

Research on the Relationship between Level of China's Economic Development and Inbound Tourism - take Xi'an as an example

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Abstract

Under normal circumstances, the higher the level of economic development in the tourism destination, is likely to increase in tourist attractions related to investment, increase the attraction of the tourist attractions, so that they can make more foreign tourists to cross-border tourism; At the same time, the more developed the inbound tourism industry, the increase of tourism foreign exchange income, thus promoting the overall development of the economy. In this paper, establishing system of economic development and the coupling model of inbound tourism flow system and the corresponding index system, in-depth analysis on the relationship between the two, from 2006 to 2013, the growing trend of Xi'an economic development level, and growth is relatively stable, show Xi'an economic development is relatively good; But inbound tourism has big fluctuations and ups and downs. In 2008, due to the impact of the financial crisis, inbound tourism reached a low point and it took two years to recover slowly. It indicates that economic development has great influence on inbound tourism, and the overall development of economy is not limited to inbound tourism.

Keywords: *Economic development, inbound tourism, coupling, Xi'an*

1. Introduction

On January 13, 2015, the 4th China tourism industry annual conference, jointly organized by the China tourism association and China tourism newspaper, was held in Nanchang. The theme of this year's annual meeting is "the development of tourism reform under the new normal". The theme is BBS, annual release and industry BBS. Tourism research and planning of Beijing university professor Wu Bihu, director of the center said in a statement, the reason of the decline in China's inbound tourism in addition to the fog haze, differences between rich and poor, and the marketing out of the question. Local tourism depends on big data analysis, and then put forward targeted strategic marketing. China's foreign destination marketing is to market each province as a separate international destination. At the same time, western countries, the more developed the economy, the more

developed the international tourism industry, but China is not such a law. So coastal cities, the economy is big, but not foreigners.

According to statistics from the tourism bureau, there were nearly 1.1 billion global and trans-regional countries in 2015. China accounts for nearly 9 percent of the world's total. But by mainland China, only 2.4%. That is to say, the Chinese go out more and attract less people. This is a contrast between exit and entry. Since 2007, China has actually experienced a downward trend in inbound tourism. By 2010, of course, it was back. But in 2011 and 2012, it fell again. This, according to the tourism bureau of the entry tourism types, or the purpose, is divided into several types, namely sees China as a tourist destination, tourism theme, tourism is a kind of pleasure, constantly falling in 2011, it is a big challenge. Almost all of China's top 10 importing countries, or 20 of them, have fallen. The number of people from South Korea, Japan, Russia, the United States, Malaysia, Singapore, Australia, Canada, Germany and other countries has declined [1].

In fact in China, as a remote destination, because of China's international tourism and inbound tourism, in addition to Hong Kong, Macao and Taiwan, a big part of the remote as North America, Australia and Europe market, are falling. But the countries around us have not declined. Japan, for example, is growing by 24%, India by 5.9%, and Thailand by 18%, which means everyone, is growing, but China is falling, and that's something we need to think about.

According to Skyscanner and ChinaTravelDepot jointly issued the 2015 China inbound tourism report, you can see that in 2015 China top ten travel destination entry, in turn, are: Shanghai, Beijing, Guangzhou, Chengdu, Xi'an, Sanya, Shenzhen, Qingdao, Xiamen, Kunming [2] (**Figure 1**).

