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To cite this article: Jun-yuan Zhao 2017 *IOP Conf. Ser.: Earth Environ. Sci.* **81** 012069

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Research on the Evolution of the Quantity and Quality of Inbound Tourism Flow in Henan Province

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Abstract: Taking 2000-2003's data of foreign exchange income and the number of inbound tourism from as the sample, we studied the inbound tourism flow and the change of the Liquity and the synergy degree in these cities. The flow of inbound tourism and the Liquity in Henan province presented the characteristics of opposite change. In flow, it presents the steady uptrend, there were 3 general forms: gradually reducing, gradually rising and cross rolling type. In Liquity, its types of high-quality and low-quality flows are basic equivalence, presents the staggered change state. Inbound tourism flow and the evolution of the Liquity in Henan province can be divided into 3 stages, 2003 and 2008 is a node of its division. The evolution of the inbound tourism flow and Liquity collaborative structure show that the complex conditions, especially the evolution of the synchronous 2-high type cities and synchronous middle type cities show a trend of decline. The number of later one appears to a change trend of increasing first and then, steady. The number of deviation cities is volatility. The reverse deviation cities are the most, which present a trend of decreasing at first, then coming steady.

1. Introduction

The study of tourism flow has been one of the main contents of tourism geography research for a period of time [1]. Inbound tourism, as one of the six basic forms of tourism classified by the World Tourism Organization, is an important part of a country and region's foreign exchange earnings and occupies a very important position in regional development. In China, the generalized inbound tourism flow refers to the tourism-related passenger flow, information flow, capital flow, logistics, energy flow and cultural flow, which is related to tourism in mainland China. It is an important factor to promote the exchange and development between regions. The external manifestation of tourism activities [2]. In China's inbound tourism flow accounting system, Hong Kong, Macao and Taiwan as an inbound tourism flow accounting and occupies an important position in our country, resulting in China's inbound tourism flow and other countries and regions formed significant differences. In the tourism system, tourists are the main body of the entire tourism activities. Therefore, the narrow sense of the inbound tourism flow only refers to the formation of tourists by the tourists and by the formation of the flow of funds, the measurement is mainly from two aspects: the flow and the Liquity. It is of great significance to understand the characteristics of regional inbound tourism flow and the dynamic evolution of traffic.

For the study of inbound tourism flows, the time distribution of inbound tourism flows is mainly concentrated at home and abroad [3-5], temporal and spatial evolution [4-6], spatial structure [7-10], scale prediction [11-12] Factors [13-15], power mechanism [16-17] and other major aspects. However, there are few studies on the inbound tourism flow of the two indicators of flow and flow as the starting point, and mainly from the changes in the flow and the flow of the inbound tourism and the spatial dislocation [18-20]. In the past, the related research is mostly related to the study of large-scale space, and the diachronic research on the flow rate and the quality of the inbound tourism flow in the



meso-scale area is relatively scarce, especially in the inbound tourism flow and the evolution of the fluid there are very few areas of collaboration.

The competitiveness of Henan Province inbound tourism is weak in China, the number of inbound tourists and tourism foreign exchange income hovering around 20 in the long-term, the central and western regions are relatively backward, and the situation of its inbound tourism development and its tourism resources is seriously uncoordinated. Therefore, taking Henan Province as an example of inbound tourism flow and Liquity quality research, for other tourism resources in the province of inbound tourism development is strongly relatable.

2. Source and processing of data

In order to facilitate the study, the 2000 statistical data as a starting point for research. As the beginning of 2014, Henan Province, the implementation of the 10 provincial counties, to facilitate the study of the consistency, we study the data as of 2013. Henan Province inbound tourism flow and Liquity basic data mainly from the "Henan Statistical Yearbook" (2001-2014) inbound tourism reception and tourism foreign exchange income of the relevant data for the lack of data mainly use the corresponding year of the Henan Provincial Tourism Bureau Information and statistical reports on the corresponding years of each city.

2.1 Inbound tourism flows

Tourism flow is one of the main indicators to measure the characteristics of tourism flow, most scholars use the number of tourist reception, the number of tourist reception, or one of the large regional market share as a percentage of the measure. In this study, the percentage of the number of inbound tourists in the prefecture-level cities in the corresponding years is taken as a measure of the flow rate of inbound tourism in the prefecture-level cities.

