EMPIRICAL ANALYSIS OF TOURISM DEVELOPMENT IN CHINA

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ABSTRACT

Tourism is a smokeless industry, invisible trade. In this paper, using data from 2000 to 2016, it builds a model to analyze the residents' consumption level. The results show that firstly the number of domestic tourists have significant influence on the development of tourism, which impacts on the domestic economy. Secondly the gross domestic product, the consumption level of residents and the number of domestic tourists are all significant to the tourism income, which is the reason for the rapid development of China's tourism industry.

Keywords：*The tourism industry, Tourism income, Consumption level of residents, GDP, Economic growth.*

1. INTRODUCTION

In recent decades, the domestic tourism develops quickly, more and more people like to travel, which enrich the life of residents and expand the people's knowledge, especially also promote the development of the region and economic growth. In 2014, the number of tourists reached 3.611 billion, and the tourism revenue reached 3.031186 trillion yuan. In 2015, the number of tourists reached 4 billion, and the tourism revenue reached 3.419505 trillion yuan. In 2016, the number of tourists reached 4.44 billion, and the tourism revenue reached 3.939 trillion yuan.

2. LITERATURE REVIEW

With the rapid development of tourism, more and more scholars have studied the reasons for the rapid development of tourism. Foreign scholars began to study the tourism industry and economic growth from the analysis of tourists' consumption in Italy by Bodio (1899). In the domestic, Yang zhiyong (2006) analyzed the interactive relationship between tourism consumption and economic growth in China. Xu Yong(2012)using qualitative research methods such as VAR model and VECM, in-depth analysis of the development of China's domestic tourism industry, the development of domestic tourism and the relationship between economic growth and the contribution to economic growth. Zhu Jiyu, Li Jian(2014) choose GDP and domestic tourism revenue to study the influence of tourism on economic growth. Xia Zancai, Jiang Liheng (2016) study the influence factors of tourism for the economic growth. Combining the research results at home and abroad has laid the foundation for the research of tourism development. Why does tourism develop so fast? What is the causal relationship between tourism development and economic growth? These are the questions discussed in this paper. According to the modeling analysis of EVIEWS software used by Pang Hao (2014) in econometrics, the specific process is as follows: Firstly, establish a linear relationship between Y and GDP, X2 and X3, and give the correlation between variables. Secondly, parameter estimation. Thirdly,self-related remedy.   Fourthly, model test. At last, Conclusions and Suggestions.

3. MODEL SETTING AND TESTING

3.1 variable selection

On the analysis of tourism income and GDP, the residents' consumption level and the number of domestic tourists related relations, it defines the tourism income (Y) to be explained variable and defines the GDP, the residents' consumption level (X2), the number of domestic tourists(X3) as the explained variable. The data in 2000-2016 of this paper are all from the national bureau of statistics of the People's Republic of China (statistical yearbook).

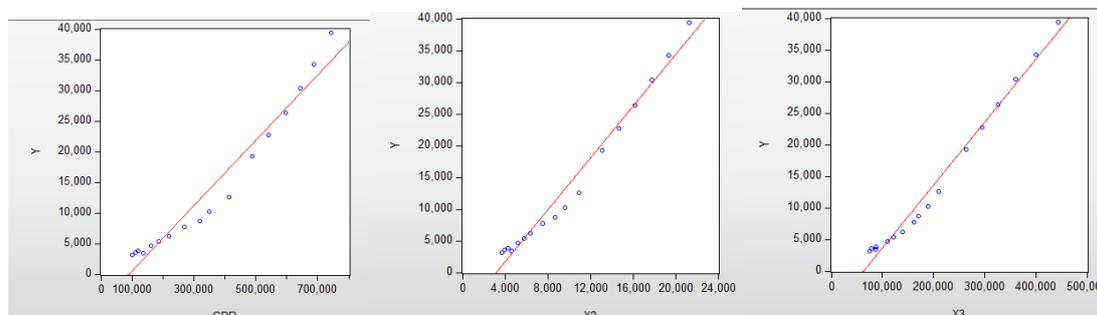3.2 establish a linear relationship between Y and GDP, X2 and X3

Figure 1

Table 1 correlation between variables

Covariance Correlation	Y	GDP	X2	X3
Y	1.36E+08			
	1.000000			
GDP	2.44E+09	4.58E+10		
	0.977734	1.000000		
X2	65477223	1.21E+09	32081609	
	0.989811	0.997351	1.000000	
X3	1.35E+09	2.47E+10	6.58E+08	1.35E+10
	0.992368	0.993946	0.998727	1.000000

Figure 1 shows that the linear relationship between GDP and Y, X2 and Y, X3 and Y is significant.

