

# East-Asian Culture and Art Economic Development: Evidence from Jiangsu Province in China

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**Abstract.** There is a close relationship between East-Asian culture and art economic development. According to the regional characteristics of Jiangsu Province, the evaluation index system of East-Asian culture development and art economic development is designed, the coupling model is established, and the coupling relationship between the two is empirically analyzed. It is concluded that the coordination degree between East-Asian culture development and art economic development in Jiangsu Province is still at a relatively low stage, and the countermeasures and suggestions to promote the coupled and coordinated development of East-Asian culture and art economic development in Jiangsu Province are put forward.

**Keywords:** East-Asian culture; Art economic development; Coupling relationship; Jiangsu Province.

## 1. Introduction

With the explosion of artwork among East-Asian culture, art economic development has become key to coping with the practice of cultural heritage protection. How might East-Asian culture affect the art economic development? And what kind of effect it is?

Although East-Asian culture has long been a topic in literature, it remains a controversial concept and its exact definition is still contested among scholars. It can be understood as the culture affected by Chinese in ancient times through Chinese letters and other cultural products in East-Asian regions like Japan and Korea. It can also be viewed in terms of the effect of culture on art antique in East Asia and South-East Asia.

On one hand, some scholars thought East-Asian culture could promote the art economic development. For example, the study of pottery from two sites, one in southwest Asia (the Baq'ah Valley of Jordan) and the other in southeast Asia (Ban Chiang, Thailand), is illustrative of the value of detailed technological analysis. Technological studies can not only provide helpful in sourcing pottery, but also data critical in the characterization of discrete potting traditions (McGovern, 2019). The four principles of Confucianism could promote creativity research, and to discover how East Asian culture influences creativity. Kim (2007) believes that culture, as well as the principles of creativity, are often above many and severe national differences, discords and even animosities among countries.

On the other hand, other scholars may also believe some East-Asian Culture have side-effect on art economic development. For instance, burning books and pitching Confucians, also known as "burning poetry and books and pitching warlocks" (a warlock, that is, Confucian scholars) ", Qinshihuang (The Emperor Qin I) in China burned books and killed more than 460 violators in 213 BC and 212 BC. Also, the Cultural Revolution (1967-1977) caused by communism in China eradicated and destroyed many Confucianism art products.

Art economic development reflects the phenomenon that coordinate with human evolution and social development. It includes the change of art types and the evolution of art format in different countries. For example, local economy could affect art economic development. On one hand, economy affect the appearance of art. The birth of every kind of art is on the basis of local economy. Economy could decide the conditions, contents and styles of art economic development. For different hierarchy, economy have divergent effects on different art. As people have various relations in production, some are leaders and others are being governed. The effect of economy on art economic development is unbalanced and fluctuate in different times.

On the other hand, region also affect art economic development. Some regions reflect positive moral pursuit and have enduring effect on art. Others are less-developed and evil to some extent and become barrier to art economic development.

Above all, the defects of existing literature ignore other factors which East-Asian culture could affect art economic development like social, moral, philosophical influences. East-Asian culture is a double-edged sword in terms of art economic development. While it is widely assumed in other studies that East-Asian culture has an unclear effect on local art economic development, this paper presents the downside by conducting empirical methods to overcome the endogeneity issue. Although researchers have made great theoretical progress in explicating the role of East-Asian culture in developing art in the context of diversity, empirical research has lagged behind.

This article offers a conceptualization of East-Asian culture relevant to art economic development, identifies the cultural characteristics that affect art economic development in an environment that fosters diversified values. The contributions of this article are as follows. First, this paper takes a position in the dispute over the two-edged effects of East-Asian culture in the process of art economic development. In particular, this paper provides evidence that although the fact that some regions are the main drivers of destroying art, East-Asian culture may have a highly positive effect through international cooperation by focusing on the correct underlying causes of art.

Second, the empirical results of our study can also be used to answer the question of mutual causality between culture and art, that is, the extent to which East-Asian culture helps build art in diversity, on the one hand, and the extent to which, on the other, regions with certain cultural characteristics tend to be more oriented and so for that reason boost art economic development. This distinction can help explain how East-Asian culture plays complementary roles in the parallel crossing and embedded overlapping structure of art economic development.

