# A Positive Research on Spatial Agglomeration of China's Cultural Industries

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## Abstract

On the background of cultural industries development, the study on spatial agglomeration of China's cultural industries has theoretical and practical significance. In this paper, the spatial agglomeration degree of eleven cultural industries of 31 provinces in China is estimated and analyzed from the region and industry by the index of E-G and CR. Using the grey correlation method, the hypothesis that spatial agglomeration of cultural industries may promote the economic growth is tested. And the hypothesis that the per capita GDP, location and abundance of cultural resources are important factors of spatial agglomeration of cultural industries is also tested by the Count Model. Finally, some suggestions are pointed out.

### **JEL classification numbers:** C30

**Keywords:** Cultural Industries, Spatial Agglomeration, Index of Concentration, Grey Correlation Degree, Count Model

## **1** Introduction

At present, industrial agglomeration is playing an important role in the economic growth and the technological progress, which has drawn more and more attention of the academia. Industrial agglomeration degree is considered to be an important embodiment of a country

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or region's industrial competitiveness. *The Outline of the 12th Five-year planning for Chinese Economic and Social Development* takes "Promoting cultural greater development and prosperity, raising the national cultural soft power" as China's socialist cultural construction goal and important task. With the culture industry vigorously promotion and scale expansion, spatial agglomeration will become an imperative direction of China's culture industry development.

Recently, some scholars have studied cultural industrial agglomeration from different angles of view. Chen qianqian, etc. (2005) [1] took the music industry as an example to discuss the development condition of cultural creative industry cluster. Li Leilei, etc. (2006) [2] discussed advertising industry's agglomeration distribution mode of Shenzhen. Wang Jie (2007) [3] used Gini coefficient and index of industry concentration to calculate agglomeration degree of some cultural and creative industry. Yuan Hai (2010) [4] used panel data to take empirical analysis of the impaction of economic, geography and industry policy to China's culture industry agglomeration. Jiang Ping, etc. (2010) [5] calculated China's cultural industry agglomeration situation from two aspects: spatial agglomeration and industry agglomeration, which revealed the isomorphism phenomenon of different provinces. Lei Hongzhen, etc. (2011) [6] chose art performance group, performing arts venues and other 8 industries to analyze the characteristics of China's cultural industry agglomeration. Zhao Liming, etc. (2011) [7] used the EG index to take quantitative analysis of China's tourism industrial agglomeration. Considering current research situation, most scholars emphasize one or some specific industries of cultural industry. Due to the data acquisition work is difficult and other reasons, the whole industrial system research on cultural industry is scarce. Most researches acquire data mainly from statistical yearbook of China's cultural relics, which only contains special culture art industry. The limitation of the data also determines the limitations of many previous researches.

Based on the situation of the culture industry data, this article selects 11 industries from the *Classification for National Economical Industry*. The object of study is to reflect the panorama of the cultural industry, which is also a supplement and improvement to the previous research.

In terms of the research methods, a lot of researches use the EG index and H index to calculate the chosen industrial agglomeration level, but most of them just make statistical description by the results of calculation. In order to take further analysis to the calculation results, this paper makes use of the grey correlation theories to validate the relationship between cultural industry agglomeration and economic growth. And it is the first in this paper to use the Counting Model to find the factors affecting the cultural industrial agglomeration.

# 2 Measurement Method of Industrial Spatial Agglomeration and Data Explanation

### 2.1 Measurement Method of Industrial Spatial Agglomeration

In order to measure the culture industrial agglomeration degree as accurate as possible, this paper adopts industrial geographic concentration index (say EG index), which was proposed by Ellison and Glaeser (1997) [8], to calculate the geographic concentration index of 11 cultural industries from 2005 to 2009 in China. Industrial agglomeration of

EG index's calculation formula is as follows:

$$eg \equiv \frac{G - (1 - \sum_{i=1}^{M} X_i^2)H}{(1 - \sum_{i=1}^{M} X_i^2)(1 - H)} \equiv \frac{\sum_{i=1}^{M} (S_i - X_i)^2 / (1 - \sum_{i=1}^{M} X_i^2) - H}{1 - H}$$

