

Comparative Analysis on Marginal Propensity to Cultural Consumption of Chinese Urban and Rural Residents

Yang Xu ^a

School of China Agricultural University, Beijing 100083, China.

^a 1393856149@qq.com

Abstract

This paper studies the marginal tendency of cultural consumption of urban and rural residents in China through the virtual variable model, using the data of per capita cultural consumption and per capita disposable income of urban and rural residents from 1996 to 2015. The empirical research shows that there is a significant positive correlation between the amount of cultural consumption and income of both urban residents and rural residents. In addition, the total amount of cultural consumption of rural residents is lower than that of urban residents, but the proportion of cultural consumption to income is increasing, which has been higher than that of urban residents, also the marginal consumption of culture has no significant difference between the urban residents and rural residents. Therefore, in the designation of corresponding policies to promote the development of cultural industry, it is extremely necessary to formulate such appropriate policies to undertake in accordance with the actual situation in rural areas.

Keywords

Dummy explanatory variable; cultural consumption; the marginal propensity to cultural consumption.

1. Introduction

The cultural industry has become an important pillar industry for the economic development of many developed countries. In particular, the output value of the U.S. cultural industry has far exceeded that of other industries, which is accounting for more than 25% of the total GDP. The cultural industry exports have occupied 60% in the export industry of U.S., and the proportion has promoted the growth of total volume of U.S. exports. So far, the U.S. cultural industry has basically achieved the intensive and massive development. The output value of cultural industry accounts for approximately 20% of the total GDP in Japan, and the weight of cultural output is between 10% and 15% on average in Europe. It is higher than 15% in South Korea, while it is only 4.5% in China.

The development of cultural industry is an important aspect of meeting the spiritual needs of the residents. What's more, it is a pillar industry of China's economic development. With the development of China's economy, the income level of urban and rural residents has been continuously improved, and the standard of living has also been continuously improved. As people's basic material wants are satisfied they seek to achieve nonmaterial or spiritual goals. The proportion of the cultural consumption in the resident consumption increases rapidly.

Hence it possesses theoretical significance and practical value to study the cultural consumption of urban and rural residents and analyze the differences between them. Furthermore, we compare the marginal propensity to cultural consumption of urban and rural residents so as to provide targeted policy recommendations for the further development of Chinese cultural industry.

2. Literature Review

With the development of Chinese economy and the expansion of the cultural industry, the cultural consumption is also increasing, but the cultural consumption shows the difference of income level, regional difference and so on.

Chinese academics have conducted in-depth studies on cultural industry from theoretical investigation and demonstration analysis. Li Mingyu et al. (2014) think that the development of rural cultural industry in China is restricted by many internal and external factors, so it is necessary to create favorable conditions to promote the development of rural cultural industry according to the actual situation. Zhang Ying's analysis (2013) shows that the disposable income of urban residents and the supply of cultural products are the main factors affecting the cultural consumption, and the conclusion is that increasing the disposable income of the residents can promote the development of cultural industry. Chen Haibo's 1350 questionnaires(2013) show that the overall satisfaction degree of Chinese residents' cultural consumption is not high, the residents' interests and hobbies, economic income and consumption attitudes are the main factors that affect the residents' cultural consumption. Xiong Xiaoling (2012) believes that the condition of low total amount of rural cultural consumption, single cultural consumption mode and low cultural consumption taste of farmers should be improved by increasing farmers' income, innovating farmers' concept of cultural consumption, and strengthening rural cultural infrastructure.

In the existing literature research and analysis, most of the studies have found that there is a positive correlation between cultural consumption and income, and put forward the corresponding suggestions to promote the development of cultural industry, but the quantitative study of cultural consumption tendency literature is relatively few. This paper will quantitatively analyze the marginal propensity of cultural consumption of urban and rural residents in China, and use the fictitious variable model to analyze whether there are significant differences between urban and rural residents' marginal propensity of cultural consumption, which is of theoretical and practical significance.