2.2 Inbound tourism flow

The quality of tourism flow quality is mainly measured by the fluid, and its combination with the flow can be a comprehensive assessment of the flow of tourism, from the flow and the flow of two dimensions can be divided into four basic types of tourism flow: star flow (large scale High size, low cost), young children flow (small scale high efficiency), lean dog flow (small scale low efficiency), the schematic diagram shown in Figure 1.

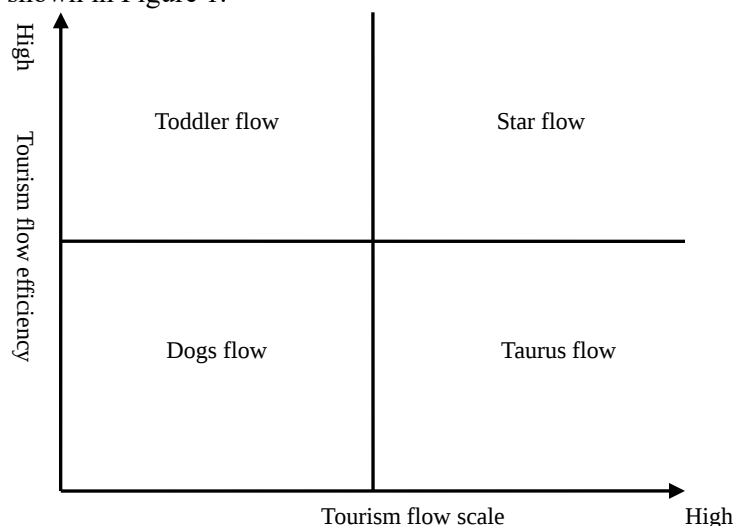


Fig.1 The map of tourism flow type

The calculation formula of inbound tourism flow is:

$$Q_i = \frac{a_i}{b_i} = \frac{(X_i / \sum_{i=1}^n X_i)}{(Y_i / \sum_{i=1}^n Y_i)}$$

In the formula: Q_i said that the i -class prefecture-level city of inbound tourism flow; a_i that the i prefecture-level city inbound tourism foreign exchange income accounted for the proportion of tourism foreign exchange income in Henan Province; b_i said the first i prefecture-level city inbound tourism reception The number of people accounted for the proportion of the total number of inbound tourism in Henan Province; X_i said the i -level prefecture-level city inbound tourism foreign exchange income; Y_i said the first i prefecture-level city inbound tourist reception number. The larger the value of Q , the higher the quality of the tourism flow, the better the tourism economic benefits of the corresponding tourism flow. Generally speaking, if $Q > 1$, the tourist flow should be high-quality tourist flow; if $Q < 1$, it belongs to low-quality tourism flow. Through this formula, the flow status of tourism flow in Henan Province from 2000 to 2013 is calculated. The results are shown in Table 1.

Tab. 1 The quality of inbound tourism flow in the 18 prefecture-level cities from 2000 to 2013 in Henan Province