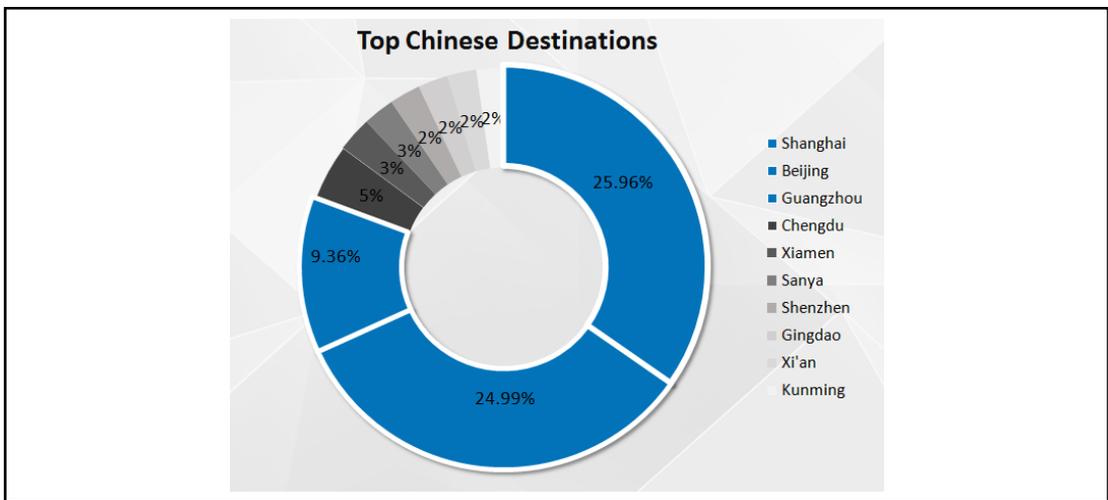


Figure 1: 2015 China top ten travel destination entry

The popularity of inbound travel destinations, according to China Travel Depot data, is unstoppable in the first tier cities of Beijing and Shanghai. Second-tier cities, Harbin, Wuhan and Qingdao, as the traffic convenience (high iron open), 72 hours of transit visa-free policy implementation and increase the promotion, heat growth significantly, compared with 2014 increased 51.85%, 37.53% and 29.35% (**Figure 2**).

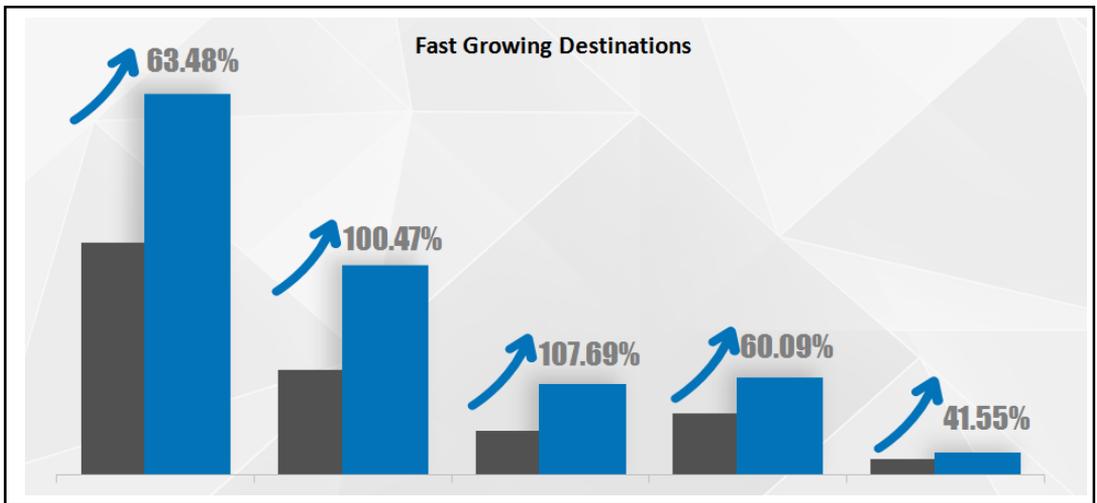


Figure 2: 2015 China Fast Growing Destinations

According to the latest data show that although the second-tier cities increasingly attractive for foreign tourists, however, the number of the Xi'an as a tourist destination is relatively low compared to other second-tier cities. Then, as the "silk road economic belt" node cities and most historic cities, Xi'an inbound tourism but why there is no other good urban development, the factors affecting foreign tourists choose Xi'an as a tourist destination, how is it that the economic development of Xi'an influence of inbound tourism, the development of relations is really about, coordinated development?