3. Model Design

The article adopts disposable income as income of urban residents, and net income as income of rural residents. The per capita consumption on cultural and educational entertainment services of urban residents is taken as per capita cultural expenditure of urban residents, as well as per capita consumption on cultural and educational entertainment services of rural residents as per capita cultural expenditure of rural residents.

According to the consumption theory, we establish the following models for the cultural consumption of urban residents and the disposable income of urban residents, the cultural consumption of rural residents and the net income of rural residents, respectively.

Rural residents:

$$Y_i = \alpha_1 + \alpha_2 X_i + \mu_{i1} \quad i=1,2,3 \dots n_1 \quad (1)$$

Urban residents:

$$Y_i = \beta_1 + \beta_3 X_i + \mu_{i2} \quad i=1,2,3 \dots n_2 \quad (2)$$

Among them, Y indicates the income of residents, and X indicates the cultural consumption. We can obtain the marginal cultural consumption tendency of urban and rural residents using the model (1.1) and the model (1.2).

Comparing the possible outcomes of the two models above, one of the following four cases may occur:

(1) $\alpha_1 = \beta_1$ and $\alpha_2 = \beta_2$. That is, the intercepts and the slopes are the same respectively, and the regression results of the two equations are identical.

(2) $\alpha_1 \neq \beta_1$ but $\alpha_2 = \beta_2$. That is, the slopes are the same, and the difference of equation regression is that the intercepts are different.

(3) $\alpha_1 = \beta_1$ but $\alpha_2 \neq \beta_2$. That is, the intercepts are the same, and the difference of equation regression is that the slopes are different.

(4) $\alpha_1 \neq \beta_1$ and $\alpha_2 \neq \beta_2$. That is, the intercepts and the slopes are different, and the regression of the two equations is completely different.

Hence we can introduce a dummy variable D_i to merge the two models into a single model. We can accomplish the desired purpose on the basis of the coefficients estimated by the dummy variable. The combined model is as follows:

$$Y_i = \beta_0 + \beta_1 X_i + \beta_3 D_i + \beta_4 (D_i X_i) + \mu_i \quad (3)$$

Urban and rural households are the only research objects of this paper. Hence, we just introduce the dummy variable D , the value of rural residents is 0, and the value of urban residents is 1, then:

$$E(Y_i | D_i = 0, X_i) = \beta_0 + \beta_1 X_i \quad (4)$$

$$E(Y_i | D_i = 1, X_i) = (\beta_0 + \beta_3) + (\beta_1 + \beta_4) X_i \quad (5)$$

Model (1.4) and model (1.5) represent the cultural consumption function of urban residents and rural residents respectively. In the result of significance test, if we reject the assumption that β_3 is 0, then we think that the autonomous cultural consumption of rural residents is different from that of urban residents. If we cannot reject the assumption that β_4 is 0, then it shows that the cultural consumption tendency of urban and rural residents is the same.

4. Empirical Analysis

4.1 Data Sources

This paper selects the per capita disposable income of the urban residents, the per capita net income of the rural residents as the data of the per capita income of the urban and rural residents respectively. And the per capita expenditure on cultural and educational entertainment services of the urban and rural residents are regarded as the per capita cultural consumption expenditure of urban and rural residents in China. The sample range is from 1996 to 2016. The data are derived from China Statistical Yearbook, and EViews7.0 is used to process the data.

4.2 Comparative Analysis

In order to compare the cultural consumption of urban and rural residents directly, this paper use the two figures to show the per capita cultural consumption of urban and rural residents (see figure 1) and the ratio of urban and rural residents' cultural consumption to income (see figure 2).

In the figure 1, Y1 indicates the per capita disposable income of the urban residents; Y2 indicates the per capita net income of the rural residents; C1 indicates the per capita cultural consumption expenditure of urban residents; C2 indicates the per capita cultural consumption expenditure of rural residents. In the figure 2, Ratio1 indicates the ratio of urban residents' cultural consumption to income; Ratio2 indicates the ratio of rural residents' cultural consumption to income.