Hypothesis is that the area is divided into M parts.  $S_i$  means the proportion of one industry employment in region i of all the industry's employment.  $x_i$  means the proportion of all employment in region i of all the country's employment. H represents the Herfindahl index, which means the sum of squares of all enterprises' market share in an industry. However, China doesn't release enterprises' detailed data at present, thus we cannot continue to use this method. This paper used Li Yan, etc. (2009) [9] according to Sleuwaegen and Dehandschulter's (1986) research, who made a correction to the Herfindahl index calculation method, and makes H index approximation as follows:

$$H = \frac{H_{\min} + H_{\max}}{2} = \begin{cases} (M^2 + M)/2N^2 \dots CR_M \ge 1/M \\ (M+N)/2N^2 \dots CR_M \le 1/M \end{cases}$$

M means area number, which is 31.  $CR_M = M/N$  and  $CR_M$  means the sum of market share of M largest enterprises in the industry. N means the industry's total enterprise number. Meanwhile, in order to understand the industry distribution of the cultural industry in different areas, this paper uses market concentration index to calculate the market share of 11 industries' employment of the top six provinces, calculation formula is:

$$CR_6 = \sum_{i=1}^6 P_i / \sum_{i=1}^M P_i$$

P<sub>i</sub> means the employees of a certain industry in region i.

### 2.2 Industry Selection and Data Explanation

In 2004, according to the *classification of national economy industry* (GB/T4754 2002) National Bureau of Statistics makes the classification of cultural and related industries, in which the cultural industry is divided into nine industries ,including news services, publishing and copyright services, radio, television and film service, culture and art services, network culture services, cultural services of leisure and entertainment, and other cultural services, cultural goods equipment and related cultural products production, cultural goods equipment and related cultural products sales. This paper chooses 11 industries to research according to the two classifications including eight double-digit industries and three three-digits industries as follows: printing and recording media copy industry (23), cultural and educational sports goods manufacturing (24), handicrafts and other manufacturing industry (42), telecommunications and other information transmission services (60), press and publication industry (88), the radio, television, movies, recording and video industry (89), culture art industry (90), the entertainment industry (92) as well as tourist hotel (661), travel agency (748) and tourism scenic area management (813). These selected industries are able to reflect the overall situation of the cultural industry. The data of this paper are from China Statistical Yearbook, China's Population and Employment Statistics Yearbook, Basic Unit of China Statistical Yearbook and China's Tourism Statistical Yearbook and Copy.

# 3 Spatial Agglomeration Analysis of Cultural Industries in China

## 3.1 Cultural Industrial Agglomeration Situation from the Angle of Industry

According to Ellison and Glaeser's research, based on the geographic concentration index value, we can divide industries into three types: low agglomeration industry (eg<0.02), moderate agglomeration industry (0.02 < eg < 0.05), high agglomeration industry ( $eg \ge 0.05$ ). Table 1 lists China's 11 cultural industries' EG index and the change rate during 2005~2010. From the recent data, we can see cultural and educational sports goods manufacturing industry, handicrafts and other manufacturing industry, the press and publication industry, the entertainment industry are high agglomeration industry, Traveling scenic area management is moderate agglomeration industry, and other industries are low agglomeration industry.

Industry and code	2005	2007	2009	2010	Change rate %
Printing and Recording Media Copy	0.0176	0.0176	0.0190	0.0189	7.62
Industry 25					
Cultural and Educational Sports Goods Manufacturing Industry 24	0.1464	0.1411	0.1692	0.1860	27.06
Handicrafts and Other Manufacturing Industry 42	0.0898	0.0895	0.0795	0.0789	-12.19
Telecom and Other Information Transmission Services Industry 60	0.0084	0.0079	0.0088	0.0102	20.93
Tourist Hotel 661	0.0170	0.0136	0.0142	0.0136	-19.76
Travel Agency 748	0.0129	0.0111	0.0126	0.0155	19.44
Traveling Scenic Area Management 813	-	0.0249	0.0454	-	-
Press and Publication Industry 88	0.0778	0.0597	0.0585	0.0594	-23.64
Radio, Television, Movies, Recording and Video Industry 89	0.0070	0.0072	0.0081	0.0071	1.50
Culture and Arts Industry 90	0.0097	0.0078	0.0098	0.0106	9.36
Entertainment Industry 92	0.0668	0.0615	0.0599	0.0582	-12.87

Table 1: China's 11 cultural and related industries' EG index and change rate

Source: Calculated by the author

Note: Due to the lack of 2005 and 2010 Yunnan tourism scenic area of employment, so there is no calculation of Yunnan Province tourism scenic area management EG index in 2005 and 2010