2. The research method

On the basis of full literature investigation and actual research, the economic development level of Xi'an is found, as well as the corresponding number of inbound tourists and tourism foreign exchange income. On this basis to establish evaluation index system, the coupling model and coupling analysis between inbound tourism and economic development level of the coupling relationship, find the features and the development of the relationship between the two.

3. Analysis of the mechanism of economic development level and the interaction mechanism of inbound tourism

3.1. Coupling Connotation

In physics, coupling refers to the phenomenon of two (or more) systems or forms of movement interacting with each other through various interactions. When the system or the internal elements of the system are properly matched and mutually reinforcing, it is a benign coupling. Coupling degree is the system or elements interact with each other. Coordination is two or more systems or a benign correlation between system elements, is a system or between the system elements between cooperate proper, the relationship between harmony, benign circulation, is to maintain the healthy development of multiple systems or elements. The degree of coupling coordination is the degree to which the

system is in harmony with each other in the development process, which reflects the tendency of the system to go from disorder to order. Can be

There is a difference between coupling degree and coupling degree. The coupling degree mainly reflects the strength and weakness of the interaction between the systems. However, the coupling degree indicates the degree of benign coupling degree and the degree of coordination.

3.2. Coupling Mechanism

Economic development level and inbound tourism have significant coupling characteristics. Specific displays in: on the one hand, economic development, the better, may increase its investment in local tourism, the tourism infrastructure and tourism development has a promoting effect, thus improving tourists experience, promote the development of the whole tourism industry; On the other hand, the more developed the inbound tourism, the more income from foreign tourists can be obtained, which can lead to the development of related industries, thus improving the overall economic development level. The two interact and interact with each other.

The development of inbound tourism can drive the development of cross-border business, travel agency, lodging industry, catering, transportation and other related industries. While increasing economic income, we will create more jobs and increase employment. Because tourism needs corresponding supporting infrastructure, reception facilities construction, such as hotels, restaurants, etc., in the development of the tourism industry will promote the development of the related services at the same time, also provide more employment opportunities for local residents and jobs. In addition, the development of inbound tourism can attract more foreign tourists, strengthen international exchanges and enhance the openness between countries. Tourism can promote cultural exchanges, enhance the visitor's understanding of the country or region, and make a comprehensive display of the region's face to tourists. Therefore, the development of inbound tourism brings tourists and tourists to the tourist destinations, which also means the exchange and absorption of capital, technology and information for the economic development of the region.

Tourism is with the continuous development of economy and the continuous improvement of residents' living standard and the new things, due to the development of urban economy advantages make tourism development is rapid, economic development of tourism resources development, all kinds of infrastructure construction financing, this will affect the development direction of city tourism and scale. The greater the internationalization of the city, the higher the level of development, the better the tourism related supporting facilities will be, and the more attractive the tourists will be, the more the tourism demand will be promoted. Now some bustling metropolises are also developing new tourist resources to attract tourists from all over the world, becoming the most important tourist destination in the world.

First of all, the healthy and rapid development of local economy, increase the residents' income, improve their living standards, tourism provides financial security for, at the same time, people living standard rise, can enhance the capacity of the residents travel and tourism motivation, which provides guarantee for the rapid development of tourism. Second, the development of local economy ability in the government investment, subsidies, taxation, reward for the aspects such as the tourism industry more support, formed in the early period of the tourism industry competitive advantage and important

effect. Finally, the development of economy provides advanced science and technology for the development of tourism industry, which can help it form the competitive advantage of tourism industry. Modern tourism is a kind of global activity which spans the intercontinental. The tourism demand is spread throughout the countries and regions of the world. In tourism economic activity, the survey of tourism demand forecasting, design of tourism products, tourist information, tourist enterprise internal management and external marketing, etc., all need to use modern means of science and technology. Therefore, economic development has an important support for the healthy and sustainable development of cross-border tourism.

