RESEARCH ON INFLUENCING FACTORS OF RURAL CONSUMPTION IN CHINA-TAKE SHANDONG PROVINCE AS AN EXAMPLE.

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ABSTRACT : There are many factors affecting the consumption of rural residents, taking the consumption of rural residents in shandong province from 1990 to 2015 as an example.According to the Keynesian consumption theory, the factors affecting rural consumption are analyzed and studied, a multiple linear regression model is established, and the model is estimated by least square method. Through Eviwes's estimation results, it obtained from the estimation results that there is a certain linear relationship between rural consumer expenditure in Shandong Province and household income, commodity prices, taxes, savings, and other indicators, and through this research, some feasible suggestions are put forwards to improve rural consumption.

Keywords: *rural consumption; multiple linear regression; Eviwes; least square method; Keynesian consumption theory*

I. INTRODUCTION

Since the reform and opening up, China's economy has achieved rapid development. Consumption, investment, and exports have become the troika that drives the economy. Consumption is one of the main drivers of the economy, and the economic pull is also increasing. Shandong Province population and consumption become more. In recent years, with the growth of the economy, the income of rural residents has increased gradually; consumption has also been increasing, and gradually become an important component of domestic demand [1].

According to Keynes's consumption theory[2], residents' consumption is affected by household income, commodity prices, taxation, savings, and other factors, and empirical analysis was conducted using rural consumption in Shandong Province from 1990 to 2015 to establish a multiple linear regression model for model parameters. It is estimated that there is a certain linear relationship between rural household consumption and household income, commodity prices, taxes, savings and other factors.

On October 18, 2017, Xi Jinping represented the 18th Central Committee and made a report entitled "Completely building a well-to-do society and winning a new era of socialism with Chinese characteristics in a well-off society" [3]. It showed that the CPC Well-off society's determination. Studying the factors that affect rural consumption is conducive to the development of China's economy and the completion of a well-to-do society. Wang Baohua [4] mentioned in the study that urban residents' consumption is becoming increasingly saturated, and rural consumer traction is huge. Increasing consumer demand of rural residents will help expand the development of agriculture, industry, and tertiary industry. Launching the rural consumer market, continuously expanding the consumption area and improving the consumption environment, expanding the rural consumer demand is an important measure to solve the insufficient demand in the market economy. The study of rural consumption is a very important issue. In this paper, we will study the influencing factors of rural consumer in Shandong Province by establishing a multiple linear

regression model of rural residents' consumption and residents' income, commodity prices, taxes, and savings.

II. MODEL ESTABLISHMENT

A. Theoretical basis In real life,

There are many factors which can effect residents' consumption, such as income level, commodity price level, interest rates, income distribution status, consumer preference, family property, consumer credit conditions, the consumer age structure, the social security system, customs, etc. According to Keynes' consumption theory, the main factor affecting consumption is the income of residents. On the basis of the reality, we add consumer price index, tax, savings and other important indicators to influence consumption.

According to the indicators of rural consumption in Shandong, a the mathematical model was established through econometrics, and the parameters of the model were estimated by using the least square method (OLS).

B. Selection of variables and sources of data

a. Variable selection

Consumption y is taken as the dependent variable, ie rural consumption expenditure is taken as the dependent variable of the model to measure the rural consumption level, and the rural consumption expenditure data of Hubei Province in 2017 is used as an empirical study.

Income x1, according to Keynesian consumption theory, the main factor affecting consumption is income. As the income increases, the residents' consumption expenditure will also increase continuously. Therefore, income is taken as the independent variable of the model.

Commodity prices are also one of the factors that affect rural consumption. Here we choose the rural consumer price index (CPI) as independent variable II in the model, and use 1990 as the base period to perform regression analysis on the parameters.

In general, taxes also indirectly affect the consumption of rural residents. the less tax revenue accounts for the greater the total disposable income. That is to say, the tax increase residents' disposable income will be reduced correspondingly, thus affect the residents' consumption. Therefore, it is reasonable to regard tax as the independent variable of the model 3.