At present, there are a lot of papers to discuss the cause of industrial agglomeration. Krugman [10] thought that external effect, which is related to supply and demand, led to the core-periphery structure. theory of relationship economic geography , proposed by

Henry Wai - Chungyeung (2005) [11], states that the society, culture, mechanism and some other factors play an important role in the development of industrial spatial agglomeration. Technology spillover, capital supply, market demand and other factors make cultural and educational sports goods manufacturing industry and handicrafts and other manufacturing industry much more efficient when they get together; The main factors of high agglomeration of press and publication industry are human capital, social relation network, innovation environment, knowledge spillover and so on. Production and consumption are inseparable in entertainment industry, so that the entertainment services must be produced and consumed in the same place and at the same time. Entertainment industry principally serves the high consumption crowd. Therefore, only this industry gathers in the areas where human resources and the high-income concentrate, can it be more efficient. Then we can conclude that the high agglomeration industry of Entertainment Industry mainly results from the amplification efficiency of the local market. According to the theory of factor endowment by Heckscher-Ohlin, geographical environment, position and endowment of resources are the main factors for the distribution imbalance of the economy. Due to the traveling scenic area mainly rely on resources and environment, the diversity of natural tourism resources and unbalanced distribution in our country furnish the reasonable explanation for moderate agglomeration of Traveling Scenic Area Management industry.

From Table 1 we can see that telecom and other information transmission services industry, tourist hotel, culture and arts industry, printing and recording media copy industry, travel agency, radio, television, movies and the radio, television, movies, recording and video industry are the low agglomeration industries. These industries spread all over the country, and the scale is not large and the development is similar in different areas. As for telecom and other information transmission services industry, travel agency and culture and art industry, the low agglomeration presently is reasonable and necessary. With people's income and living standard rising in general, network, television, telephone and such information transmission service; traveling and cultural entertainment have become a common need of urban and rural residents. The synchronization of service industry's production and consumption, and the dispersibility of people's demand determine that these industries should be uniformly distributed all over the country. Although it sacrifices economic scale effect, it meets the needs of people's cultural life, and improves the level of the welfare of the whole nation. Of course, with the further development of information and transportation technology, remote transmission of these services and rapid transfer of the demands will impel these industries to be agglomerated in the future.

However, the low agglomeration printing and recording media copy industry, tourist hotel and radio, television, movies, recording and video industry are low efficient and unreasonable. They should improve their agglomeration degree. As one of the cultural products manufacture, printing and recording media copy industry which are not synchronic in production and consumption should create strong agglomeration effect by professional production.

Unfortunately it is a low agglomeration industry at present, mainly because the copyright doesn't get effective protection in China. Printing and recording media production principally comes from the copyright owner's creative activities. But owing to the prevalence of piracy, the low level copy of creative products makes them all over in our country and inefficient in management which is going against inspiring creative activities. Similarly, low level repetition and imitation are the main causes of low concentration for

the radio, television, movies, recording and video industry as well. To encourage creativity, the key is to strengthen the effective protection of copyright. In addition, due to the character of inalienability in production and consumption and the present consumptive level in our country, hotel industry should also have strong local market amplification effect as the entertainment industry. But presently traveling hotel industry is wide distribution and low agglomeration in China, which has much to do with the blind construction and tourism real estate in recent years.

According to the annual contrast, from 2005 to 2010, the agglomeration degree of handicrafts and other manufacturing industry, tourist hotel, press and publication industry, entertainment industry is dropped substantially, mainly because of low level of imitating, repetitive construction and the lack characteristics of standardized manufacturing. The agglomeration degree of cultural and educational sports goods manufacturing industry, radio, television, movies, recording and video industry, printing and recording media copy industry experiences a large rise. Despite the fact that agglomeration degree of some industries has increased while other's has decreased in recent years, the industries' agglomeration type is still unchanged.

## 3.2 Cultural Industrial Agglomeration Situation from the Angle of Region

In order to analyze cultural industrial agglomeration characteristics from regional angle, we calculate the top 6 provinces of the cultural industries (which is CR6) from 2005 to 2010. In this paper we just list the result of 2005 and 2010 in Table 2 and Table 3. We can see from the tables: the CR6 of cultural and educational sports goods manufacturing industry, handicrafts and other manufacturing industry, press and publication industry, entertainment industry, traveling scenic area management industry are relatively higher, and six provinces shares are more than 50%, which is consistent with EG index. From Table 4 we can see that the provinces ranking on the list for more than 30 times are Guangdong, Shandong, Zhejiang, Beijing and Jiangsu, who are all economy developed areas in Chinese eastern coastal. The developed market economy and high consumption crowd are the foremost reasons for the cultural industry agglomeration. However, there are still nine provinces that don't appear in the ranking table, and most of them are in the underdeveloped western areas. Although these areas have rich cultural resources, they don't form cultural industrial agglomeration.