4. The construction of the coupled evaluation model

For the sake of the thorough analysis of the coupling relationship between economic development level and the entry tourism, reference to related literature and data, this paper constructs the can comprehensively reflect overall efficacy and synergistic effect of two sub-systems coupling evaluation model. In order to eliminate the influence of the different indexes, the indexes in the index system can be divided into positive and negative indicators. The formula is as follows:

$$u_{ij} = \left\{ \begin{array}{l} \frac{x_{ij} - \min(x_{ij})}{\max(x_{ij}) - \min(x_{ij})}; \text{ if } u_{ij} \text{ is the positive indicator} \\ \frac{\max(x_{ij}) - x_{ij}}{\max(x_{ij}) - \min(x_{ij})}; \text{ if } u_{ij} \text{ is the negative indicator} \end{array} \right\} \quad \dots(1)$$

In formula (1), u_{ij} is the j^{th} index of its i^{th} system, and the value is x_{ij} ($i = 1, 2; j = 1, 2, \dots, N$), $\max(x_{ij})$ and $\min(x_{ij})$ are the maximum and minimum values of the index x_{ij} respectively.

Because of the economic development and the entry tourism are two different subsystem and influence each other, through integration method to implement subsystems contribution degree of each index of the total system, generally USES the geometric average method and the linear weighted method. The formula is as follows:

$$U_{i=1,2} = \sum_{j=1}^n \lambda_{ij} u_{ij}, \quad \sum_{j=1}^n \lambda_{ij} = 1 \quad \dots(2)$$

In formula (2), U_1 and U_2 are integrated evaluation functions of economic development system and inbound tourism system respectively. λ_{ij} represents weight, and the weights of each index are calculated by the entropy weight method. Entropy value method on the basis of the objective environment of the original information, through the analysis of correlation degree between the various indicators and information provided by the indexes to determine the index weight, which to a certain extent, to avoid the deviation of subjective factors.

Based on the model of capacitance coupled system in physics, the coupling model of economic development level and inbound tourism can be promoted, which is expressed as:

$$C = \sqrt{\frac{U_1 \times U_2}{(U_1 + U_2)^2}} \quad \dots(3)$$

Because of the economic development level and the level of the development of the two sub-systems: inbound tourism, there will be two sub-systems of low development level, and the coupling is higher as a result, it has to do with two subsystems development level is high coupling higher connotation is not the same. In order to avoid this illusion, we introduce the model of economic development and tourism coupling coordination degree, which aims to reflect the level of urban economic development and the coordinated development of inbound tourism, namely:

$$D = \sqrt{C \times T}, T = aU_1 + bU_2 \quad \dots(4)$$

In formula (4), D is the coupling coordination degree, T is the economic development level and the comprehensive evaluation index of inbound tourism, 'a' and 'b' are undetermined coefficients. Due to the coordination of inbound tourism industry and economic development process, the mutual promotion of inbound tourism industry and economic development level is differ, the development of inbound tourism industry can promote economic growth, but economic development is a result of the combined action of various factors, the entry tourism is not the only driving force, therefore, draw lessons from existing research results of experts and scholars [3-4], a, b value assignment respectively 0.4, 0.6, in order to reflect more intuitive inbound tourism industry and economic development level of coupling coordination development, referring the research result in Chong Liaobin [5], uniform distribution function method is used to partition the coupling coordination degree of interval and grade (Table 1).

Second, the detailed research on the basis of economic development and tourism related literature, found the evaluation of regional economic development level and the entry tourism system specific indicators, established the Xi'an economic development level and the entry tourism coupling coordination degree index system (Figure 3).