Years	Zhengzhou	Kaifeng	Luoyang	Pingdingshan	Anyang	Hebi	Xinxiang	Jiaozuo	Yangpu	Xuchang	Luohu	Sanmenxia	Nanyang	Shangqiu	Xinyang	Zhoukou	Zhumadian	Jiyuan
2000	0.66	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.55	1.34	1.34
2001	0.86	1.13	1.14	1.25	0.99	0.82	1.70	0.95	1.11	0.85	1.08	0.97	1.02	1.07	1.13	1.03	1.10	1.14
2002	0.99	0.94	1.07	1.02	0.98	0.83	1.21	0.91	1.08	0.89	1.06	0.85	0.94	0.98	1.08	1.03	1.00	1.11
2003	1.28	0.51	0.63	0.63	0.69	0.85	0.74	1.01	1.07	0.67	1.27	0.74	1.05	0.64	0.90	0.60	1.06	0.56
2004	1.07	0.63	1.09	1.28	0.72	0.89	0.78	1.26	1.14	0.88	1.37	0.71	1.53	0.73	1.91	0.87	1.25	0.63
2005	1.09	0.63	1.05	1.21	0.76	0.88	0.75	1.23	1.13	0.80	1.32	0.70	1.47	0.70	1.83	0.81	1.21	0.65
2006	1.15	0.63	1.01	1.17	0.74	0.84	0.75	1.19	1.09	0.77	1.30	0.68	1.43	0.68	1.77	0.78	1.17	0.61
2007	1.15	0.66	1.01	1.09	0.70	0.85	0.73	1.21	1.09	0.74	1.20	0.66	1.44	0.62	1.67	0.77	1.13	0.62
2008	1.21	0.67	1.02	0.97	0.73	0.85	0.80	1.04	1.08	0.70	1.27	0.59	1.45	0.64	1.24	0.78	1.16	0.69
2009	1.25	0.68	1.03	0.80	0.59	0.86	0.87	1.01	1.14	0.69	1.24	0.61	1.41	0.74	1.19	0.90	1.41	0.69
2010	1.21	0.89	0.94	0.89	0.67	0.84	0.65	1.06	1.12	1.03	1.25	0.59	1.43	0.65	1.26	1.16	1.42	0.68
2011	1.18	0.85	0.90	0.94	1.05	0.88	0.70	1.12	1.23	0.96	1.21	0.56	1.38	0.85	1.21	0.95	1.66	0.73
2012	1.17	0.74	0.91	0.90	0.82	0.96	0.94	1.16	0.22	0.50	0.72	0.75	1.45	0.64	0.50	0.94	4.13	0.61
2013	1.19	0.65	0.91	0.90	0.83	0.98	0.96	1.21	0.21	0.36	0.76	0.85	1.48	0.68	0.68	0.95	3.13	0.60
Value	1.10	0.78	1.00	1.03	0.83	0.91	0.92	1.12	1.00	0.80	1.17	0.76	1.34	0.78	1.26	0.94	1.58	0.76
Variance	0.03	0.05	0.02	0.04	0.04	0.02	0.09	0.02	0.12	0.05	0.04	0.04	0.04	0.04	0.17	0.05	0.82	0.06

3. The overall evolution characteristics of inbound tourism flow and Liquity in Henan Province

In the 2000 - 2013 time intervals, the inbound tourism flow and the fluid quality of Henan Province show the opposite characteristics. In terms of traffic, the inbound tourism flows in Henan Province showed a steady upward trend. In addition to the special factors such as "SARS" in 2003, the inflow of inbound tourism flows reached its trough, and then rose in this trough, showing an upward trend 1.04% increase to 3.72% in 2013. The average annual intake of inbound tourists was 90.8 million, while the average annual increase in the number of inbound tourists was 12.49 million, and the growth rate showed a strong upward trend in general. In addition, Of the Liquity quality indicators, the average value of inbound tourism flow of 0.519, in the type of low-quality tourism flow, but also showed a downward trend, the quality of tourism flow is not optimistic.

Henan Province inbound tourism flow and fluid evolution in 2003 as a point, can be divided into two stages. Before 2003, the flow of inbound tourism was on the rise, but the growth rate was slow, and the flow rate showed a rapid growth trend after 2003. The overall fluidity showed a downward trend, but the flow rate decreased rapidly and the curve was steep in 2003 After the year, the trend of Liquity decline is controlled, the curve is relatively flat, but the overall trend of decline has not been changed, Henan Province, inbound tourism flow and the overall change in fluid as shown in Figure 2.

