is challenging to adjust to changes in market demand, the supply is not sufficient in terms of sustainability and safety, the price is high and inconsistent, and the quality is poor. Based on the aforementioned study, it is necessary to investigate the potential of the food consumption market in cold places since there are issues with the supply of agricultural goods, which prevents the consumer demand from being satisfied.

Geographically, there are significant contrasts in the north and balance in the south. Just five prefecture-level cities, including Tongling and Maanshan, have urban inhabitants' consumption propensity in the hot spot region, 10 cities, including Xuzhou and Suizhou, are in the cold spot area, and the remaining cities are in the lower or hotter area, as shown in Figure 1a. Moreover, the Yangtze River Delta's northern portion is where the cold and hot spots are concentrated, whereas the southern portion's food consumption patterns are comparatively comparable. The Engel coefficient for 2020 national people is 30.2%, of which 29.2% are in cities and towns. As a result, urban residents' consumption tendencies throughout the Yangtze River Delta are lower than the national average. The majority of hotspot cities, with the exception of Suqian, Lianyungang, Zhoushan, and Lishui, are in Anhui, and urban people there have greater overall consumption propensities than residents of other Yangtze River Delta regions. From 2020, Anhui has promoted the development of a green agricultural goods production and processing supply base, emphasizing the development of regional brands, the "one county, one industry (special)" full industry chain, and cold chain logistics companies. Summarizing the experience of hotspot regions, we can conclude that in order to change the shortcomings of agricultural product supply, we should support agricultural supply-side reform, change the organization mode of agricultural production, support the construction of the entire agricultural industry chain, and fundamentally change the mode of agricultural product supply.

5.2. Clothing Consumption

Residents' expectations for branded quality have not been realized. Residents' apparel consumption reaches a point where it highlights their uniqueness as income levels grow [41]. As a result of the need for self-presentation [41], social identity [42], and status [43], inhabitants will choose clothing that is appropriate for their economic level, resulting in a consumption stratification. Different city sizes have diverse customer preferences, with first-tier city dwellers emphasizing high-cost performance and strong brand power and second- and third-tier city dwellers seeing a quick increase in online clothes users [44]. The textile and garment industry's growth is restricted. The textile and apparel industry, which primarily produces low-quality, low-tech garments, has been severely impacted by trade tensions between the United States and China. This industry has experienced low levels of marketization, poor industrial development, and a negligible brand effect, which has hampered the growth of industrial clusters.

Overall, there is a low inclination to consume, with a high and low geographical distribution. The MPC findings for Huangshan and Hefei are not significant in the MPC calculation using the panel data model, hence, they are not examined. Figure 1b depicts the marginal consumption propensity of clothing in six cities, including Lu'an and Ma'anshan, Shanghai, and Huainan, as well as the remainder of the areas, which are located in hotter

and colder zones. Overall, the Yangtze River Delta region's urban apparel consumption is developing in a balanced way, with fewer cities physically concentrated in hot spots and cold spots. Shanghai is the Yangtze River Delta's "dominant" metropolis for gathering luxury brands, nevertheless. High-end brands in the Yangtze River Delta not only provide local consumption but also supply consumption in other Yangtze River Delta cities and even national cities from the standpoint of the supply and demand paradox. The new industry represented by online shopping has cross-regional supply characteristics that can instantly meet residents' consumption needs and prevent the mismatch between supply and demand of clothing consumption in different regions, but the branded, high-quality, and customized consumption needs of residents in cold regions have not yet been fully satisfied.

5.3. Residential Consumption

The need for housing is stratified in metropolitan areas. On the demand side of housing, there are primarily two kinds of consumption: Renting housing and buying housing. The demand area for housing, which is constrained by housing costs, high or low rent, and income levels, shrinks as the city level increases [45]. Nevertheless, the demand area for inhabitants in third- and fourth-tier cities is vast, but the demand area in first-tier cities is limited [46]. Consumers of housing as a whole are progressively becoming younger. The post-80s are the major producers of the labor force in society and have accumulated enough money to support housing consumption. The post-90s, as the next generation of workers in the market, are steadily increasing the share of housing consumption. The living area is not just for living. It is also for the modern customers' fundamental needs of comfort, beauty, and health.