Voor and industry	The year of 2005						
Tear and mousery			Provinces of $CR_6$				
Printing and Recording Media Copy Industry	Guang dong	Beijing	Shan dong	Hu bei	Jiangsu	Zhe jiang	43.31%
Cultural and Educational Sports Goods Manufacturing Industry	Guang dong	Fujian	Shan dong	Jiang su	Zhe jiang	Shanghai	86.82%
Handicrafts and Other Manufacturing Industry	Fujian	Guang dong	Shan dong	Zhe jiang	Jiangxi	Jiang su	72.46%
Telecom and Other Information	Guang dong	Beijing	Jiang su	Shan dong	Sichuan	Hebei	35.93%

Table 2: Province Distribution and CR6 of 11 Cultural Industries of 2005

Transmission Services							
Industry							
Press and Publication	Raijing	Guang	Shan	Liao	Lilin	Theijang	51 22%
Industry	Derjing	dong	dong	ning	JIIII	Zhejiang	J1.2270
Radio, Television,							
Movies, Recording	Anhui	Hubei	Henan	Beijing	Jiangsu	Sichuan	32.54%
and Video Industry							
Culture and Arts	Daiiing	Honon	Guang	Shan	Shonyi	Hubai	22 5004
Industry	Derjing	nellali	dong	dong	Shanxi	Hubel	52.30%
Entertainment	Dailing	Guang	Yun	Cuanavi	Shanahai	Habai	56 520/
Industry	Бегјing	dong	nan	Guangxi	Shanghai	Hebel	30.35%
Tourist Hotal	Guang	Daiiina	Zhe	Liongau	Shan	Shanahai	44.0704
Tourist Hoter	dong	Deijing	jiang	Jiangsu	dong	Shanghai	44.97%
Troval A gapav	Guang	Daijing	Zhe	Shandong	Shanahai	Jiang	41 4704
Traver Agency	dong	Beijing	jiang	Shandong	Shanghai	su	41.4/%
Traveling Scenic Area	Guang	Zhe	Nei	Si	Liao	Shan	74 520/
Management	dong	jiang	meng	chuan	ning	dong	14.32%

	Table 3: Province Distribution	and CR6 of 11 Cultural	Industries of 2010
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Voor ond inductory	The year of 2010						
rear and moustry			Provinces	s of $CR_6$			$CR_6$
Printing and Recording Media Copy Industry	Guang dong	Beijing	Zhe jiang	Shan dong	Jiang su	Shang hai	47.67%
Cultural and Educational Sports Goods Manufacturing Industry	Guang dong	Fujian	Zhe jiang	Shan dong	Jiang su	Shang hai	88.48%
Handicrafts and Other Manufacturing Industry	Fujian	Guang dong	Zhe jiang	Shan dong	Henan	Jiangsu	76.53%
Telecom and Other Information Transmission Services Industry	Guang dong	Beijing	Zhe jiang	Jiangsu	Hebei	Shaanxi	37.55%
Press and Publication Industry	Beijing	Guang dong	Henan	Shan dong	Zhe jiang	Hubei	49.61%
Radio, Television, Movies, Recording and Video Industry	Jiangsu	Shan dong	Beijing	Henan	Guangdong	Zhejiang	34.07%
Culture and Arts Industry	Beijing	Henan	Shaanxi	Guang dong	Shan dong	Shanxi	33.20%
Entertainment Industry	Guang dong	Beijing	Yunnan	Shan dong	Zhejiang	Shanghai	57.05%
Tourist Hotel	Guang dong	Beijing	Shan dong	Zhe jiang	Jiang su	Shang hai	45.74%
Travel Agency	Guang dong	Zhejiang	Beijing	Shan dong	Jiang su	Shang hai	46.71%
Traveling Scenic Area Management	-	-	-	-	-	-	-