As different regions have divergent techniques based on their local own cultures, they could give innovations to local art economic development. For instance, the four principles of Confucianism could promote creativity research, and discover how East Asian culture influences creativity. Another study of pottery from two sites, one in southwest Asia (the Baq'ah Valley of Jordan) and the other in southeast Asia (Ban Chiang, Thailand), is illustrative of the value of art's technological process. East-Asian culture plays a very important role in the process of art economic development. People's spiritual and cultural needs are also growing with the economic development, which is inseparable from the development and progress of culture and art. Promoting steady and sustainable art economic development is the core concept of contemporary East-Asian culture, and the progress of culture and art also has an important impact on it.

The basic concept of East-Asian culture is the affirmation of the development of a human social civilization, while East-Asian culture is an advanced art form derived from culture and higher than culture. Culture and art are dependent on each other, but they are different from each other. The concept and coverage of East-Asian culture is more specific than that of general culture. As a concept, East-Asian culture is covered by the specific forms of art.

Long-distance goods exchange and trade from China through Silk Road and Maritime Silk Road to other East-Asian and South-East-Asian regions and countries could affect local art economic development more heavily. The extensive and lasting spread of Chinese classical culture in East Asian countries has formed an "East Asian cultural circle" or "Chinese character cultural circle", also known as the "Confucian cultural circle", which takes Chinese classical culture as the core and radiates other parts of East Asia. Chinese classical culture was introduced into ancient East Asia with Chinese characters as the language tool, Chinese literature as the main perceptual form, and Confucianism as the main value core. It had a wide and lasting impact on East Asian society, and gradually accumulated into a collective unconscious prototype of ancient East Asian art style, contributing to the construction of East Asian art economic development. Today, the spread of Chinese classical culture in East Asia still has considerable influence in the fields of all kinds of art forms like literature, history, philosophy and pottery.

The development of spiritual consciousness provides the content and theme of religion belief. At the same time, it has the functions to promote art economic development. The influence of religion on art is inextricably linked. It is "human beings are generally unable to get rid of emotional psychosis". The two have some common ground in the way of understanding and mastering the world. Both religion and art belong to the realm of fantasy and emotion, which is different from the realm of reality, demonstration and reason.

Religion has its underlying background of culture which could ignite artists to create more art products. Art is often used by religion to publicize and vividly depict the doctrines of religion itself, which gives great support to art in many aspects, such as human and material resources. So many artists have more opportunities to practice art, and religion promotes the development and growth of art from an objective perspective. At the same time, the various forms of art communication produced by religion have also greatly promoted the exchanges between countries and nations in East Asia. For example, India's Buddhism was first introduced to China through exchanges after its emergence. After many transformations with folk national characteristics in China, it spread in Japan, Korea and other East-Asian countries. As a result, today's Buddhist art spread in East Asia, especially in Japan and other South-East countries, and has some characteristics of Chinese folk style. In the aspect of Buddhist architecture, after Indian Buddhism was introduced into China, some ancient Chinese pavilions were added to the architectural modeling, which led to great changes in the style of the pagodas of Mahayana Buddhist architecture, affecting today's Japan and other East-Asian countries.

## 2. Literature review

In the 1980s, the British manufacturing industry declined, and the national art economic development was hit hard. After that, Prime Minister Blair wanted to change the recession of British economy by developing cultural and creative industries, so Britain was the first country to promote the development of cultural and creative industries. So far, the development of foreign East-Asian culture has been very mature, especially in the developed countries such as Europe and America, the income of East-Asian culture has become one of the important sources of national income. There are many domestic research results on the relationship between East-Asian culture and art economic development. For example, Wu Zhaohan [1] takes Beijing as an example to measure the East-Asian culture and art economic development by means of cointegration test and Granger causality test

And the interaction between them. Zhang gaoqiong [2] uses DEA Malmquist index to calculate the total factor productivity of the East-Asian culture according to the data of 149 listed companies in the East-Asian culture, so as to analyze the changes in the performance of the East-Asian culture. Xiao Hong [3] creatively analyzed the impact of China's East-Asian culture policy on inefficient investment from the perspective of industrial policy, and used SFA model