Geographically speaking, it is higher in the south and lower in the north. Residential consumption by urban inhabitants in the Yangtze River Delta is significantly more common than other consumer goods, according to a comparison of the seven consumer goods mythology. This is depicted in Figure 1c, where the distribution trend is low in the north and high in the south. In the middle and southern Yangtze River Delta, the majority of prefecture-level cities are located in hot places and hotter locations, including Shanghai, Hangzhou, Lishui, and Wenzhou. In the northern Yangtze River Delta, the majority of cities are located in cold spots and colder spots. For the cities in the hot spot area, Shanghai is a first-tier city with a resident population of 24.871 million, but 40% of the resident population solves the housing problem by renting, and the housing market is limited and expensive. Hangzhou is a new first-tier city with a resident population of 11.936 million, and thanks to the development of the digital economy and service industry, the talent absorption capacity is strong, and the population of Hangzhou is growing. Lishui and Wenzhou have a high concentration of traditional manufacturing and labor-intensive industries, a high population density demand, and a high propensity to consume. The influx of population results in a tight supply and demand in the housing market, raising housing prices while increasing residents' propensity to live and consume. Cities inside the cold spot region have little economic growth. The Yangtze River Delta's northern section includes Yancheng, Suqian, Suizhou, and Huabei, with per capita GDPs of 82,584, 66,068, 34,700, and 47,500 yuan, respectively.

5.4. Household Equipment Consumption

Consumption of household goods shifts to a stock period, with smart home technology serving as the new driver. According to demand data, a large proportion of households in urban areas own household consumer durables like refrigerators, washing machines, and air conditioners. However, after a certain level of penetration, the growth rate of consumption will slow down, and the product replacement cycle will lengthen. Additionally, population aging will also have a negative impact on household equipment consumption [47]. On the demand side, the growth of the whole industrial chain for smart homes has fueled the need for smart home equipment. This is because, with the application and popularization of 5G communication technology and artificial intelligence,

everything is now connected. However, the absence of universal connectivity standards and the neglect of information security continue to constrain the development of “whole house intelligence”.

It is spatially equally spread from north to south, with a significant divide between the east and west. With only Chizhou and Tongling in the hot spot area and six cities, including Shanghai and Suzhou, in the cold spot area, Figure 1d shows that the majority of household equipment and service expenditures of the prefecture-level cities in the Yangtze River Delta are in the hotter and colder areas. The consumption demand for household equipment is not high throughout the Yangtze River Delta. The Yangtze River Delta area has a high penetration rate for durable consumer products, which results in low consumer demand. Urban residents in Shanghai, Suzhou, and Shaoxing, among others, have a high tendency to consume housing but a low tendency to consume household equipment supplies and the consumption of housing crowds out the consumption of household equipment supplies. At the same time, Shanghai and Shaoxing have high population aging rates and have entered a stage of deep aging, which has a suppressive effect on the consumption of household equipment supplies. In these economically developed locations, a positive development trend for smart home technology has not yet emerged.

5.5. Transportation and Communication

Shanghai's economic situation influences the way that transportation is used. Distance in space is negatively correlated with regional economic importance, claims the distance decay theory [48]. The tendency to use transportation and communication drops off as one gets further away from Shanghai. The hub of the “1+8” Shanghai metropolitan region is Shanghai. Shanghai is a mega-city with a 49% share of public transportation, a balanced supply and demand of urban rail transportation, and a flawless layout of public transportation lines, making it possible to replace expensive personal mobility with low-cost public transportation. Additionally, urban residents have a low propensity to consume transportation. The Shanghai metropolitan area includes Ningbo, Jiaxing, Suzhou, Wuxi, Nantong, Changzhou, Huzhou, Zhoushan, and eight other cities, of which Jiaxing and Suzhou are partially within the commuter area and can be reached by rail transportation. The remaining cities have frequent intercity economic and trade exchanges with Shanghai, and personal motorized and intercity railroads have replaced air travel, resulting in high travel costs to Shanghai. Nanjing, which is part of the Nanjing metropolitan region, has a rail transit share of 32% to 37% compared to Shanghai. This city has a high demand, a low load intensity, and an inadequate supply of rail transit, which causes an oversupply [49].