Source: calculated by the author

Province	Frequency	Agglomerate Industries	
Guangdong	64	All the 11 industries	
Shandong	51	All the 11 industries	
Zhejiang	50	10 industries ,except the Entertainment Industry	
Beijing	48	8 industries, including: Press and Publication Industry; Tourist Hotel; Culture and Arts Industry; Radio, Television, Movies and Video Industry; Entertainment Industry; Travel Agency; Printing and Media Copy Industry; Telecom and Information Transmission Services	
Jiangsu	40	8 industries, including: Printing and Media Copy Industry; Cultural and Educational Sports Goods Manufacturing Industry; Handicrafts and Other Manufacturing Industry; Telecom and Other Information Transmission Services Industry; Press and Publication Industry and so on	
Henan	21	4 industries, including: Handicrafts and Other Manufacturing Industry; Press and Publication Industry; Radio, Television, Movies and Video Industry; Culture and Arts Industry	
Shanghai	21	4 industries, including: Travel Agency; Cultural and Educational Sports Goods Manufacturing Industry; Entertainment Industry; Tourist Hotel	
Fujian	14	3 industries, including: Entertainment Industry; Cultural and Educational Sports Goods Manufacturing Industry; Handicrafts and Other Manufacturing Industry	
Hebei	13	5 industries, including: Telecom and Other Information Transmission Services Industry; Entertainment Industry; Travel Agency; Tourist Hotel; Traveling Scenic Area Management	
Hubei	11	4 industries, including: Printing and Media Copy Industry; Telecom and Other Information Transmission Services Industry; Radio, Television, Movies and Video Industry; Entertainment Industry; Culture and Arts Industry	
Shanxi	9	3 industries, including: Printing and Media Copy Industry; Culture and Arts Industry; Traveling Scenic Area Management	
Yunnan	9	2 industries, including: Entertainment Industry and Tourist Hotel	
Sichuan	8	4 industries, including: Traveling Scenic Area Management; Telecom and Other Information Transmission Services Industry; Radio, Television, Movies and Video Industry; Culture and Arts Industry	
Liaoning	8	2 industries, including: Press and Publication Industry and Traveling Scenic Area Management	
Jiangxi	7	2 industries, including: Handicrafts and Other Manufacturing Industry and Traveling Scenic Area Management	
Shaanxi	4	2 industries, including: Culture and Arts Industry and Entertainment Industry	
Guangxi	3	Entertainment Industry	
Hunan	3	Traveling Scenic Area Management	
Jilin	3	Press and Publication Industry	
Heilongjiang	1	Telecom and Other Information Transmission Services Industry	
Anhui	1	Radio, Television, Movies and Video Industry;	
Neimeng	1	Traveling Scenic Area Management	
Notes:	None ind	ustry on the list: Xinjiang, Qinghai, Tibet, Tianjin, Hainan, Huizhou, Gansu, Chongqing	

Table 4: The Frequency of Top 6 Provinces Industry Employment and the Industries

Source: calculated by the author

# 4 Empirical Test

Through the calculation and analysis, this paper concludes the following hypothesizes:

Hypothesis 1: Agglomeration of cultural industries can promote economic growth, and the EG index of an industry has a strong correlation with the gross output value of the industry.

Hypothesis 2: Geographic location has an important impact on the regional cultural industry, and the eastern area has significant advantages.

Hypothesis 3: Developed regional economic provide capital, market and other conditions for cultural industry development, which is the dominant factor of cultural industry agglomeration.

Hypothesis 4: The abundance of cultural resource is one of the factors of cultural industrial agglomeration, but when the economic development is weak and low, the abundance of cultural resources can't be the dominant factors of the cultural industrial agglomeration.

## 4.1 The Cultural Industry Concentration Degree and Economic Growth

In order to study the relationship between the cultural industry agglomeration degree and economic growth, this paper analyze the average EG index of 11 industries from 2005 to 2010(to represent the whole agglomeration of cultural industry), EG index of the several high agglomeration industries, and the added value of the cultural industry by means of grey relational analysis(GRA).