As can be seen from figure 1, the cultural consumption of urban and rural residents is increasing year by year. The per capita cultural consumption of rural residents is lower than that of urban residents, and the gap is growing. With the increase of income, the cultural consumption of urban residents and rural residents increases correspondingly. As can be seen from figure 2, the ratio of urban and rural residents' cultural consumption to income is not high. The highest level is no more than 0.12, which indicates that the ratio of cultural consumption to income in our country is still relatively low. It shows that both urban and rural residents have a relatively large room for improvement in cultural consumption. The salient feature of Figure 2 is that the ratio of cultural consumption to income of urban residents has always been greater than that of rural residents for years before 2012, and the ratio of cultural consumption to income of rural residents has been rising so rapidly since 2012. Moreover, the income of urban residents has been exceeded due to increasing proportion of cultural consumption of rural residents after 2013. Apparently, the cultural consumption of rural residents has great potential to expand, and rural residents would like to pay more attention to cultural consumption.

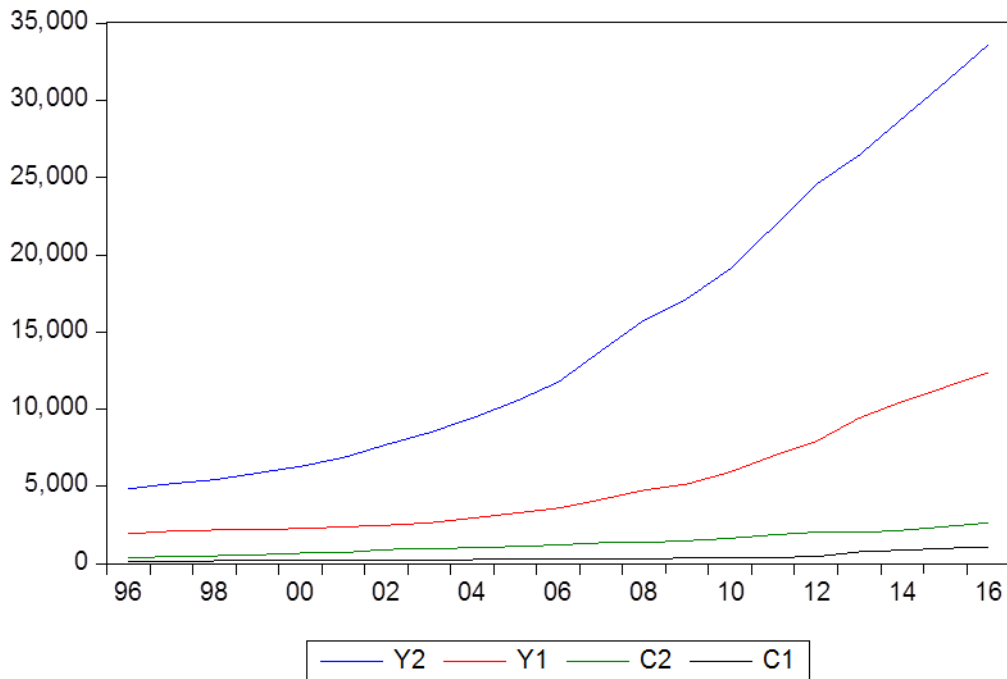


Figure 1.Per capita cultural consumption of urban and rural residents

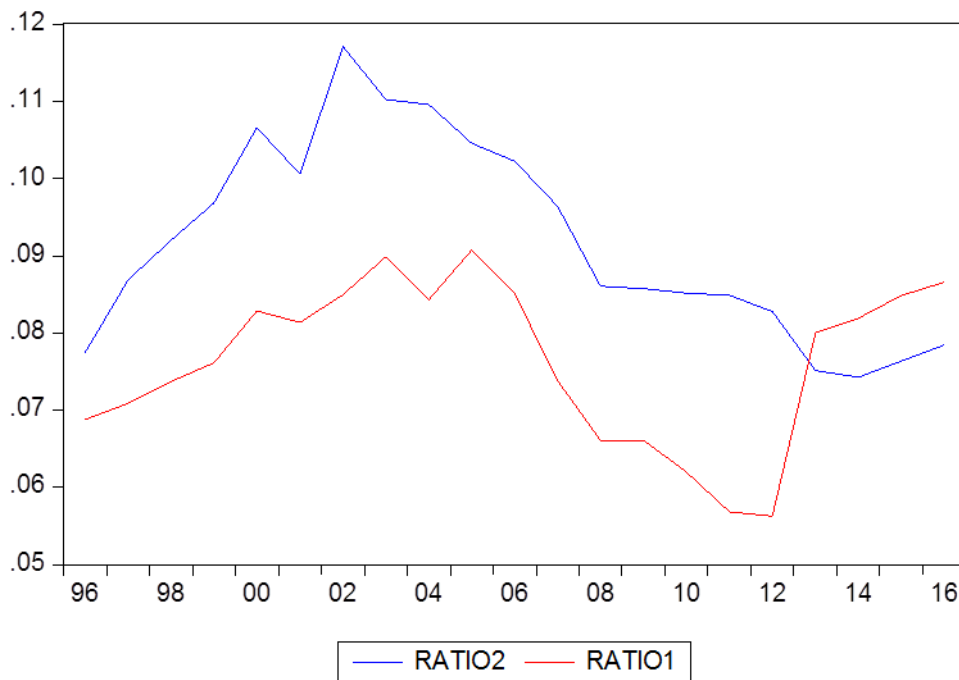


Figure 2.Ratio of per capita cultural consumption to income of urban and rural residents

5. Data Processing

5.1 Data Stability and Co-integration Test

First of all, we test the stability of urban residents' per capita disposable income, rural residents' per capita net income, urban residents' cultural consumption expenditure and rural residents' cultural consumption expenditure by the method of unit root testing. The results are shown in Table 1.

Table 1 Results of unit root testing

Sequence name	ADF value	The 1 % level critical value	The 5 % level critical value	The 10 % level critical value	Stationary or not