A semi-enveloped circular structure may be seen in the geographical distribution. Consumption of communication services and tools is the fundamental component of communication. The market for mobile phones, a tool of the mobile communication age, is progressively becoming saturated. At the same time, the cost of communication services remains stagnant, leading to essentially uniform consumption across the nation. Thus, the consumption of travel by means of transportation is the major subject of the study that follows. The entire semi-ringed circle structure is illustrated in Figure 1e, with Shanghai, a cold spot location, as the center. The consumption propensity of urban inhabitants gradually declines from within to outside the encircled circle, while new hot spot areas are developed in Hefei, Maanshan, Bozhou, and Huabei. The Yangtze River Delta's inclination to use transportation and communication is distributed spatially in a manner that is consistent with the adage that “high in the east and low in the west, high in the middle and low in the north and south” [50]. The spatial structural features are consistent with high-speed traffic dominance.

5.6. Cultural, Educational and Recreational

When education levels rise, new markets open up for products, and new industries emerge. Consumption of culture, education, and entertainment, often known as “cultural consumption”, typically consists of three components: Consumption of cultural and leisure

goods and services, as well as consumption of educational resources [51]. Cultural consumption is a crucial component of inhabitants' desires for a better living as a high-level developmental or enjoyment-oriented consumer demand [52]. Consumption of culture has a significant role in the needs of locals for a better living. By consuming cultural items, locals meet their spiritual and cultural demands. Data from the seventh census show that 218.36 million people in China have a university degree, making up 15.46% of the country's total population. A higher degree of cultural goods and services is required as the citizens' educational status rises. At the same time, new sectors like online literature, online games, short movies, and live webcasts have emerged as new avenues for people to absorb culture due to information technology, which is represented by cloud computing, big data, and artificial intelligence.

Jiangsu is more likely than other areas to absorb culture, education, and entertainment overall. According to Figure 1f, Jiangsu of the Yangtze River Delta generally has a higher propensity to consume the arts, education, and entertainment than other regions. Only two cities, Suqian and Lianyungang, are located in the hot spot area, eleven cities, including Lishui, Taizhou, Jinhua, and Shaoxing, are in the low-value area, and the remaining cities are located in the higher and colder spot areas. Both Suqian and Lianyungang, which are in the hot spot region, have lower university enrollment rates than the national average (14.63% and 10.88%, respectively), as do Lishui, Taizhou, and Jinhua, which are in the cold spot area (11.74%, 11.56%, and 13.4%, respectively). While Zhejiang cities have a low preference for cultural and educational entertainment consumption, Jiangsu cities have the habit of education consumption, represented by Nanjing, the purchase of after-school tuition services, and urban households almost show a pattern of "universal participation" [53]. Jiangsu and Zhejiang have diverse purchasing preferences despite local populations having low levels of education, which may be explained by the various educational levels and consumption patterns of urban dwellers.

5.7. Healthcare

The tension between supply and demand for medical resources grows as the population ages. The growth rate of medical and healthcare consumption is larger than the growth rate of income, and this fact is especially important for the senior population. On the demand side, medical and health care are luxury commodities with income elasticity coefficients greater than 1 [54]. For the elderly, this tendency is more prominent. The 7th census data reveals that China's population is aging much more, and this aging will cause families to spend more on health care as a result [55]. China has more than adequate healthcare resources on the supply side. With a hierarchy of medical care and a focus on public hospitals as a primary source of care, private hospitals also contribute to China's medical resource supply. However, the total amount of medical and health resources available is insufficient, particularly given the lack of high-quality resources [55]. Resources for health care are in inadequate supply overall, with a particular lack of high-quality resources.

Geographically, the North has a lesser inclination to consume than the South. According to Figure 1g, the Yangtze River Delta region's overall healthcare consumption propensity is low in the north and high in the south. Jiangsu Province has a lower overall healthcare consumption propensity than the other two provinces and one city. Shanghai and Lishui are among them, while fourteen other cities, including Nanjing, Suzhou, and Zhenjiang, are in the cold spot region. The remaining cities are spread out between the hotter and colder regions. The population of Shanghai and Lishui is entering the stage of deep aging, with 16.3% and 15.37% of the population over 65, respectively. There is a high demand for health care, but there is a structural shortage of elderly institutions and a single supply of combined medical and health care services, so the supply cannot keep up with the demand. Nine cities, including Nanjing, Suzhou, Changzhou, Lianyungang, Bengbu, Hefei, Fuyang, Taizhou, and Wenzhou, are entering the stage of aging and have lower demand than Shanghai and Lishui. Nanjing, Suzhou, and Changzhou are three cities with a better supply of medical resources. Bengbu, Hefei, and Fuyang are the other two cities.