			Inc	lex		
Year	Added Value of the Cultural Industry y <sub>0</sub>	Average EG Index y <sub>1</sub>	EG index of Cultural and Educational Sports Goods Manufacturing Industry <i>y</i> <sub>2</sub>	EG index of Handicrafts and Other Manufacturing Industry $y_3$	EG index of Press and Publication Industry $y_4$	EG index of Entertainment Industry y <sub>5</sub>
2005	0.44	0.0453	0.1464	0.0898	0.0778	0.0668
2006	0.51	0.0340	0.1068	0.0699	0.0607	0.0541
2007	0.64	0.0402	0.1411	0.0895	0.0597	0.0615
2008	0.76	0.0409	0.1433	0.0844	0.0592	0.0690
2009	0.84	0.0441	0.1692	0.0795	0.0585	0.0599
2010	1.11	0.0458	0.1860	0.0789	0.0594	0.0582

Table 5: Added Value of the Cultural Industry, the Average EG Index and Industry EG

Source: *The Cultural Industry Blue Book*, the statistics bulletin released by China's National Bureau of Statistics, and calculated by the author.

Doing dimensionless processing to the data in Table 5, and take the added value of the cultural industry as a reference sequence  $y_o$ ,  $\gamma_o$  means the grey relational degree of comparative sequence  $y_i$  and  $y_o$ . Correlation coefficient formula is:

(1)

$$\gamma_{0i} = \frac{1}{T} \sum_{k=1}^{T} \xi_{0i}(k)$$

There into,

$$\xi_{0i}(k) = \frac{\Delta_{0i}(\min) + p * \Delta_{0i}(\max)}{|y_0(k) - y_i(k)| + p * \Delta_{0i}(\max)}$$

 $\Delta_{oi}(min)$  means two-oder minimum difference and  $\Delta_{oi}(max)$  means two-oder maximum difference. P is resolving coefficient (take 0.5 here).  $|y_o(k) - y_i(k)|$  is absolute difference sequence, and  $\xi_{oi}(k)$  is relative difference value of the compared sequence and the reference sequence of the K year. The weighted average of relative difference value is the grey relational degree.

Table 6 is the grey relational degree of industry average EG index, 4 typical cultural industries and the added value of culture industry. We can see that the grey relational degree between cultural and educational sports goods manufacturing industry and the added value of the culture industry is the largest. In addition, the grey relational degree between the whole agglomeration of the cultural industry and its added value is 0.7057, which shows that the culture industry has obvious drawing effect on economic growth . The above hypothesis 1 is supported.

	Culturul Illuu	suly and the re		and the measury	
$\gamma_{0i}$	$\gamma_{01}$	$\gamma_{02}$	$\gamma_{03}$	${\gamma}_{04}$	${\gamma}_{05}$
Value	0.7075	0.7579	0.5899	0.4987	0.6549

 Table 6: Grey Relational Degree among the Industry Average EG Index, 4 Typical

 Cultural Industry and the Added Value of Culture Industry

Source: calculated by the author

## 4.2 The Influence Factors of Cultural Industry Agglomeration

According to the influencing factors on cultural industries agglomeration proposed above (Hypothesis 2, 3, 4), we establish a measurement model seclecting five indexs such as provinces' frequency of CR6, geographical location, the level of economic development and cultural resources abundance. Count model is proper because the dependent variable is a discrete random integer variable and a virtual variable is contained in the independent variables. Theoretical model is:

### $frequency_i = f(ln pgdp_i, heritage_i, location_i)$

*Frequency* means i province's CR6 frequency, *ln pgdp* means The logarithm of i province's per capita GDP, which is used to measure the level of regional economic development. *Heritage* is the quantity of state-level protected historic units in i province, which is used to measure regional cultural resources abundance. *location* means geographical location, which is a virtual variable and eastern areas value 1 while other areas value 0.

We use Poisson regression model in this paper, assuming the econometric model of cultural industry agglomeration is:

$$ln(f_i) = z_i \beta + u_i \qquad i = 1, 2, ..., 31$$
(2)

frequency is represented by  $f_i$ ,  $z_i$  means the independent variable in the formula (1).  $\beta$  means coefficient vectors, and  $u_i$  represents a stochastic error term.