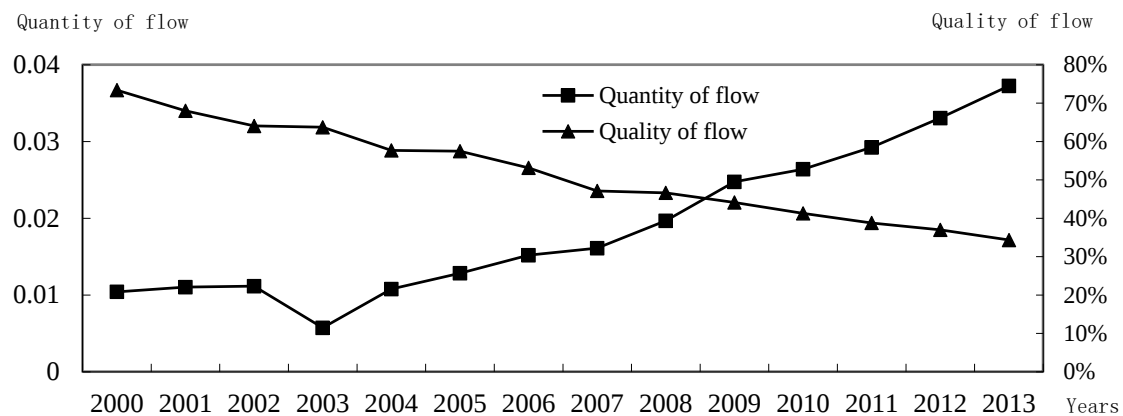


Fig.2 The change of the quantity and quality of inbound tourism flow in Henan Province from 2000 to 2013

4. Inbound tourism flow and fluid evolution in various cities in Henan Province

4.1 Evolution of inbound tourism flows in various cities

The changes of inbound tourism flow in Henan Province in 2013 - 2013 showed three forms, namely, gradual decrease, steady rise and undulating. In the 18 cities in Henan Province, according to Figure 3 can be seen, Zhengzhou, Puyang, Nanyang three cities inbound tourism flow changes are gradually reduced, and Luoyang, Pingdingshan, Jiaozuo, Zhou and Zhumadian are steadily rising Type, the rest of the city are wavy ups and downs. Among them, the decline of Zhengzhou and Luoyang and Jiaozuo the most obvious increase in the region of Henan Province, you can see the inbound tourism flow in the regional differences in space.

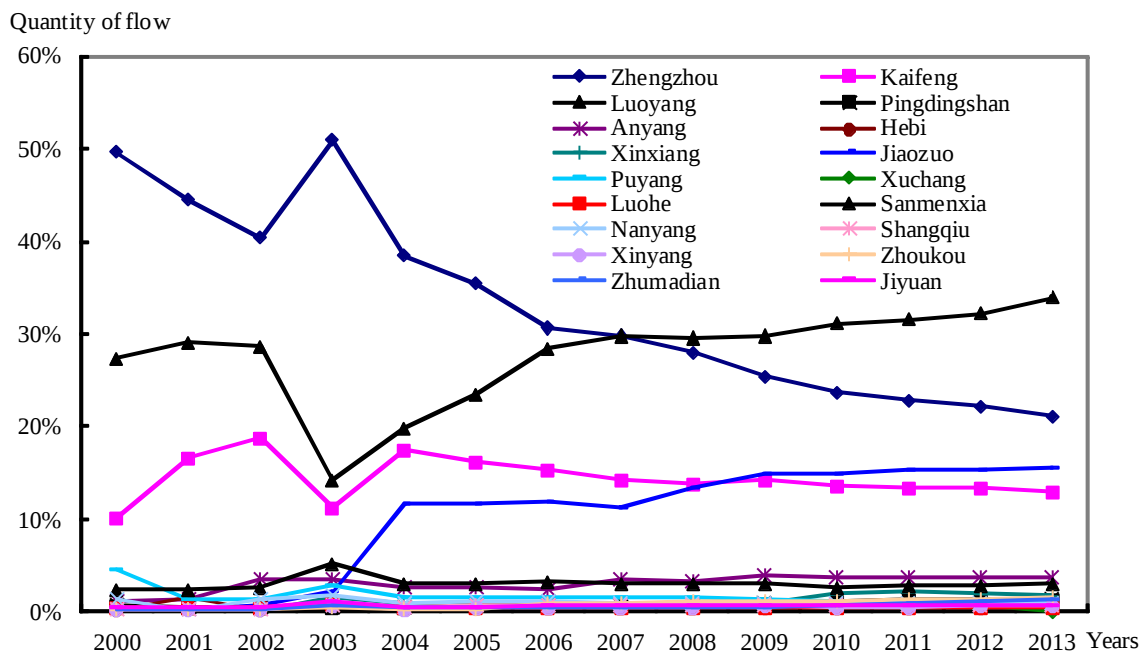


Fig.3 The change of the quantity of inbound tourism flow in the prefecture-level cities in Henan Province from 2000 to 2013