The residents' savings also affect the residents' consumption. The larger the proportion of total income, the smaller the disposable income of residents and the smaller the income for consumption.

According to the Keynesian theory of consumption, consumption of residents and residents' income, Chen Jing [5] in the analysis of the affecting factors in rural residents' consumption in China is also proved that the residents of consumption and income, price and taxation is linear relationship. Therefore, a multivariate linear regression model is established:

$$Y = \beta_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \mu \qquad (1)$$

b. source of data.

The research on the affecting factors of rural consumption situation in shandong province has selected rural consumption in Shandong Province from 1990 to 2015, including the rural residents' consumption expenditures, residents' income, commodity prices, savings, taxes, and other indicators, and related processing of the date.

C. Inspection of data stationarity

Before investigating the cointegration of variables, we must first test the data for each variable and use AEVIEW 6.0 to test the income of rural residents, consumer spending, residents' income, commodity prices, savings, and taxes. The results are shown in Table 2-3-1:

variate	Y	X2	X3	X4	X5
ADF	-3.56	-4.51	-3.22	-5.69	-6.80
critical value	-3.02	-3.00	-3.01	-3.03	-3.00
stationarity	smooth	smooth	smooth	smooth	smooth
significance level	5%	5%	5%	5%	5%

From the test results, the above variables are stable at a significant level of 5%.

D.Parameter estimation of the model.

Here we use Eviwes to estimate the parameters of the model. The estimated results are as follows:

Dependent Variable: Y
Method: Least Squares
Date: 11/26/17 Time: 10:31
Sample: 1990 2015
Included observations: 26

Estimated equations based on Eviwes' estimation:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	142.3315	47.03845	3.025854	0.0064
X2	0.300530	0.031396	9.572286	0.0000
X3	-2.928989	0.395691	-7.402212	0.0000
X4	-0.264267	0.026908	-9.821220	0.0000
X5	9.147392	0.480728	19.02822	0.0000

R-squared	0.999877	Mean dependent var	3103.485
Adjusted R-squared	0.999854	S.D. dependent var	2395.173
S.E. of regression	28.93992	Akaike info criterion	9.739362
Sum squared resid	17587.90	Schwarz criterion	9.981304
Log likelihood	-121.6117	Hannan-Quinn criter.	9.809033
F-statistic	42806.12	Durbin-Watson stat	2.098546
Prob(F-statistic)	0.000000		

$$Y = 142.3315 + 0.30053x_2 - 2.928989x_3 - 0.264267x_4 + 9.147392x_5 \qquad (2)$$

T =(3.025854) (9.572286) (-7.402212) (-9.821220) (19.02822)
R^2 =0.999877 F =42806.12

III. MODIFICATION OF THE MODEL

A. Goodness-of-fit test

From the regression results of the above parameters, the estimation result of the parameters is still good, the

coefficient of determination is 0.999867, and the goodness of fit is very good. After passing the test, the model has certain feasibility.

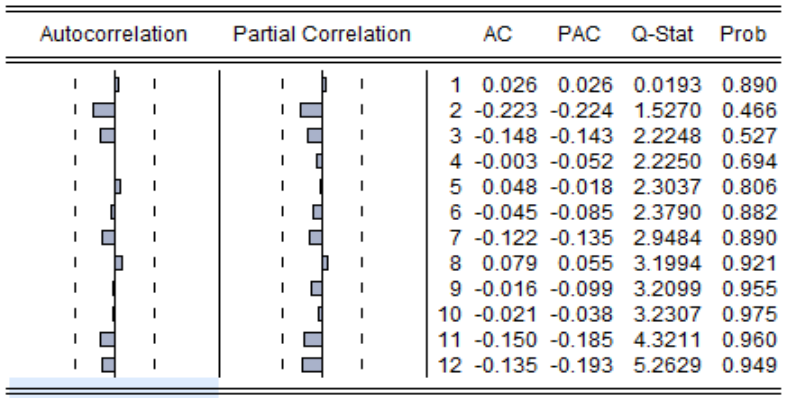
B.Lag inspection

After the estimation equation of the model was obtained, the Eviwes was used to test the model several times, which indicates that the model has no hysteresis.