Table 7: The Regression Results of Counter Model					
Variable	Coefficient	Z-Statistic	Prob.		
Constant term	-10.1149	-6.8562	0.0000		
$\ln pgdp_i$	1.0842	7.2149	0.0000		
heritage <sub>i</sub>	0.0097	10.1627	0.0000		
location <sub>i</sub>	1.0035	5.2247	0.0000		
LR statistic	312.2674 (0.000	312.2674 (0.0000)			

Table 8: Test Results of Model F	Redundant Variable LR
Log likelihood ratio	Prob.Chi-Square(1)
51.68966	0.0000
98.49247	0.0000
27.45973	0.0000
	Table 8: Test Results of Model RLog likelihood ratio51.6896698.4924727.45973

Regression equation of list counting model is the following:

 $\ln frequenc\hat{y} = -10.1149 + 1.0842*\ln pgdp + 0.0097*heritage + 1.0035*location$ 

From Table 7 and Table 8 we can see: the parameter is approved by significance test at the level of 1%, that is to say the three explanatory variables have significant effects on the explained variable. LR test on the redundant variables of the model rejects the null hypothesis, which means the model fitting is good. So we can judge that the level of economic development, cultural resources abundance and geographical location all have significant and positive influence on the cultural industrial agglomeration. Per capita GDP, location of eastern area and the cultural resource abundance are all significant promotion factors to the cultural industry agglomeration. Seen from the influence degree, the per capita GDP and the eastern location have a larger effect on the cultural industrial agglomeration, while cultural resource abundance is smaller.

## **5** Conclusions and Suggestions

### 5.1 The Characteristics of Industrial Agglomeration are Different.

(1) Cultural and educational sports goods manufacturing industry, press and publication industry, entertainment industry and handicrafts and other manufacturing industry are high agglomeration industry, which is in conformity with the demand characteristics. But the concentration degree of the other three industries is dropped substantially except cultural and educational sports goods manufacturing industry in recent years. We should promote their agglomeration in the future.

(2) Agglomeration of traveling scenic area management industry is moderate, which is in conformity with the characteristic of the natural tourism resources ---relatively concentrated and widely distributed.

(3) Under the present traffic and information technology conditions, telecom and information transmission services industry, travel agency and culture and arts industry are low agglomeration industry, which accords with the industrial characteristics and the requirements for cultural industries to improve the welfare. We should encourage it all over the country.

(4) Printing and media copy industry and radio, television, movies and video industry are low agglomeration industry, which is the result of low-level copy and lack of copyright protection. Therefore, we should effectively protect the copyright and patent, encourage creative activities, promote the industry to aggregate in the advantage areas, enterprises and institutions, avoid low copy and imitate and improve the agglomeration effect.

(5) The quantity of tourist hotel is large and agglomeration degree is low, which is easy to cause the tourism off-season idle. Meanwhile, the "enclosure movement" of tourism real estate goes against the macro-control of China's real estate industry. All regions should develop the tourism hotel industry moderately based on the local consumption level and reception scale.

# **5.2** Cultural Industries Development is Extremely Unbalanced among the Regions and the Western Regions have the Tremendous Potential.

Relying on the superior geographical location, strong economic strength and huge consumer market eastern areas promote the cultural industrial agglomeration. Although with the rich cultural resources, the cultural industry agglomeration of western regions is low because of the economic backwardness and the weak cultural consumption ability there. Under the background of cultural industry's great development, the western regions should make full use of local resources advantages to develop the characteristic cultural industry vigorously to promote the development of regional economy.

# **5.3** The Development of Cultural Industries depends on the Regional Economic Development.

The growth rate of per capita GDP and the location have an obvious influence on the cultural industries, that is to say the cultural industry agglomeration depends on the size of the market demand and consumption ability. Although cultural resources abundance also promotes the development of cultural industry, it is much smaller than the economic and regional factor. Therefore, to develop the cultural industry by rich cultural resources, China's western regions must improve the local comprehensive economic strength and improve consumer ability firstly, and then we can form the benign interaction between the cultural industry and economic growth.

# 5.4 To Deepen Cultural Restructuring is the Key to the Development of Cultural Industries.

Low level imitation, copy and duplicate construction lead to regional homogeneity competition, low efficiency and low agglomeration of culture industry. Some industries develop similarly in different regions such as press and publication industry, radio, television, movies and video industry and entertainment .Culture creative industries are blossoming everywhere. The source of the unreasonable distribution lies in the unreasonable culture system. In the traditional culture system, the distribution of cultural resources is based on the administration, causing the regional blockades. All regions have established a complete range of cultural enterprises regardless the endowment differences, which led to blind investment, repetitive construction and interfere with reasonable flow of the cultural resources in the country. Currently, the key to the development of cultural industry is to reform the cultural system, including breaking the regional blockades on the basis of national overall planning, making full use of the function of market in the allocation of resources and promoting the integration and reasonable layout of different cultural industries resources.

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