

Analysis of People's Travel to China Based on Grey Correlation

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ABSTRACT. *With the rapid development of society, people's demand for entertainment has increased, and traveling to the mainland of China has become the choice of many people. This article analyzed the influence of seven different factors on inbound and outbound tourism by establishing a correlation model of influential factors on inbound tourism of people from 1995 to 2016. The research results showed that the number of travel agencies, the number of star-rated hotels, and the size of the resident consumption index are the main factors affecting the number of inbound tourists, and the exchange rate of RMB against the US dollar has little effect on the number of inbound tourists. The research in this article is of great significance to the systematic study of people's travel to the mainland of China.*

KEYWORDS: *the mainland of China, tourism, grey correlation analysis*

1. Introduction

From 1998 to 2014, the number of people visiting mainland China has been increasing. According to data released by the National Tourism Administration, the number has increased by dozens of times. As a landmark event for China's tourism industry, this is a milestone in China's reform and opening up and economic development entering a new stage [1-2]. As more and more people are attracted by the long history and mellow culture of the mainland, the tendency of people to enter and travel has gradually increased. In recent years, exchanges have been getting closer, and people have become one of the more important inbound tourist source markets in the mainland. This has promoted exchanges and contacts between the different countries, as well as the development of the tourism industry, which is conducive to expanding the consumer market and improving the level of socio-economic development. According to relevant reports, summer vacation, research, ice and snow tourism, and high-speed rail tourism have become increasingly popular new choices for people to travel to the mainland. As a study tour, Fujian has become a popular choice for people. Every summer, various topics such as summer camps, study tours and other activities are held. Snow and ice trips are mostly concentrated in the north. For example, the northeast and Beijing are the most popular places for

people. As for summer vacations, they are located in the north and south of the river, and they are almost everywhere [3].

Based on interviews with 28 mainlanders, this paper analyzes articles in China's most popular travel magazines and compares different types of images of China in tourist, non-tourist and travel magazines. The results can help the destination marketing organizations to evaluate their marketing strategies for the Chinese mainland tourism market [4]. The purpose of this study is to explore unique historical and geopolitical relationship in the eyes of mainland Chinese tourists. In the actual and potential Chinese tourists' destination impression of other countries, destination quality, cultural proximity, uniqueness and negative impression are the main factors, with cultural proximity the most important one [5]. The volatility of stock indexes of large and small enterprises is estimate, confirming that the impact of volatility on enterprise performance has changed significantly regardless of the enterprise size and estimation period. In addition, the estimated risk premium is not significant in either time period, and the asymmetric effect only exists in large enterprises after the policy reform [6].

2. Data

Table 1 Statistics of People's Travel to the Mainland, 1995-2016

	mean	std	min	25%	50%	75%	max
RMB against the U.S. dollar	757.37	85.69	619.32	676.95	819.17	827.83	835.1
Consumer Price Index	491.76	69.93	396.9	437	464	536.1	627.5
Inbound tourists	385.36	131.96	153.23	273.19	410.92	514.06	573
Number of travel agencies	15841.10	8054.08	3826	8993	16245	22784	27939
Star Hotel Total	10363.24	3467.74	3720	7358	11685	13293	14237
Domestic tourists	1663.71	1163.01	629	744	1212	2103	4440
GDP per capita	16820.52	3370.60	12787	13768	16503	19262	22541
Consumer price index	1.21	1.16	-0.6	0.9	1.2	1.6	3.9
Unemployment rate	3.93	1.02	1.8	3	4.1	4.4	5.9

The data selected are from the National Bureau of Statistics, based on previous literature, including: RMB-USD exchange rate, consumer price index, inbound tourists, number of travel agencies, total number of star hotels, domestic tourists, GDP per person, consumer price index, unemployment rate, etc. At present, the currency used by people is US dollar, and the currency of the mainland is RMB. Therefore, tourists who need to travel to the mainland need to exchange dollars for RMB in order to use it in the mainland. At present, the average exchange rate of RMB to USD is 1: 7.57. Therefore, the RMB exchange rate will have a certain impact on the number of tourists. The urban consumer price index (CPI) represents the price of goods in the region. The maximum value of 627.5 and the minimum value of 369.9 are the reflection of economic factors and have a certain impact on the number of inbound tourists. According to the above table, the average number of

travel agencies to the mainland is 15,841 each year, which shows that most people come to the mainland with group tours. Therefore, the number of travel agencies has an impact on the number of inbound tourists. As the saying goes, "people take food as the sky", if you travel to a place, you will definitely experience the special food of this place. Therefore, it can be considered that the number of star-rated restaurants will affect the number of inbound tourists. Tourists and domestic tourists may compete for the same tourism resources, which may affect each other. The consumer price index (CPI) can reflect the commodity prices of tourist destinations. The average value of 1.21 and the standard deviation of 1.16 indicate that the index has a certain impact on the number of tourists. The more developed the market economy, the easier it is to attract tourists. As the tourism industry is a product of economic development to a certain extent, Unemployment rate will affect the number of inbound tourists. Taiwan's average unemployment rate is 3.93%, which shows that it is difficult for some unemployed people to travel to the mainland.