Evaluate the inefficient investment of relevant cultural industries. Huang shoupi [4] made an empirical analysis on the coupled development of East-Asian culture and art economic development in Guangdong Province through the coupling evaluation model by constructing the evaluation index system of East-Asian culture development and the evaluation index system of art economic development, using the relevant index data of Guangdong Province. Liang Jianying et al. [5] took Hebei Province as an example and analyzed the impact of cultural input on the development of East-Asian culture through VAR model. Zhou Yulong [6] adopted a variety of research methods to analyze the shortcomings of Huai'an Municipal Government in guiding the development of East-Asian culture from the aspects of public management and economics. Yang Yang [7] started from the significance of East-Asian culture development to art economic development, analyzed the relationship between the two, and indicated that the combination and coordinated development of East-Asian culture development and art economic development should be promoted. Guo Xinru [8] took 30 provinces in China as an example and analyzed the impact of East-Asian culture agglomeration on high-quality economic development by using relevant data.

### **3. The relationship between East-Asian culture development and art economic development**

#### **3.1 The development of East-Asian culture can promote art economic development**

Jiangsu Province is a big manufacturing province, but with the consumption of resources and environmental pollution in the region in recent years, the industrial development in the region of Jiangsu Province is facing unprecedented pressure, and the industrial structure needs to be adjusted. In this case, the advantages of the East-Asian culture are highlighted. The East-Asian culture has the characteristics of low pollution, low consumption and high income. With its unique advantages, it has become more and more prominent in the national economy and has gradually become a new growth point of the national economy. According to the data, in 2011, the regional production value of cultural and creative industries in Jiangsu Province was 148.522 billion yuan, while in 2020, the regional production value of cultural and creative industries in Jiangsu Province was 361.633 billion yuan, an increase of 1.4 times in 10 years; In 2011, the GDP of Jiangsu Province was 4883.921 billion yuan, while in 2020, the GDP of Jiangsu Province was 10271.898 billion yuan, an increase of 1.1 times in 10 years. According to the statistical yearbook of Jiangsu Province, with the increase of the regional production value of cultural and creative industries in Jiangsu Province, the regional production value of Jiangsu Province is also gradually increasing, and the development of cultural industries has driven the economic development.

#### **3.2 Art economic development is conducive to the development of East-Asian culture**

The high-quality development of art economic development in Jiangsu Province has created good conditions for the development of East-Asian culture. On the one hand, a developed economy can attract a large number of high-quality talents to Jiangsu Province, and the development of East-Asian culture is inseparable from the participation of various talents. With a steady flow of human resources as the foundation, we can escort the sustainable development of the East-Asian culture in the region, and continuously improve the innovation and creativity of the East-Asian culture, thus improving the competitiveness of the East-Asian culture. On the other hand, the high-quality development of the art economic development in Jiangsu Province has improved the living standards of the residents. The improvement of the living standards will make the residents no longer only pursue material satisfaction, but increasingly pursue spiritual satisfaction, which provides a very large space for the development of the East-Asian culture. The change of the demand market will stimulate the development of the East-Asian culture. The small-scale enterprises will gradually develop into the East-Asian culture demonstration park, and can radiate outward with the demonstration park as the center, driving more cultural and creative industries to develop and grow.

### **4. Empirical analysis of the coupling relationship between East-Asian culture and art economic development**

In general, there are countless relationships between two or several systems in the nature. At the beginning, there is no law to follow. However, with the passage of time and the change of the environment, the relationship between systems will gradually show a more regular phenomenon, which is the coupling phenomenon. Coupling refers to the mutual dependence and integration between two subsystems. With the development of conditions, the two subsystems will gradually combine to form an organization with more advanced performance and function. The subsystems studying the coupling relationship should meet four characteristics, namely, relevance, diversity, integrity and coordination. According to the previous analysis, the East-Asian culture and art economic development meet these four characteristics. Therefore, this paper uses the coupling relationship model in physics to empirically analyze the relationship between East-Asian culture and art economic development in Jiangsu Province.