Per capita disposable income of urban residents	-1.5634	-3.9591	-3.0810	-2.6813	Not stationary
Per capita net income of rural residents	7.5168	-3.8315	-3.0300	-2.6552	Not stationary
Per capita cultural consumption of urban residents	2.8918	-3.9591	-3.0810	-2.6813	Not stationary
Per capita cultural consumption of rural residents	2.5399	-3.8315	-3.0300	-2.6552	Not stationary

As can be seen from table 1, the data on the disposable income of urban residents, the net income of rural residents, the per capita cultural consumption expenditure of urban residents, and the per capita cultural consumption of rural residents are not stable. Therefore, the Co - integration Test is needed if the models of (1.1) and (1.2) are to be built.

The formula (1.1) and (1.2) are analyzed by Regression analysis and we test the stationarity of the residuals, the results are shown in Table 2. The result shows that the co-integration relationship is significant. Hence using income to explain cultural consumption has certain rationality, but according to the research purpose, we can use the model (1.3) for further analysis to obtain the more in-depth analysis results.

Table 2

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.394179	0.0003
Test critical values:		
1% level	-2.728252	
5% level	-1.966270	
10% level	-1.605026	

6. Results

In this paper, the equation (1.3) is regressed by EViews7.0 software. The results are shown as Table 3 and Table 4.

Table 3

CONSUME=C(1)+C(2)*INCOME+C(3)*DUMMY+C(4)*DUMMY*INCOME				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-6.594065	38.34921	-0.171948	0.8644
C(2)	0.076166	0.006913	11.01841	0.0000
C(3)	247.6320	55.18020	4.487697	0.0001
C(4)	-0.005755	0.007326	-0.785627	0.4372
R-squared	0.981391	Mean dependent var		791.0175
Adjusted R-squared	0.979841	S.D. dependent var		640.1462
S.E. of regression	90.89018	Akaike info criterion		11.95182
Sum squared resid	297396.9	Schwarz criterion		12.12071
Log likelihood	-235.0364	Hannan-Quinn criter.		12.01289
F-statistic	632.8635	Durbin-Watson stat		0.789468
Prob(F-statistic)	0.000000			