3. Models

Grey correlation analysis describes the correlation between multiple variables. For two variables or two systems, the measure of the degree of correlation between the two over time or between different objects is called the degree of correlation. In these two systems, if some of them are unknown and some of them are known, then this system is considered as a grey system. The method of studying these two systems is called the grey correlation method. This indicator is a commonly used method to measure the degree of correlation between factors or systems. In the specific implementation process, the basic idea of the grey correlation analysis is to compare the size of the correlation with the reference data and the selected comparison data. The calculation steps are as follows: (1) Determine the reference or parent sequence, and compare the sequence or subsequence with the definition. (2) Normalize or dimensionless the reference sequence and subsequence, and calculate variables such as the average of the processed reference sequence and comparison sequence. (3) Calculate the grey correlation coefficient.

4. Results

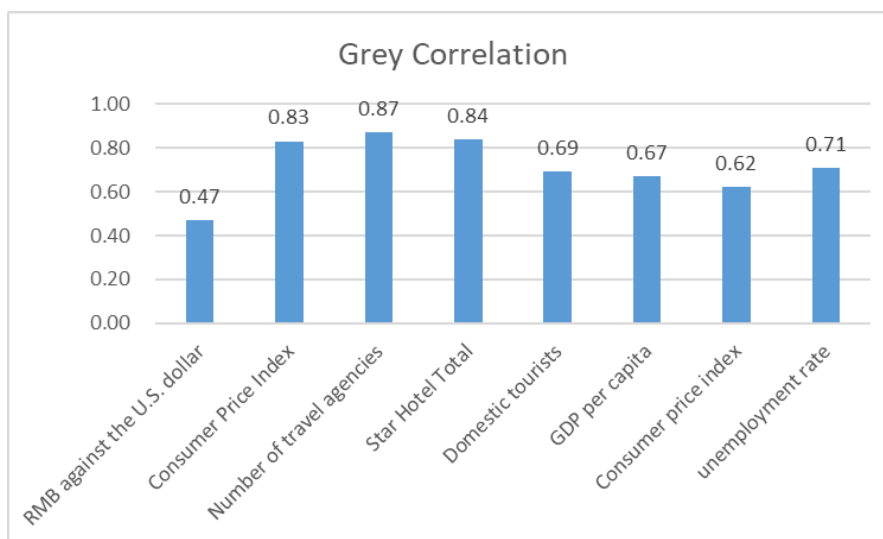


Figure. 1 Calculation results of grey correlation of each indicator

It can be seen from Figure 1 that the top three factors in the correlation degree of the number of inbound tourists are the number of travel agencies, the number of star-rated hotels, and the resident consumption index, all exceeding 0.8. As the most common way for people to understand travel, the increase in the number of travel agencies has given tourists more opportunities to realize their thoughts on mainland travel. The number of star-rated hotels represents the overall condition of mainland accommodation. The quality of hotel accommodation in mainland China can directly affect tourists' desire to travel to the mainland. The consumer consumption index represents people's purchasing power on the mainland, and its size can indicate people's consumption in a region. The effects of unemployment, domestic tourists, GDP per capita, and consumer price index are moderate, all between 0.6 and 0.71. The unemployment rate represents the economic level of a region. The lower the unemployment rate, the higher the people demand for goods, which can improve the economic level of the region and thus promote the development of tourism. The number of domestic tourists represents the popularity of the area. The higher the domestic tourists, the more prosperous the development of tourism. As one of the most important macroeconomic indicators, GDP measures the state of economic development. Countries or regions with better development and higher per capita GDP have better tourism development. Therefore, whether tourists have the economic conditions to realize their idea of traveling to the mainland is closely related to GDP index. The consumer premium index represents the premium power of a region, and in a sense it represents how much the region's earnings are. Its size will indirectly affect people's demand for tourism. The correlation of the RMB

exchange rate has the least impact. Its fluctuations are not large, only because the exchange rate has a small impact on inbound tourists. The price of goods on the mainland is within their acceptable range, so the index has little effect on inbound tourists.

5. Conclusion

This article adopts the average value, standard deviation, and maximum value of the exchange rate of RMB to the US dollar, the total consumer price of residents, the number of inbound tourists, the number of travel agencies, the total number of star hotels, domestic tourists, GDP per capita, the consumer price index, and the unemployment rate. The research on the minimum, minimum, and interquartile range, and the analysis of the correlation between the above factors and people's travel to the mainland, concludes: the exchange rate of RMB against the US dollar, the total consumer price, the number of inbound tourists, and the number of travel agencies. Total number of star-rated hotels, domestic tourists, GDP per capita, consumer price index, and unemployment rate all have varying degrees of influence on people's travel to the mainland. The number of travel agencies and the consumer price index have a greater impact. The impact of the consumer price index and the Renminbi on the dollar exchange rate is small.

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