Table 1 shows that the correlations between GDP and Y, X2 and Y, X3 and Y are both high, which is close to.

For a better analysis of the relationship between them, it can build two linear regression model:

$$Y_t = \beta_1 + \beta_2 GDP_t + \mu_t \ (1)$$

$$Y_i = \beta_1 + \beta_2 X_2 + \beta_3 X_3 + \mu_i \ (2)$$

3.3 Parameter estimation

Using EVIEWS software for parameter estimation, the model can be written as:

$$\overset{\Lambda}{Y_t} = -4911.767 + 0.053381 GDP_t$$

$$s.e = (1234.622)(0.002958)$$

$$t = (-3.978357)(18.04529)$$

$$R^2 = 0.955964 \quad F=325.6324 \quad n=17 \quad DW=0.249280 \quad (3)$$

$$\hat{Y}_i = -6288.889 - 1.048383X_2 + 0.150556X_3$$
$$s.e = (785.2776)(1.317625)(0.064131)$$
$$t = (-8.008492)(-0.795661)(2.347618)$$

$$R^2 = 0.985452 \quad F=474.1757 \quad n=17 \quad DW=0.234087 \quad (4)$$

In (3), at the significant level of 5%, we can see from the statistical chart of DW, dl=1.133, du=1.381, in the modle DW=0.249280<dl, which mean a self-correlation in the consumption model.

In (4), at the significant level of 5%, we can see from the statistical chart of DW, dl=1.015, du=1.526, in the modle DW=0.23408<dl, which mean a self-correlation in the consumption model.

3.4 Self-related remedy

Using Cochrane-Orcutt iteration method for generalized difference regression,

① Y, GDP, AR(1) AR(2), DW=2.265646
② Y, GDP, AR(1) AR(2), DW=2.416873

$$\hat{Y}_t = -5670.709 + 0.059208GDP_t$$
$$s.e = (3401.373)(0.009338)$$
$$t = (-1.667182)(6.340512)$$

$$R^2 = 0.992117 \quad (5)$$

$$\hat{Y}_i = -23465.04 + 2.007925X_2 + 0.066866X_3$$
$$s.e = (5831.006)(0.426987)(0.012875)$$
$$t = (-4.024184)(4.702543)(5.193505)$$

$$\bar{R}^2 = 0.998829 \quad (6)$$

From (5) and (6), it shows that the equation every variable is significant to Y.The model results show that, with the assumption of other variables unchanged, the domestic tourism revenue will increase by 0.05920.8 billion yuan per 100 million yuan of GDP. The domestic tourism revenue will increase by 2.007925 billion yuan per 100 million yuan in consumption level. The number of domestic tourists will increase by 10,000, and the domestic tourism revenue will increase by 0.066866 billion yuan. That makes economic sense.It can be seen from (5) that $R^2 = 0.992117$, and the fixed coefficient $\bar{R}^2 = 0.989490$, which indicates that the model fits well.It can be seen from (6) that $R^2 = 0.999195$, and the fixed coefficient $\bar{R}^2 = 0.998829$, which indicates that the model fits well.

4. CONCLUSIONS AND SUGGESTIONS

The development of tourism in China is closely related to the level of economic growth. With the improvement of our country's gross domestic product, the domestic tourism income is also increasing. The residents' consumption level

has a significant impact on domestic tourism income, residents travel, with the increase of consumption level ,which can drive the development of the tourism and increases tourism income.The increase in the number of tourists must also lead to the increase of tourism income. The government in China should ease travel related policy and intensify development of targeted measures for tourism, correctly handle the relationship between economic development and tourism development, make tourism become a mainstay in the tertiary industry.Actively develop the economy, improve the living standards of residents and promote the development of tourism..Increase the publicity of tourism culture, improve the quality of tourism services especially, improve tourism infrastructure, innovate tourism projects, and strengthen transportation. Which will attract more tourists and promote the development of tourism.

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