#### 4.1 Establishment of coupling model

##### 4.1.1. Data standardization processing

The standardized processing of data is aimed at the inconsistent dimension of the data selected in the research. In order to keep the data consistent in the empirical analysis process, it is necessary to use the formula to process the original data.  $u_{ij} = \frac{x_{ij} - x_{jmin}}{x_{imax} - x_{jmin}}$  ( $i = 1, 2, 3, \dots, m; j = 1, 2, 3, \dots, n$ )

Where  $u_{ij}$  is the result of data standardization processing, and the relationship between value range and economic development is analyzed empirically.  $[0, 1]$  .  $x_{ij}$  Represents the original data of the  $j$  index in the  $i$  subsystem,  $x_{jmin}$  Shows the minimum value of the  $j$  index in the studied subsystem,  $x_{imax}$  Represents the maximum value of the  $j$  index in the studied subsystem.

##### 4.1.2. Determination of index weight by entropy method

Calculation formula for the proportion of the  $j$  index in the  $i$  system:  $R_{ij} = \frac{u_{ij}}{\sum_{j=1}^n u_{ij}}$

The information entropy of the  $j$  index is:  $E_j = \frac{1}{\ln m} \sum_{j=1}^n (R_{ij} \ln R_{ij})$

The utility value of the  $j$  index is:  $a_j = 1 - E_j$  ( $j = 1, 2, 3, \dots, n$ )

The weight of the  $j$  indicator is:  $W_j = \frac{a_j}{\sum_{j=1}^n a_j}$  ( $j = 1, 2, 3, \dots, n$ )

Where  $m$  is the number of subsystems and  $N$  is the number of indicators in the system.

##### 4.1.3. Comprehensive evaluation of East-Asian culture development and art economic development

Comprehensive evaluation function of East-Asian culture development :  $U_1(X) = \sum_{j=1}^n w_j p_{ij}$  ( $i = 1, 2, 3, \dots, m; j = 1, 2, 3, \dots, n$ )

Where,  $w_j$  is the weight of the  $j$  index in the East-Asian culture system,  $p_{ij}$  It is the standardized value of the  $j$  index of the  $i$  subsystem of the East-Asian culture development system. Comprehensive evaluation function of art economic development:  $U_2(y) = \sum_{j=1}^n w_j q_{ij}$  ( $i = 1, 2, 3, \dots, m; j = 1, 2, 3, \dots, n$ ) Where,  $w_j$  is the weight of the  $j$  index in the art economic development system,  $q_{ij}$  is the standardized value of the  $j$  index of the  $i$  subsystem of the art economic development system.

If  $U_1(X) > U_2(y)$ , indicating that art economic development is backward compared with the development of East-Asian culture; If  $U_1(X) < U_2(y)$ , indicating that the development of East-Asian culture is backward compared with art economic development.

##### 4.1.4. Coupling model of East-Asian culture development and art economic development

There are only two systems studied in this paper: the East-Asian culture development system and the art economic development system. Therefore, the calculation formula of the coupling degree between the East-Asian culture development and the art economic development is:  $C = \frac{\sqrt{U_1(X) \times U_2(y)}}{\sqrt{U_1(X) + U_2(y)}}$  ( $0 \leq C \leq 1$ )

The formula for calculating the comprehensive coordination index of East-Asian culture development and art economic development is:  $T = \alpha U_1(x) + \beta U_2(y)$  where,  $\alpha, \beta$  Is the coefficient. Referring to the previous research results, we can know that compared with the development of East-Asian culture, art economic development is a more macro system, so we can  $\alpha, \beta$  he value of is set as  $\alpha=0.4, \beta =0.6$ . The calculation formula of coupling coordination degree between East-Asian culture development and art economic development is:  $D = \sqrt{C \cdot T}$  On the basis of previous research results, the division criteria of coupling degree and coupling coordination degree adopted in this paper are shown in Table 1.