4.2 Evolution of Inland Tourism Flow in Cities

2000-2013 Henan Province in various cities inbound tourism flow gap is not large, the largest number of Zhumadian City, the largest 1.58, the smallest Sanmenxia City and Jiyuan City, with 0.76, combined with the level of inbound tourism flow criteria, we can see Henan Province, the city of inland tourism flow, are high quality of the city are: Zhengzhou, Pingdingshan, Jiaozuo, Luohe, Nanyang, Xinyang, Zhumadian; are low quality of the city are: Kaifeng, Anyang, Xinxiang, Xuchang, Sanmenxia, Shangqiu, Zhoukou and Jiyuan; and Luoyang and Puyang inbound tourism flow of the average is just 1, said the two cities of the inbound flow of Liquiity is relatively stable. According to the average value of inbound tourism quality in various cities in Henan Province, the maximum value of Henan Province is 1.58 in Zhumadian City, and the difference is small in the province. This reflects that the inland tourism flow in Henan Province is shown as a whole A relatively poor situation. However, the volatility of the situation to analyze the inflow of tourism flow is more obvious in the city of Zhumadian, Xinyang and Xinxiang, Zhumadian in the 14-year study period, although the average Liquiity value of the larger, reached 1.58, but the volatility is also all cities The largest one, from 2000 to 2003 has been declining, from 2004 to 2007 to rise, then has been declining, then rise and fall, the variance of up to 0.82, the highest in all cities; Xinyang City inbound travel Flow rate is also large, some years are high quality, some years are low quality flow, the variance reached 0.17; Xinxiang City inbound tourism flow overall quality is not high, and the change is relatively large, relatively unstable. From the time series of the Liquiity, Zhengzhou, Jiaozuo, Luohe, Nanyang, Zhumadian most of the annual Liquiity values are 1.0 or more, most of the time belongs to high quality, Henan Province in various cities inbound tourism flow changes as shown in Figure 4.

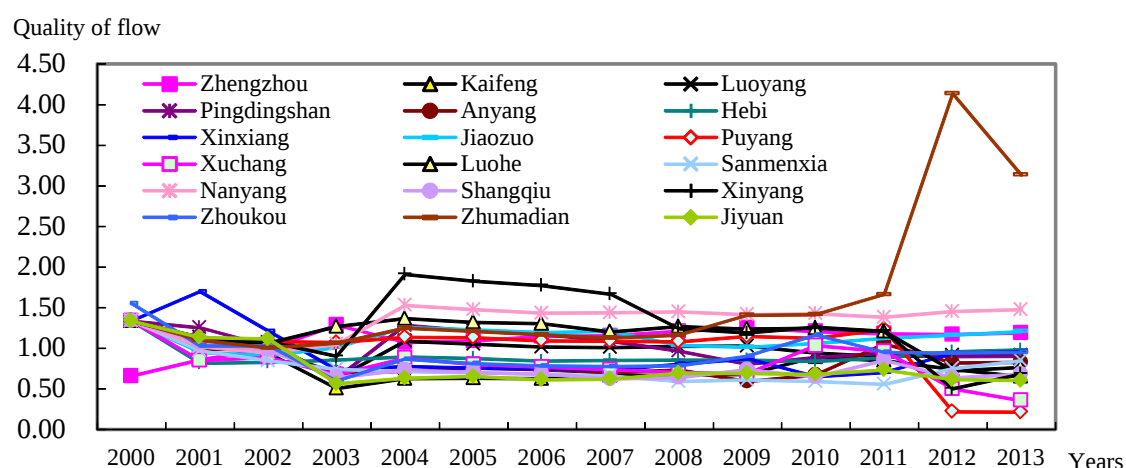


Fig.4 Change of quality of inbound tourism flow prefecture-level cities in Henan Province from 2000 to 2013