6. Conclusions

6.1. Main Conclusions

From the standpoint of geographical distribution, the north's food consumption varies substantially while it is balanced in the south. The Yangtze River Delta's cold and hot places are concentrated in its northern portion, whereas its southern portion has a generally comparable pattern of food consumption. With fewer cities in hot and cold locations and a geographically scattered population, the growth of urban clothing consumption in the Yangtze River Delta region is balanced. Home consumption has a distribution tendency with low levels in the north and high levels in the south. In the center and southern Yangtze River Delta, the majority of prefecture-level cities are located in or near hot areas. The Yangtze River Delta as a whole has a low consumption demand for home goods. The overall structure is a semi-enveloped layer, with Shanghai serving as the center of transportation and communication consumption, and urban inhabitants' consumption tendencies steadily decrease from inside to outside. Jiangsu in the Yangtze River Delta has a larger inclination to consume culture, education, and amusement than other areas. In the Yangtze River Delta region, the north typically has a lower consumption propensity than the south, which is greater. Jiangsu Province has a lower general healthcare consumption trend than the other two provinces and one city.

On the demand side, new specifications for industrial upgrading have been proposed since the demand for consumption upgrades among urban inhabitants in the cold spot region has not been addressed. Food supply has a local impact, and the Cold Point region's agricultural product supply model is unable to adjust to changes in market demand and does not satisfy residents' demands for a shift to more affordable, ecologically friendly, and hygienic food consumption. Consumers have varying preferences for various urban levels: First-tier cities have a high propensity to consume real estate even though there is little demand for it, while second- and third-tier cities have a slightly lower propensity to consume but focus more on residential quality. Similarly, first-tier cities have a low propensity to consume clothing but focus on high-cost performance and brand power, while second- and third-tier cities have a slightly higher propensity to consume and tend to online shop. The consumption of apparel by urban dwellers is crowded out by growing housing prices. While second- and third-tier cities have a high propensity to consume due to a lack of public transportation supply, which results in the substitution of private motorized travel for public transportation, first-tier cities have a complete public transportation supply system, resulting in a low propensity to consume for transportation and communication. The aging of the population increases the need for leisure and medical care, but the inadequate recreation system, lack of medical resources, and scarcity of high-quality resources restrict people's ability to update their consumption.

On the supply side, market development is sluggish due to insufficient industry innovation and upgrading to drive consumer upgrading. Consumption of household goods is moving towards the stock period of high penetration and low demand. Intelligent furniture equipment is helping to drive the development of new consumer demand, but because industry standards differ, a consumption trend has yet to be established. The growth of information technology has altered the process used to produce traditional cultural goods, while the persistence of locals' old consuming patterns has resulted in trailing consumption.

6.2. Main Recommendations

According to the demand side, new industries and business models are developed, existing industries are upgraded, and new businesses are created. However, the effect of locals' consuming habits, preferences, and abilities results in unrealized societal consumption potential. First, reduce regional income disparities and boost income by encouraging work. Every effort should be made to boost assistance for underdeveloped urban and rural areas and broaden the scope and channels of employment, as low per capita disposable income of inhabitants is a key barrier to the inability to accomplish consumption upgrading. The

government may use the “Internet+” to create new job patterns, support multi-channel employment, and encourage urban inhabitants to pursue flexible employment through self-employment and informal hawking. Second, we should promote altering the notion of consuming. Families and schools should educate children on proper consumption, changing one’s perspective on consumption, modest growth in high-end goods, and early consumption as the post-1990 generation progressively takes over as the dominant force in social consumption. To prevent underconsumption brought on by inadequate information, society must pierce information broadcast channels and broaden people’s access to information. The government can implement policy assistance through purchase subsidies and consumption vouchers for goods with slow market growth but the potential to set future consumption trends. We may enter the main channel of industrial upgrading to consumer upgrading and promote consumption upgrading through the combined efforts of families, schools, society, and the government.