Table 1: Coupling coordination degree classification standard

Number	Coordination Interval	Coordination Level	Number	Coordination Interval	Coordination Level
1	0-0.1	Extreme Imbalance	6	0.5001-0.6	Barely Coordination
2	0.1001-0.2	Serious Imbalance	7	0.6001-0.7	Primary Coordination
3	0.2001-0.3	Moderate Imbalance	8	0.7001-0.8	Intermediate Coordination
4	0.3001-0.4	Mild Imbalance	9	0.8001-0.9	Good Coordination
5	0.4001-0.5	On the verge of Imbalance	10	0.9001-1	Extreme Coordination

Table 2: The economic development level of Xi'an and the index system of the coupling coordination degree of inbound tourism

Coupling System	Evaluation Index	Weight	Unit
Inbound tourism flow system	Number of foreign visitors	0.27	Ten thousand people
	Tourism foreign exchange income	0.26	Ten thousand yuan
	Number of international tourists	0.26	Ten thousand day
	The number of international travel per person	0.21	day
Local economic development system	GDP	0.16	One hundred million yuan
	Per capita GDP	0.22	yuan
	Local revenue	0.14	One hundred million yuan
	Investment in fixed assets	0.12	One hundred million yuan
	Retail sales of consumer goods	0.10	One hundred million yuan
	Balance of deposit of financial institutions	0.06	One hundred million yuan
	The per capita net income of farmers	0.06	yuan
	Urban residents have disposable income	0.06	yuan
	Tertiary industry output value	0.08	One hundred million yuan

5. The construction of the coupling evaluation index system

According to the connotation of the coupling model of inbound tourism industry and economic development and the degree of coordination characteristics, follow the scientific nature and operability of index selection, completeness, principal component and the principle of independence, respectively using frequency statistics method, theoretical analysis, expert consultation method for setting and selection index. Firstly, the frequency statistics are carried out, and the frequency statistics of the indicators of tourism industry and economic development are carried out in the relevant journals and papers, and the indexes of high frequency of use in recent years are selected. Secondly, on the basis of related research, the indexes are adjusted, and the evaluation index system of the system of inbound tourism industry system and economic development system is constructed. In this system, the inbound tourism industry system includes four indicators; The economic development system includes nine indicators (Figure 3).