5. Study on the Evolution of Inbound Tourism Flow and Liquiity Synergy in Henan Province

5.1 Inbound tourism flow and fluid synergy meaning

Synergy indicates the degree of coordination of elements in the overall development process, widely used in other disciplines, and is used to represent the deviation between two related elements. In the formation and development of tourism flow, it contains many factors, flow, flow and fluid, and the flow and the flow are two closely related factors. In this study, the synergistic degree of tourism flow and fluidity in various cities in Henan Province (tourism Flow efficiency) to coordinate the degree of coordination to determine the degree of coordination. In general, the area of inbound tourism flow is relatively high, and if the area of inbound tourism flows is low, the area of the flow is low or the flow of inbound tourism is small, the flow is large, and the synergistic deviation is formed. Inbound tourism flow and the degree of synergy with the status of reverse. The ideal goal of regional tourism development is the scale of the flow of tourism to bring the corresponding scale of the Liquiity.

5.2 Construction of Inland Tourism Flow Rate and Liquidity Synergy Model in Henan Province

The inward flow rate and fluidity of Henan Province were expressed in a two - dimensional scale, and then the two - dimensional scale was transformed into a two - dimensional combined matrix model to construct the synergy model of inbound tourism flow and fluidity in Henan Province. In the two-dimensional scale, the abscissa axis represents the fluid flow of the inbound tourism flow, which is divided into multiple levels of X1, X2, ..., Xn, and the vertical axis represents the inbound tourism flow in various cities in Henan Province. Divided into Y1, Y2, ..., Yn n multiple levels. In the two-dimensional matrix where the diagonal position is exactly the same degree of synergy in the city, and diagonal deviation can be seen in different cities of the collaborative situation. Analysis on the Achievement of Inbound Tourism Flow and Liquidity in Henan Province As the 2003 and 2008 in Henan Province inbound tourism flow of the two fluctuations, so, 2003, 2008 as an excerpt, the inland tourism flows in Henan Province and the flow is divided into three periods: 2000-2002, 2003-2007, 2008 - 2013, the calculation of the city-level city traffic and Liquidity in the period of the mean as the main indicators. In the two-dimensional combined matrix model, the average of the fluid flow rate of the inbound tourism flow in three periods is taken as the abscissa axis, and the average value of the inbound tourism flows in each of the three periods is taken as the ordinate axis, The classification of the integrated grade of the Liquidity, as shown in Table 2. Combined with the synergistic relationship between flow and fluid, we can see the specific relationship between the flow rate and the Liquidity quality of inbound tourism in Henan Province in three periods, as shown in Table 3-5.

Tab.2 Classification of the grade about twotlimensional matrix on the quantity and quality of inbound tourism flow

Indexes	grades				
	More	Large	Middle	Small	Less
Quantity of flow	>25%	10%~25%	5%~10%	1%~5%	<1%
Quality of flow	More	High	Middle	Low	Less
	>1.20	1.05~1.20	0.80~1.05	0.65~0.80	<0.65

During the period from 2000 to 2002, there was only one city in Zhengzhou, which had a positive deviation from the flow of traffic and flow in the country. There were Puyang, Anyang, Zhoukou, Zhumadian, Jiaozuo, Luohe, Sanmenxia, Xuchang, Pingdingshan, Xinxiang, Nanyang, Shangqiu, Xinyang, Jiyuan and Hebi 15 cities, in the simultaneous development of Luoyang and Kaifeng two cities, the specific results shown in Table 3.

Tab.3 The twotlimensional matrix on the quantity and quality of inbound tourism flow in Henan province from 2000 to 2002

Indexes and grades		Quality of flow			
		More	High	Middle	Low
Quantity of flow	More	;Luoyang	Kaifeng	Zhengzhou	
	Large				
	Middle	Puyang	Anyang, Sanmenxia	Xuchang	
	Small	Pingdingshan, Xinxiang, Zhoukou, Zhumadian	Jiaozuo, Luohe, Nanyang, Shangqiu, Xinyang, Jiyuan	Hebi	

From 2003 to 2007, there were three cities: Zhengzhou, Luoyang and Kaifeng, which were in the reverse direction. In the reverse direction, there were Jiaozuo, Nanyang, Puyang, Luohe, Xinyang, Pingdingshan, Zhumadian, Hebi, Xinxiang, Xuchang, Shangqiu and Zhoukou 12 cities, in the simultaneous development of Anyang, Sanmenxia and Jiyuan three cities, the specific results shown in Table 4.