From the standpoint of supply, businesses should take the initiative to meet the residents’ desire for consumption upgrading given the increase in the income level of the residents and the development of the middle-income group brought about by the adjustment of the consumption structure. From a microscopic perspective, businesses must start with the high-end, individualized consumer demands of the local populace, offer quality goods and services, pay attention to and strengthen supply chain management, and at the same time, strengthen corporate brand building and raise the value of local businesses’ brands. They should step up initiatives to develop important consumer markets and create a favorable urban and rural consuming environment. To meet consumer demand for contemporary services, we should build consumer markets for agricultural goods, home appliances, tourism services, and other sectors and businesses that are directly tied to people’s everyday life. In addition, the government’s function as a regulator is necessary to establish a macroeconomic balance between supply and demand. To direct the flow of social capital into resource scarcity sectors and to defend investors’ rights and interests from system and regulation building, the government must take a variety of actions, including public opinion lobbying, policy advice, and regulation construction. In order to encourage consumption upgrade-induced industrial upgrading, macro and micro multifaceted combined efforts are being made to improve the availability of the capacity to adapt to consumption and to remove barriers to industrial upgrading caused by consumption upgrade.

7. Limitations and Improvements

This study still has some issues, including the following: First of all, this study employs macro data to examine concerns with consumer behavior, which could produce detailed analysis results that are wrong. Secondly, statistical data from several years are used during the empirical process. This article has made an adjustment to take the effect of inflation into account, but due to technological limitations, there may be some discrepancies in the conclusions of the empirical estimation. Future studies on consumer preferences may use micro-survey data to enhance the depth and breadth of their study. It is necessary to continue developing a wide range of geospatial analysis tools, as well as to diversify the analysis of consumption issues from an urban spatial perspective. Rural people can also be taken into account in the spatial analysis of consumption propensity problems as a result of the gradual collapse of China’s dualistic economic structure.

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Appendix A

Table A1. Regression results of propensity to consume consumer goods in each city.