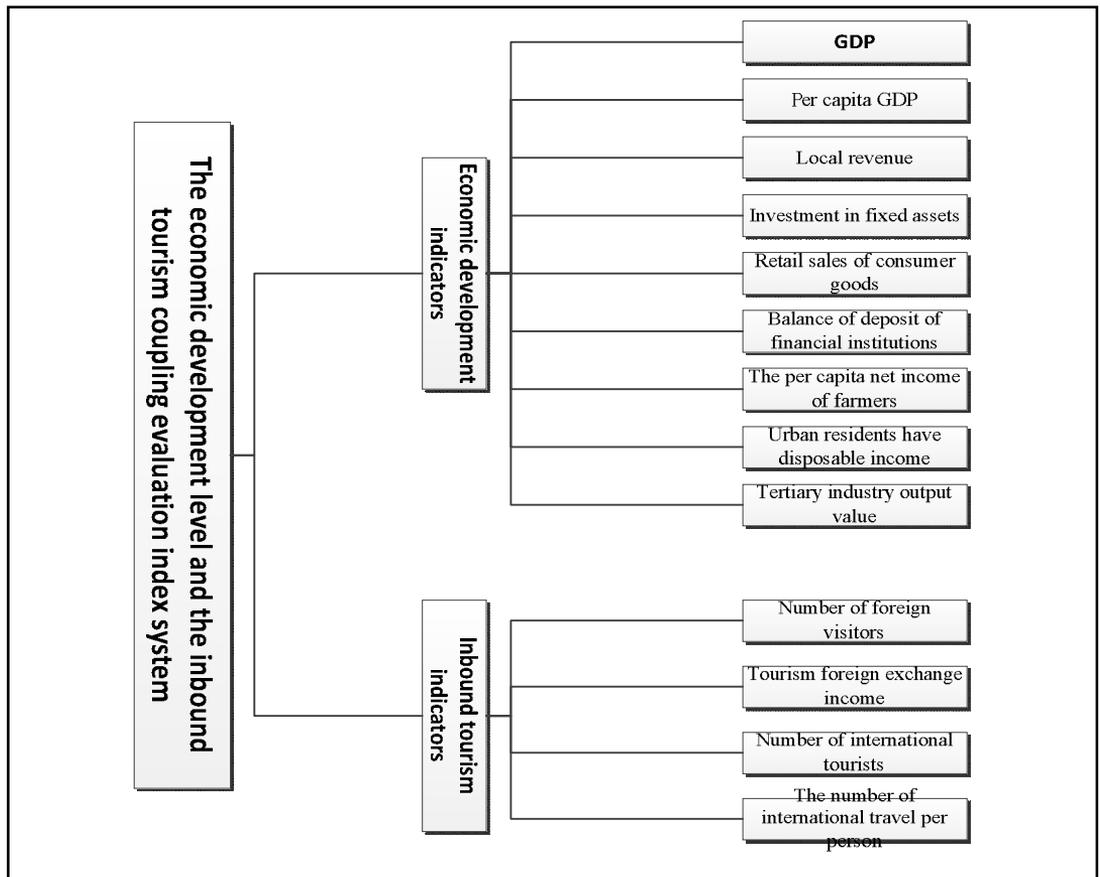


Figure 3: The economic development level and the inbound tourism coupling evaluation index system

6. Data acquisition and analysis

Because of data in the past two years is not very comprehensive, so by tourism in Xi'an, Xi'an bureau's website, Xi'an statistical yearbook [6-8], query over eight years since 2006 Xi'an related economic development indicators and inbound tourism related data, receive data as follows:

Table 3: Inbound tourism flow system

Indicators	2006	2007	2008	2009	2010	2011	2012	2013
Number of foreign visitors	224.93	290.02	162.93	195.14	241.67	287.09	334.44	351.11
Tourism foreign exchange income	378270	424263	287200	310500	424000	512800	598900	641600
Number of international tourists	2.9	2.9	2.6	2.9	2.9	2.9	2.9	2.9
The number of international travel per person	86.73	100.01	63.20	67.29	84.18	100.23	115.35	121.11

It can be seen from the table above that the indicators of inbound tourism system from 2008 have been improved, after each index was the lowest in 2008 for a year, in 2011, each index barely reached the level of 2007. Indicators have grown steadily in recent years, but the pace and range of growth has been slow.

Table 4: Local economic development system

Indicators	2006	2007	2008	2009	2010	2011	2012	2013
GDP	1538.9	1856.6	2318.1	2724.1	3241.7	3862.6	4366.1	4924.9
Per capita GDP	18890	22463	27794	32411	38343	45475	51166	57464
Local revenue	85.9	112.9	145.6	181.4	241.9	318.5	396.9	501.9
Investment in fixed assets	1066.6	1435.3	1906.4	2500.1	3250.6	3346.3	4243.4	5134.5
Retail sales of consumer goods	784.9	936.2	1176.6	1398.4	1678.0	2039.2	2400.7	2742.9
Balance of deposit of financial institutions	4066.2	4582.7	5749.3	7522.1	8933.2	10430.3	12125.5	13763.2
The per capita net income of farmers	3808	4399	5212	6275	7750	9788	11442	12930
Urban residents have disposable income	10905	12662	15207	18963	22244	25981	29982	33100
Tertiary industry output value	822.8	992.2	1233.1	1468.9	1694.9	2015.1	2288.8	2725.7

It can be seen from the table above, 2006-2013, every index of economic development level in growing, and the magnitude of the annual growth rate in basic same, each index of 2013 than in 2006 increased by more than two times, which shows that Xi'an in the continuous and stable development of economy.