Tab.4 The twotlimensional matrix on the quantity and quality of inbound tourism flow in Henan province from 2003 to 2007

Indexes and grades		Quality of flow				
		More	High	Middle	Low	Less
Quantity of flow	More		Zhengzhou			
	Large			Luoyang		Kaifeng
	Middle		Jiaozuo			
	Small	Nanyang	Pingdingshan, Zhumadian	Puyang	Anyang, Sanmenxia	
	Less	Luohe, Xinyang		Hebi	Xinxiang, Xuchang, Shangqiu, Zhoukou	Jiyuan

During the period from 2008 to 2013, there were two cities in Luoyang and Kaifeng, which were in the reverse direction. There were two cities in Luoyang, Pingdingshan, Xinxiang, Puyang, Xinyang, Zhoukou, Nanyang, Zhumadian, Luohe, Hebi, Xuchang, Shangqiu And Jiyuan 13 cities, in the simultaneous development of Jiaozuo, Anyang and Sanmenxia 3 cities, the specific results shown in Table 5.

Tab.5 The twotlimensional matrix on the quantity and quality of inbound tourism flow in Henan province from 2008 to 2013

Indexes and grades		Quality of flow				
		More	High	Middle	Low	Less
Quantity of flow	More			Luoyang		
	Large	Zhengzhou	Jiaozuo			Kaifeng
	Middle			Pingdingshan, Xinxiang, Puyang, Xinyang, Zhoukou	Anyang, Sanmenxia	
	Small				Xuchang, Shangqiu, Jiyuan	
	Less	Nanyang, Zhumadian	Luohe	Hebi		

In order to express the relationship between the flow rate and the fluid flow in the more clear way, the cooperative results are divided into five types: (1) synchronous double high: flow and Liquiity are at a higher level; (2) synchronous intermediate: (4) positive deviation type: a large flow of traffic, while the relatively low quality of a flow of tourism state; (5) the flow of water is relatively low, Reverse deviation type: low flow, relatively high fluid flow of a flow state. The synergistic conditions of the inbound tourism flows and the intermediation of the inland cities in each of the three periods are obtained, and the synergistic types of each city in different periods are obtained. The concrete results are shown in Table 6, and the spatial evolution is simulated by Fig 5.

Tab. 6 The matching degree evolution of the quantity and quality of inbound tourism flow in Henan province from 2000 to 2013

Years	Sync dual high type	Sync intermed iate type	Sync dual low type	Forward deviation type	Reverse deviation
2000-2002	Luoyang	Kaifeng		Zhengzhou	Puyang, Anyang, Sanmenxia, Xuchang, Pingdingshan, Xinxiang, Zhoukou, Zhumadian, Jiaozuo, Luohe, Nanyang, Shangqiu, Xinyang, Jiyuan, Hebi
2003-2007			Anyang, Jiyuan, Sanmenxia	Zhengzhou, Luoyang, Kaifeng	Jiaozuo, Nanyang, Puyang, Luohe, Xinyang, Pingdingshan, Zhumadian, Hebi, Xinxiang, Xuchang, Shangqiu, Zhoukou
2008-2013			Jiaozuo, Anyang, Sanmenxia	Luoyang, Kaifeng	Zhengzhou, Pingdingshan, Xinxiang, Puyang, Xinyang, Zhoukou, Nanyang, Zhumadian, Luohe, Hebi, Xuchang, Shangqiu, Jiyuan

The evolution of inbound tourism flow and fluidity in 18 cities in Henan Province shows an extremely backward state, mainly showing the evolution of synchronous double high-type cities and synchronous intermediate cities. Is 0; the number of synchronous intermediate cities is increased first and then steadily. The number increases from 0 to 3 and remains unchanged. The number of positive deviations is fluctuating, and the number changes from 1 to 3 then decreased to 2; reverse departing

from cities largest number of all cities, assume a first reduced, then the steady trend, the number decreased from 15 to 12, 13 and then slightly increased.