	Food	Dress	Residence	Home Equipment	Transportation Communication	Culture, Education, and Entertainment	Healthcare
Shanghai	0.061727 ***	0.010313	0.351289 ***	0.018276 ***	0.098788 ***	0.085863 ***	0.07392 ***
Nanjing	0.042214 ***	0.031263 ***	0.19717 ***	0.029465 ***	0.119411 ***	0.125507 ***	0.018664 ***
Wuxi	0.076218 ***	0.056464 ***	0.215056 ***	0.037396 ***	0.189734 ***	0.110664 ***	0.028019 ***
Xuzhou	0.059211 ***	0.021749 **	0.192569 ***	0.049701 ***	0.133064 ***	0.048062 ***	0.039894 ***
Changzhou	0.040227 ***	0.023638 ***	0.172206 ***	0.028548 ***	0.135555 ***	0.102861 ***	0.025164 ***
Suzhou	0.051942 ***	0.021239 **	0.218808 ***	0.026633 ***	0.188936 ***	0.105479 ***	0.020463 ***
Nantong	0.087199 ***	0.031576 ***	0.225877 ***	0.035207 ***	0.174905 ***	0.082495 ***	0.038853 ***
Lianyungang	0.098599 ***	0.039481 ***	0.180882 ***	0.038199 ***	0.091116 ***	0.161662 ***	0.017554 ***
Huai'an	0.042527 ***	0.028763 ***	0.169334 ***	0.028785 ***	0.07492 ***	0.111424 ***	0.010055 ***
Yancheng	0.05005 ***	0.02264 **	0.142883 ***	0.030645 ***	0.135322 ***	0.108683 ***	0.027775 ***
Yangzhou	0.07539 ***	0.025229 ***	0.189497 ***	0.03122 ***	0.11852 ***	0.102683 ***	0.021046 ***
Zhenjiang	0.045845 ***	0.035612 ***	0.194082 ***	0.031597 ***	0.152401 ***	0.104434 ***	0.01982 ***
Taizhou	0.078148 ***	0.035106 ***	0.228766 ***	0.032374 ***	0.152712 ***	0.083433 ***	0.047361 ***
Suqian	0.130005 ***	0.037857 ***	0.147247 ***	0.053033 ***	0.092295 ***	0.166172 ***	0.043833 ***
Hangzhou	0.068053 ***	0.023951 ***	0.286812 ***	0.045272 ***	0.171923 ***	0.085836 ***	0.059148 ***
Zhoushan	0.10292 ***	0.066098 ***	0.201018 ***	0.033934 ***	0.131234 ***	0.073298 ***	0.03539 ***
Jiaxing	0.063637 ***	0.02126 ***	0.181707 ***	0.039152 ***	0.203049 ***	0.044349 ***	0.030926 ***
Wenzhou	0.08545 ***	0.019299 *	0.311242 ***	0.03675 ***	0.091617 ***	0.080657 ***	0.017687 ***
Ningbo	0.073416 ***	0.025871 **	0.23681 ***	0.033974 ***	0.181449 ***	0.078214 ***	0.032718 ***
Shaoxing	0.057002 ***	0.031362 ***	0.25397 ***	0.020728 ***	0.127633 ***	0.05803 ***	0.045052 ***
Huzhou	0.094797 ***	0.029915 ***	0.217763 ***	0.030202 ***	0.16417 ***	0.055059 **	0.036768 *
Lishui	0.110684 ***	0.070826 ***	0.351518 ***	0.031094 ***	0.09483 ***	0.017876	0.101737 ***
Taizhou	0.080818 ***	0.050437 ***	0.264788 ***	0.052633 ***	0.153017 ***	0.022344 *	0.017275 ***
Jinhua	0.070195 ***	0.031425 ***	0.256588 ***	0.042083 ***	0.169065 ***	0.046282 ***	0.046544 ***
Quzhou	0.029062	0.02276	0.235011 ***	0.033783 ***	0.108246 ***	0.06425 ***	0.037234 ***
Hefei	0.078361 ***	0.009312	0.199134 ***	0.019788 ***	0.190333 ***	0.08071 ***	0.026536 ***
Bozhou	0.125932 ***	0.031237 ***	0.155805 ***	0.047041 ***	0.178429 ***	0.098578 ***	0.043497 ***
Huaibei	0.060709 *	0.022023 **	0.140241 ***	0.049232 ***	0.194225 ***	0.07092 ***	0.063298 ***
Cebu	0.039499	0.033882 ***	0.11725 ***	0.021824 ***	0.061362 ***	0.068549 ***	0.038979 **
Fuyang	0.092277 ***	0.036273 ***	0.207249 ***	0.054719 ***	0.122466 ***	0.061536 ***	0.02278
Bengbu	0.097339 ***	0.024207 ***	0.099089 ***	0.032355 ***	0.140116 ***	0.041844 ***	0.013805
Huainan	0.070373 ***	0.011213 *	0.10431 ***	0.024923 ***	0.142342 ***	0.069437 ***	0.047509 ***
Chuzhou	0.110094 ***	0.027593 *	0.226179 ***	0.059546 ***	0.131356 ***	0.08883 ***	0.051223 ***
Lu'an	0.150727 ***	0.05118 ***	0.202339 ***	0.030855 ***	0.129274 ***	0.066955 ***	0.025032 **
Wuhu	0.108098 ***	0.022742 ***	0.154449 ***	0.030314 ***	0.16062 ***	0.053027 ***	0.036435 ***
Ma On Shan	0.168728 ***	0.049314 ***	0.132133 ***	0.042758 ***	0.195742 ***	0.126358 ***	0.026384 ***
Anqing	0.080629 ***	0.019196	0.182203 ***	0.03638 ***	0.093533 ***	0.039991 *	0.050029 ***
Chizhou	0.114453 ***	0.038324	0.136713 ***	0.080617 **	0.134822 ***	0.092293 ***	0.061905 ***
Tongling	0.132819 ***	0.045796 **	0.211593 ***	0.066971 ***	0.152131 ***	0.112582 ***	0.034056 ***
Xuancheng	0.084606 ***	0.023054 **	0.134154 ***	0.04276 ***	0.133401 ***	0.069446 ***	0.043997 ***
Huangshan	0.081624 ***	0.014881	0.187929 ***	0.032426 ***	0.104439 ***	0.054723 ***	0.036199 ***

Note: *** indicates that the original hypothesis is rejected at 1% significance level; ** indicates that the original hypothesis is rejected at 5% significance level; * indicates that the original hypothesis is rejected at 10% significance level.

Table A2. Classification results of different consumer goods natural break points in different cities of Yangtze River Delta.