C.Autocorrelation test

Time series data estimation equation may have self-correlation in the residual sequence, which affects the accuracy of estimation results, so it is necessary to carry out self-correlation test on the estimation results.

a. Based on residual chart



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.026	0.026	0.0193	0.890
		2	-0.223	-0.224	1.5270	0.466
		3	-0.148	-0.143	2.2248	0.527
		4	-0.003	-0.052	2.2250	0.694
		5	0.048	-0.018	2.3037	0.806
		6	-0.045	-0.085	2.3790	0.882
		7	-0.122	-0.135	2.9484	0.890
		8	0.079	0.055	3.1994	0.921
		9	-0.016	-0.099	3.2099	0.955
		10	-0.021	-0.038	3.2307	0.975
		11	-0.150	-0.185	4.3211	0.960
		12	-0.135	-0.193	5.2629	0.949

Estimates of residual figure as shown in the above statistics, located in its residual error sequence are dotted line can think that there is no autocorrelation, but considering the accuracy of the residual statistical figure, further using LM test of autocorrelation test.

b. According to LM test

Table3-3-2

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.185396	Prob. F(2,19)	0.8323
Obs*R-squared	0.497687	Prob. Chi-Square(2)	0.7797

According to the results in the above table, the model does not have autocorrelation. At this time, it is considered that there is no autocorrelation in the model.

IV. RESEARCH CONCLUSIONS AND RELATED RECOMMENDATIONS

A. the conclusion of the study

According to the above research results, rural residents' consumption expenditure has a certain linear relationship with residents' income, commodity price, tax and savings. There is a positive correlation between income and consumption. With the increase of income, the consumption expenditure of residents will also increase.

There is a negative correlation between commodity prices and consumer spending. The higher the commodity prices, the lower the purchasing power of residents and the reduction of consumer spending. There is a negative correlation between tax and consumer spending, and the higher the tax revenue, the less consumer spending.

B: related recommendations

The consumption of residents is the main factor driving economic growth. The large rural population has a great

impact on economic growth. Therefore, increasing rural consumption has great significance for economic growth.

According to the results of this study and Keynesian theory of consumption, the income of residents is the main influencing factor of consumption. Therefore, in order to increase the consumption of rural residents, the first thing is to increase the income of rural residents. The government can use the government's financial transfer payments[6] to provide economic subsidies to rural residents, increase the income of rural residents and stimulate the consumption of rural residents; commodity price affects rural consumption to a certain extent, and the government should make certain Interventions to control the prices of commodities within a reasonable range; secondly, the concept of consumption of Chinese rural residents who first save and consume also restricts the consumption of rural residents. The government can increase publicity and provide a financial security system[7]. Changing the concept of consumption of rural residents can also play a role in promoting rural residents' consumption. In addition, whether the improvement of social welfare [8] and the social security system [9] also affect the consumption of rural residents, the government can also improve the public by strengthening public health, basic education, infrastructure, and other social benefits. Safeguard system, solve the worries of rural residents' consumption, and increase the consumption of rural residents. In addition, the tax policy also has a certain impact on the consumption of rural residents. The government should implement the policy of benefiting farmers more and more, combine its national conditions, strive to change, be bold in innovation, reduce the cost of taxation in rural areas, reduce taxation management, improve the quality of tax collection and administration, and promote tax revenue growth.

From the eight aspects of adjusting the structure of the agricultural industry, increasing the income of farmers, changing farmers' consumption concepts, improving the rural consumption environment, improving the social security system of farmers, strengthening financial system support, increasing financial investment, and increasing investment in education, expanding the consumption of rural residents in China . This is of great significance to further narrowing the gap between urban and rural areas, accelerating rural urbanization, achieving coordinated urban and rural development, and building a new socialist countryside [10].

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