From the development level of the local cities, in the 18 prefecture-level cities, 14 years by the synergy between the flow and the flow of urban types from the city did not change the number of 11, respectively, Puyang, Xuchang, Pingdingshan Xinyang, Zhoukou, Zhumadian, Luohe, Nanyang, Shangqiu, Xinyang, Hebi, accounting for 61.11% of all cities in Henan Province; state deterioration of the city are mainly Zhengzhou, Luoyang, Zhengzhou from the first phase of the positive deviation to the first second stage, the third stage of development and then reverse deviating, and then held to Luoyang positive deviation of the third stage of the double-height by the synchronization of the development of the first stage is the second stage type positive deviation; state The city of Sanmenxia, Anyang, Kaifeng, Sanmenxia and Anyang from the first phase of the reverse deviation from the type of development for the synchronization of double low and then to the third stage remain unchanged, Kaifeng from the first phase of the simultaneous development of the middle of the first forward deviating the second and third stages; change of state exhibit an undulating Jiyuan, its type reverse from the first stage to the second stage deviating transition synchronous type and then return to the low double The third stage reverse deviating.



Fig.5 The matching degree evolution of the quantity and quality of inbound tourism flow in Henan Province from 2000 to 2013

6. Conclusion

From 2000 to 2013, the flow and fluidity of inbound tourism flows in Henan Province showed the characteristics of opposites change. In terms of traffic, the inbound tourism flows in Henan Province show a steady upward trend in addition to the special causes of individual years. The high quality flow and low quality flow in Henan Province are basically equal, showing a kind of staggered change. Henan Province inbound tourism flow and fluid evolution is divided into three stages, of which 2003 and 2008 is an important node of the entire time series.

Inbound tourism flow of 18 cities in Henan Province shows three kinds of forms: were gradually reduced, steady rise and staggered ups and downs. Zhengzhou, Puyang, Nanyang three cities inbound tourism flow changes are gradually reduced, and Luoyang, Pingdingshan, Jiaozuo, Zhoukou and Zhumadian are steadily rising, the rest of the city are staggered ups and downs. In the Liquity, the high qualities of the city are: Zhengzhou, Pingdingshan, Jiaozuo, Luohe, Nanyang, Xinyang, Zhumadian; are low quality of the city are: Kaifeng, Anyang, Hebi, Xinxian, Xuchang, Sanmenxia, Shangqiu, Zhoukou and Jiyuan; Luoyang and Puyang inbound tourism flow of the average value just at a critical value.

The evolution of the inbound tourism flow and the synergetic structure of the 18 cities in Henan Province showed a trend of reverse growth, and the evolution of the synchronized double high-type cities and the synchronous middle-type cities showed a decreasing trend. The number of synchronous middle-class cities showed an increase in the steady state, The number of positive deviation from the city showed a fluctuating state, reverse deviation from the city in the number of cities in the largest

number, showing a first less and then stable trend; from the development of local cities around the degree of progress in the 18 prefecture-level cities 14 years by the synergy between the flow and the flow of the city type has not changed the number of cities from 11, respectively, Puyang, Xuchang, Pingdingshan, Xinxiang, Zhoukou, Zhumadian, Luohe, Nanyang, Shangqiu, Xinyang, Hebi, the state deterioration of the city are mainly in Zhengzhou, Luoyang, the state of the city has three good gates, Anyang, Kaifeng, the state showed a wave of changes in the source.

The evolution of tourism flow and fluidity is the result of long-term sequence evolution. Only the relationship between income and person is not necessarily able to express its information completely. There is no objective relationship between the flow and the quality of the fluid. Benefit point of view, excellent travel flow should be a small flow and high quality of the species, but the instability of this tourist flow is very strong, the fluctuations are more obvious. Due to the length of the study time scale and the calculation of statistical data, the synergistic degree of tourism flow and fluidity in Henan Province has not changed much, and the overall trend also shows a fluctuating trend.

Acknowledgments

This work is supported by Henan Provincial Department of Humanities and Social Sciences General Project (2017-ZZJH-493)

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