	Hot Spot Area	Hotter Areas	Cooler Spot Areas	Cold Spot Area
Food	Suqian, Bozhou, Liuan, Maanshan, Tongling	Lianyungang, Bengbu, Chuzhou, Fuyang, Huzhou, Zhoushan, Lishui	Huabei, Huainan, Hefei, Anqing, Yangzhou, Taizhou, Nantong, Wuxi, Shanghai, Xuancheng, Huangshan, Hangzhou, Jiaxing, Jinhua, Ningbo, Taizhou, Wenzhou	Xuzhou, Suizhou, Huaian, Yancheng, Nanjing, Zhenjiang, Changzhou, Suzhou, Shaoxing, Quzhou
Dress	Zhoushan, Liuan, Tongling, Maanshan, Wuxi, Lishui, Taizhou	Lianyungang, Suqian, Huaian, Suizhou, Bozhou, Fuyang, Nantong, Taizhou, Zhenjiang, Nanjing, Huzhou, Chizhou, Shaoxing, Jinhua	Xuzhou, Huabei, Bengbu, Chuzhou, Yangzhou, Yancheng, Anqing, Wuhu, Xuancheng, Changzhou, Suzhou, Jiaxing, Hangzhou, Quzhou, Ningbo, Wenzhou	Shanghai, Huangshan, Huainan, Hefei
Residence	Shanghai, Hangzhou, Lishui, Wenzhou	Chuzhou, Nantong, Taizhou, Wuxi, Suzhou, Huzhou, Quzhou, Jinhua, Shaoxing, Taizhou, Ningbo	Zhoushan, Jiaxing, Huangshan, Anqing, Tongling, Changzhou, Nanjing, Zhenjiang, Yangzhou, Hefei, Liuan, Fuyang, Huaian, Xuzhou, Lianyungang	Yancheng, Suqian, Suizhou, Huabei, Bozhou, Bengbu, Huainan, Maanshan, Wuhu, Xuancheng, Chizhou
Home Equipment	Chizhou, Tongling	Xuzhou, Suqian, Huabei, Bozhou, Fuyang, Chuzhou, Maanshan, Xuancheng, Hangzhou, Jinhua, Taizhou	Lianyungang, Yancheng, Huaian, Bengbu, Liuan, Anqing, Huangshan, Wuhu, Huzhou, Jiaxing, Changzhou, Wuxi, Zhenjiang, Nanjing, Yangzhou, Taizhou, Nantong, Quzhou, Lishui, Wenzhou, Ningbo, Zhoushan	Shanghai, Suzhou, Shaoxing, Hefei, Huainan, Cebu
Transportation Communication	Ningbo, Jiaxing, Suzhou, Wuxi, Nantong, Maanshan, Hefei, Bozhou, Huabei	Taizhou, Jinhua, Hangzhou, Huzhou, Wuhu, Tongling, Zhenjiang, Taizhou	Xuzhou, Yancheng, Fuyang, Bengbu, Huainan, Liuan, Chuzhou, Nanjing, Yangzhou, Changzhou, Xuancheng, Chizhou, Shaoxing, Zhoushan	Lianyungang, Suqian, Suizhou, Huaian, Anqing, Shanghai, Huangshan, Quzhou, Lishui, Wenzhou
Culture, Education and Entertainment	Lianyungang, Suqian	Bozhou, Huaian, Yancheng, Yangzhou, Zhenjiang, Nanjing, Maanshan, Changzhou, Wuxi, Suzhou, Chizhou, Tongling	Huabei, Suizhou, Fuyang, Huainan, Liuan, Hefei, Chuzhou, Taizhou, Nantong, Shanghai, Xuancheng, Hangzhou, Quzhou, Wenzhou, Ningbo, Zhoushan	Xuzhou, Bengbu, Anqing, Wuhu, Huangshan, Huzhou, Jiaxing, Shaoxing, Jinhua, Taizhou, Lishui
Healthcare	Shanghai, Yeosu	Suqian, Huabei, Bozhou, Huainan, Chuzhou, Taizhou, Anqing, Chizhou, Xuancheng, Hangzhou, Shaoxing, Jinhua	Xuzhou, Suizhou, Yancheng, Nantong, Wuxi, Wuhu, Tongling, Huzhou, Jiaxing, Huangshan, Quzhou, Ningbo, Zhoushan	Lianyungang, Huaian, Bengbu, Fuyang, Liuan, Hefei, Yangzhou, Zhenjiang, Nanjing, Maanshan, Changzhou, Suzhou, Taizhou, Wenzhou

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