Analysis of Consumption Structure of Rural Residents in Hubei Province

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Abstract: Consumption is an important factor in promoting the growth of national economy, and plays a key role in promoting the circulation of goods and money, optimizing industrial structure and improving the gross national product. Analyzing the consumption structure of rural residents is helpful to guide their rational consumption and improve their consumption ability, and to promote the modernization of rural areas and rural economic development. In this paper, the consumption data of rural residents in Hubei Province from 2008 to 2017 are selected and SPSS software is used to analyze the multiple linear regression of the internal structure of consumption expenditure, and finally the multiple linear regression equation of consumption structure of rural residents in Hubei Province is obtained. Finally, according to the above analysis and conclusion, the paper puts forward the relevant policy suggestions to optimize the consumption structure of rural households and improve the consumption of rural residents in Hubei Province.

1. Introduction

Consumption is one of the "troikas" to promote economic growth, and also one of the components of GDP. It plays an important role in China's economic growth under the current situation of sluggish investment and sluggish export. Consumption structure [1] refers to the category and proportion of consumers in the target market. Continuously expanding domestic demand and reasonably adjusting consumption structure can promote the production development of various industries, realize employment for everyone, promote enterprises to optimize internal structure and promote industrial upgrading. The consumption of residents is an important part of consumption. The analysis of the consumption structure of residents can optimize the consumption behavior of residents, give full play to the power of personal consumption, further promote the sustainable and stable development of the economy, and ultimately improve the living standard of the people. Hubei Province, located in the middle reaches of the Yangtze River, is recognized as the "province of thousands of lakes". In this vast land, there are abundant mineral resources, animal and plant resources, and many historical and cultural cities and sites. The establishment of the Three Gorges dam has promoted the development of the economy and ecology of Hubei Province. According to the data of Hubei statistical yearbook, in 2017, the rural population of Hubei Province was 24.0211 million, accounting for 40.7% of the total population of the province, and the rural population still accounted for a large proportion of the population of the province. With the continuous development of society and the enhancement of comprehensive strength of Hubei Province, the consumption structure and behavior of farmers have changed a lot. Therefore, it is of strategic significance to study the consumption structure of rural residents in Hubei Province and analyze their consumption behavior to guide the adjustment of industrial structure and accelerate the transformation of economic development mode.

The study of consumption structure in China began in the 1980s. Ling Hongcheng[2] analyzed the factors influencing the change of consumption structure and pointed out the development trend of consumption structure of urban and rural residents in China. This study reveals the changing law of consumption structure, which provides a theoretical basis for further research. Chen Shihui[3] made a deep analysis of the current situation, existing problems and influencing factors of the

consumption structure of rural residents in China under the new normal, and put forward the corresponding optimization measures of the consumption structure. Cui Beilei[4] studies the changes of consumption structure of urban residents in China through ELES model and concludes that consumption of urban residents in China shows a trend from traditional consumption to new consumption, from commodity consumption to service consumption. Deng Zhenping[5] made multiple linear regression analysis on the consumption structure of rural residents in Guangxi Province by SPSS software, and concluded that the consumption of health care and traffic communication of rural families in Guangxi is relatively large, and put forward relevant countermeasures and suggestions. Zhang Pan [6] analyzed the correlation between the three factors of urban and rural residents' consumption, total population of Hubei Province and the per capita GDP of Hubei Province using OLS regression method. Xia Changhui [7] described and summarized the consumption status of rural residents in the central and western regions of my country and analyzed the consumption demand mechanism in detail. It was concluded that the rural residents' consumption environment should be improved from the hardware environment, software environment and cultural environment. Fu Huihuang [8] used the data of 2018 provinces in China to construct an ELES model and analyzed the consumption of residents in the four major regions of eastern, central, northeastern and western regions. Yuan Xiaoling and others [9] have analyzed the consumption of residents through a questionnaire survey twice to find that the long-term upward trend of the Chinese economy will not change.

2. Regression Analysis of Consumption Structure of Rural Residents in Hubei Province

2.1Introduction to the Principle of Multiple Linear Regression Analysis

The multiple regression analysis prediction method is to establish a prediction model to predict by analyzing the correlation between two or more independent variables and one dependent variable[10].

Let random variable Y and general variable X_1, X_2,…, X_n the linear regression model is:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n + \varepsilon$$

Among them, β_0 called regression constant, β_1,…, β_n called regression coefficient. Y called interpreted variable (dependent variable),however, X_1, X_2,…, X_n It is n general variables that can be accurately measured and controlled, which are called explanatory variables (independent variables).

2.2Variable Selection and Model Building

Data of 2008-2017 are selected and sorted out from Hubei statistical yearbook.

Set the annual per capita consumption expenditure of farmers in Hubei Province as the dependent variable Y,Food as an independent variable X_1,Clothing as an independent variable X_2,Living as an independent variable X_3,Household equipment supplies and services as independent variables X_4,Traffic communication as independent variable X_5,Education, culture and entertainment as independent variables X_6,Health care as an independent variable X_7,Other goods and services are independent variables X_8,model building:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8$$

2.3Regression Analysis Based On SPSS Software

2.3.1 Model Summary Analysis

Table 1. Model Summary

Model	R	Square of R	Square of adjusted R	Standard estimate error
1	1.000a	1.000	1.000	0.107

As shown in Table 2, the square of R in the model and the adjusted square of R is all 1.000. The model has a very high degree of fit, which shows that the model has good interpretation ability.