Table 4

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.594065	38.34921	-0.171948	0.8644
X	0.076166	0.006913	11.01841	0.0000
D	247.6320	55.18020	4.487697	0.0001
D*X	-0.005755	0.007326	-0.785627	0.4372
R-squared	0.981391	Adjusted R-squared	0.979841	
Log likelihood	-235.0364	F-statistic	632.8635	

It can be seen from the regression results in Table 3 that the decision coefficient is 0.981391, the adjusted decision coefficient is 0.979841, F-statistic is 632.8635. It indicates that the fitting precision of the model is quite high, and the explanatory variable can explain the explained variable well. The intercept of cultural consumption of rural residents is -6.594065, and the coefficient of the intercept D is 247.6320, which indicates that the autonomous cultural consumption of urban residents is higher than that of rural residents. And the coefficient of intercept D is significant, which indicates the difference of spontaneous cultural consumption between urban residents and rural residents is significant. The marginal propensity to cultural consumption of rural residents is 0.076166, t-Statistic is 11.01841, and the coefficient is significant at the level of 1%. The coefficient of D*X is -0.005755, but it is not significant, which indicates that there is no significant difference in the marginal propensity to cultural consumption of urban and rural residents.

7. Conclusion

Through empirical analysis, this paper concludes that there is a positive correlation between the cultural consumption and income of urban and rural residents in China. And the total amount of cultural consumption of rural residents is still lower than that of urban residents. However, the ratio of cultural consumption to income is higher than that of urban residents, and marginal propensity to cultural consumption of cultural consumption is not significantly different from that of urban residents, so we should formulate corresponding policies and measures according to the present situation of cultural industry development.

The development of cultural industry is of great significance to China's economic structure adjustment, industrial upgrading and economic development. According to the analysis results, we put forward the following suggestions to promote the further development of cultural industry.

Increase the Disposable Income of Residents

Only after meeting the basic material needs, the residents will pay more attention to the increase of spiritual demand and the consumption of cultural and recreational products. Increase the disposable income of residents, especially the disposable income of rural residents, which can better promote the development of cultural industry.

Provide sound and abundant cultural facilities

We should provide cultural products that meet the demands of urban and rural residents. And to further increase the investment in cultural public utilities to meet the diverse cultural demands of urban and rural residents, especially in rural areas of China. The rural cultural facilities have been improved to a certain extent than before. However, it is still not perfect, and the type of facilities is single. But the marginal propensity to cultural consumption of rural residents has been greatly improved compared with the past, so we should pay more attention to the rural cultural public input. We can provide rich and sound cultural facilities to promote the development of rural cultural industry.

Optimize the policy of promoting the development of cultural industry

The ratio of cultural consumption to total income of urban and rural residents in China is relatively low. Therefore, it is necessary for the government to promote the development of cultural products

from the aspect of policy. Increase investment in cultural industries, speed up financial innovation, and construct a diversified financing pattern. Then it is indispensable to promote the development of China's cultural industry in many aspects, such as perfecting laws of market economy and the effecting institution, establishing diversified financial support system and so on.

Encourage the development and innovation of rural cultural industry

The rural cultural industry should be encouraged to develop and innovate to meet the characteristics of rural residents' cultural consumption needs. The further promotion of rural cultural consumption and the satisfaction of diversified cultural needs will certainly help to further increase cultural consumption and promote the development of cultural industry in China.

References

- [1] Li Mingyu, Fu Yanli. Analysis on the function orientation and Development path of Rural Cultural Industry under the background of Integration of Urban and Rural Development [J] .Journal of Jiangsu University (Social Science Edition),2014,16(1): 70-73.
- [2] Chen Haibo, Wang Ting, Liu Jie. Reflections on promoting the Cultural consumption of Chinese residents [J] .Price Theory and practice, 2013(3): 91-92.
- [3] Zhang Ying. Policy recommendations for raising the level of Cultural consumption of Chinese residents [J] .Economic Research Guide Journal 2013(20): 63-64.
- [4] Xiong Xiaoling, Peng Xibao. The Dilemma and countermeasure research of Rural Cultural consumption in China [J] .Journal of Shanxi Agricultural University (Social Science Edition), 2012, 11(7):657-661.