Table 5 The economic development level of Xi'an and the degree of coupling and coordination of inbound tourism

Year	U ₁ (Economic development)	U ₂ (Inbound tourism)	C (Coupling Degree)	D (Coupling Coordination)	Coupling Evaluation
2006	0.279131	0.736644	0.202427	0.334770	Mild Imbalance
2007	0.337950	0.828362	0.240026	0.389543	Mild Imbalance
2008	0.422786	0.584365	0.245307	0.357063	Mild Imbalance
2009	0.511986	0.652564	0.286895	0.413624	On the verge of Imbalance
2010	0.621683	0.763627	0.342691	0.492170	On the verge of Imbalance
2011	0.738110	0.862369	0.397708	0.568510	Barely Coordination
2012	0.862618	0.959889	0.454329	0.646860	Primary Coordination
2013	1	1	0.5	0.707106	Intermediate Coordination

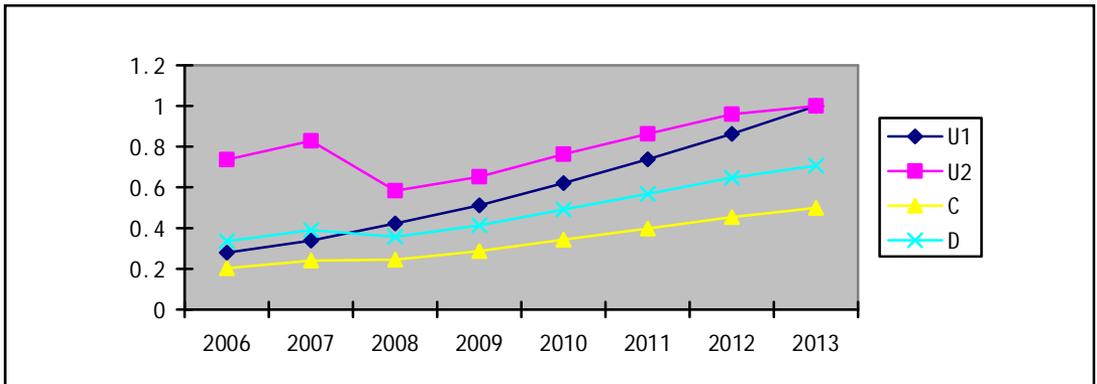


Figure 4: The economic development level of Xi'an and the dynamic evolution curve of the coupling index of inbound tourism

As can be seen from the chart and the chart, the economic development level of Xi'an has been increasing continuously in 2008-2013, and the inbound tourism has continued to grow. There is a strong correlation and dependence between the two, and there is a development relationship of coupling interaction. From the perspective of the changes of comprehensive evaluation function value, economic development level and the entry tourism is in a growth, and growth tends to be stable, it can be seen that Xi'an overall situation is good, maintained a relatively high level of growth. From 2006 to 2013, U₂ value has been higher than U₁ value, indicating that the economic development level of Xi'an is relatively backward compared with inbound tourism. From the point of coupling coordination degree, 2008-2013, the coupling coordination degree is changed from 0.35 to 0.7 finally, economic development and inbound tourism from the beginning of mild disorder at the end of the intermediate coordinate, you can see, economic development and synchronized between inbound tourism development.

7. Conclusion

By constructing the model of coupling coordination degree, a quantitative analysis of the coupling and coordination between the tourism and economic development of Xi'an city is carried out. The results showed that Xi'an since 2006, although the economy has been growing, but the pace of growth and

amplitude is relatively slow, compared to the development of inbound tourism economic development level is relatively backward. Level of inbound tourism in 2008, at a minimum, investigate its reason, is that a massive global financial crisis in 2008, the economy is bad, so to Xi'an tourist Numbers also have greatly reduced, but since 2008, after three years of time, to return to 2007 levels; At the same time, economic growth has been in a state of growth since 2006, indicating that the financial crisis has not had a significant impact on the economic development of Xi'an, but has slowed after 2008.

From the point of the overall level of development, since 2006, the economic development of Xi'an and inbound tourism coordinated development unceasingly, but the overall economic development lags behind that of the inbound tourism development, from the side reflects the important role of Xi'an as a famous historical and cultural city. Xi'an, therefore, in the process of building a "silk road" online, should use the characteristics of Xi'an international tourism and cultural city, continuous publicity image of Xi'an, Xi'an, out of the country, towards the world.

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