2.3.2 ANOVA analysis of variance

Table 2. ANOVA

Model		Sum of squares	freedom	mean square	F	Significance
1	regression	84121746.331	8.000	10515218.291	925276375.789	.000b
	residual	0.011	1.000	0.011		
	total	84121746.342	9.000			

As shown in Table 3, ANOVA represents an analysis of variance. If the p value corresponding to f value is less than 0.05, the regression equation can be considered useful. The p value in the model is less than 0.05, so the original hypothesis is rejected, indicating that the regression equation is convenient and has passed the F test.

2.3.3 Coefficient analysis and regression equation

Table 3. Coefficienta

Model		Non standardized coefficient		Standardization coefficient	t	Significance
		B	Standard error	Beta		
1	(constant)	1.333	3.021		0.441	0.736
	X1	0.999	0.002	0.211	443.453	0.001
	X2	1.000	0.005	0.055	212.324	0.003
	X3	1.000	0.003	0.233	397.749	0 .002
	X4	1.001	0.009	0.059	112.014	0.006
	X5	1.000	0.002	0.146	584.729	0.001
	X6	1.000	0.001	0.142	1585.292	0.000
	X7	1.001	0.003	0.140	397.651	0.002
	X8	0.996	0.012	0.022	81.917	0.008

a. Dependent variable: per capita living expenditure.

As shown in Table 4, t value and P value are the significance test results of independent variables. B in the non-standardized coefficient represents constant term and independent variable coefficient. In the model, the corresponding p value of the independent variables is less than 0.05, which shows that these eight independent variables have a significant impact on the dependent variables, and all variables have a significant positive impact on per capita consumption expenditure, and the effect is basically the same, which is also in line with the actual situation. According to table 6, the multiple linear regression equation of consumption structure of rural residents in Hubei Province is as follows:

$$y = 1.333 + 0.999x_1 + x_2 + x_3 + 1.001x_4 + x_5 + x_6 + 1.001x_7 + 0.996x_8$$

3. Conclusions and Suggestions

3.1 Conclusion

According to the regression equation, the two types of consumption expenditure that have the

greatest impact on the consumption of rural residents in Hubei Province are household equipment, goods and services, and medical care. It shows that with the continuous development of economy, rural households in Hubei pay more and more attention to the living environment and consume more and more household appliances; At the same time, the problems of difficult and expensive medical treatment for rural residents in Hubei still exist, and the rural medical security system and rural medical level still need to be improved. Clothing, housing, transportation, communication, education, culture and entertainment have the same impact on the household consumption of rural residents in Hubei Province. The influence of food and other expenditures on consumption is relatively small. The proportion of food expenditure in total household expenditure, namely Engel coefficient, is getting smaller and smaller, which shows that the living standard of rural residents in Hubei Province is gradually improving and people's life tends to be rich.

3.2 Suggestions on Optimizing the Consumption Structure of Rural Residents in Hubei Province

1. Income is an important factor that affects consumption. Improve the income of rural residents to improve their consumption ability and level. It is necessary to do a good job of ensuring the minimum guarantee by increasing and guaranteeing the income of the poor and accelerating the reform of income distribution [11].

The government should constantly improve and develop the income distribution system; Agriculture is the primary source of farmers' income. We should vigorously develop characteristic agriculture, adjust measures to local conditions, and give full play to regional advantages.

2. To improve the technical level so as to guide the consumption of household equipment, supplies and services of rural residents in Hubei Province. Increase the construction of rural infrastructure, improve and improve the rural power grid, and solve the problem of rural power consumption; Improve the quality of household appliances, establish a high-quality integrated electrical sales and distribution system, build a perfect rural market, promote the optimization and upgrading of related industries, and promote the rapid development of the economy.

3. The government should increase the financial expenditure on rural areas, develop rural health undertakings, improve the construction of rural health infrastructure, actively promote the "toilet revolution" and improve the rural health environment; We should improve the treatment of rural medical personnel, introduce excellent medical talents, continuously introduce relevant drug policies, reduce the price of expensive drugs, improve and improve the new rural cooperative medical system, so that farmers can enjoy more preferential policies and systems.

4. Promote the consumption of rural residents on the spiritual level, and gradually strengthen the service consumption. To develop education, we should adhere to the strategy of "invigorating the country through science and education, strengthening the country through talents", increase investment and policy support in rural education and cultural undertakings, and actively publicize socialism with Chinese characteristics in the new era; The government should focus on solving the problem of rural children's difficulty in going to school, increase the support to the poor families, strengthen the spiritual education, and comprehensively improve the ideological and moral quality and scientific and cultural knowledge of rural residents.

5. Improve all aspects of the system; enhance the consumption confidence of rural residents, so as to improve the expected consumption of rural residents. Establish the agricultural insurance system, enhance the ability of farmers to prevent risks, reduce the harm of uncontrollable factors such as natural disasters to agriculture; improve the rural endowment insurance system, provide stable life security for the elderly, reduce the burden of their children; improve the minimum life security system, and strictly control the auditing standards of poor families, provide the minimum life security for the rural poor residents.

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