**Table 1.** Division of coupling degree and coupling coordination degree

Coupling degree (C)	Development level	Coupling coordination degree (D)	Coordination level
$0 \leq C \leq 0.3$	Budding stage	0.00-0.09	Extreme disorder
		0.10-0.19	Severe disorder
		0.20-0.29	Moderate disorder
$0.3 \leq C \leq 0.5$	Running in stage	0.30-0.39	Mild disorder
		0.40-0.49	Near disorder
		0.50-0.59	Reluctantly disorder
$0.5 \leq C \leq 0.8$	Stable stage	0.60-0.69	Primary coordination
		0.70-0.79	Intermediate coordination
$0.8 \leq C \leq 1$	High level coupling	0.80-0.89	Good coordination
		0.90-1.00	High quality coordination

#### 4.2 The evaluation index system of East-Asian culture development and art economic development

To scientifically analyze the coupling relationship between the development of East-Asian culture and art economic development in Jiangsu Province, it is necessary to establish a set of scientific and comprehensive evaluation index system. Through reading the previous research results, this paper believes that the indicators to measure the level of art economic development and the level of East-Asian culture development can be evaluated from three aspects, namely, development performance, development power and development factors. In statistics, the establishment of the evaluation index system should follow the principles of scientificity, systematization, reliability and operability. Considering that the relationship between the development of East-Asian culture and art economic development is very complex, we should pay attention to the principles of hierarchy and representativeness when selecting the evaluation index system. Based on Huang shoupi's research results, combined with the actual situation of Jiangsu Province, and considering the availability and quantification of indicators, the evaluation index system for East-Asian culture development and the evaluation index system for art economic development selected in this paper are shown in Table 2 and table 3.

#### 4.3 Empirical Analysis on the coupling relationship between East-Asian culture and art economic development in Jiangsu Province

This paper selects the data of various indicators from 2011 to 2020 for coupling empirical analysis. The data is from the statistical yearbook of Jiangsu Province over the years. After calculation, the weight values of various indicators of East-Asian culture development and art economic development in Jiangsu Province can be obtained (as shown in Table 1).

From the empirical analysis results in Table 2, the following conclusions can be drawn:

From the comprehensive evaluation value, the comprehensive evaluation value of East-Asian culture in 2011 was 0.1442, and the comprehensive evaluation value of art economic development was 0.0459. Art economic development was lagging behind the development of East-Asian culture. Similarly, art economic development was lagging behind the development of East-Asian culture in 2012. Since 2013, the comprehensive evaluation value of the East-Asian culture has been lower than the comprehensive evaluation value of the art economic development, which indicates that the development of the East-Asian culture in Jiangsu Province has lagged behind the art economic development since 2013.

**Table 2.** Evaluation index system of East-Asian culture development

Level I indicator	Level 2 indicator
Development performance	Regional GDP of cultural and creative industries (100 million yuan)
	Operating income of art enterprises above designated scale (100 million yuan)
	Per capita expenditure on art, culture and entertainment (yuan)
	Proportion of household cultural, art and entertainment expenditure (%)
Development impetus	Internal expenditure of art research and experimental development funds (100 million yuan)
	Art patent authorization quantity (PCs.)
	General public budget expenditure on culture, tourism, sports and media (100 million yuan)
	Investment in fixed assets of the tertiary industry (100 million yuan)
Development factors	Number of cultural, art and cultural relics institutions(PCs.)
	Expenditure on activities of Art Museum and cultural center (10000 yuan)
	Number of employees of art performance groups (person)
	Number of art and cultural centers(PCs.)
	Number of employees in culture, art and cultural relics (person)
	Total expenditure of public library business expenses (10000 yuan)

**Table 3.** Evaluation index system of art economic development

Level I indicator	Level 2 indicator
Development performance	Art GDP (100 million yuan)
	Per capita Art GDP (yuan)
	Local general public budget revenue on art (100 million yuan)
	Proportion of tertiary industry in GDP (%)
Development impetus	Total retail sales of art consumer goods (100 million yuan)
	Total import and export volume on art (USD 100 million)
	Domestic and foreign currency deposits of art institutions (100 million yuan)
	Actual amount of foreign direct investment on art (USD 10000)
Development factors	Number of employed persons on art industry at the end of the year (10000)
	Total wages of on-the-job art employees (yuan)
	Number of art enterprises above designated scale (unit)
	Urban per capita art-park green area (m <sup>2</sup> )
	Number of college students in art industry (10000)
	Energy saving and cultural protection expenditure (100 million yuan)

The East-Asian culture in Jiangsu Province develops rapidly, with the comprehensive evaluation value rising from 0.1442 in 2011 to 0.8533 in 2020. The average growth rate in the past 10 years has reached 19.46%, mainly because the development of East-Asian culture has been improved with the economic development of Jiangsu Province. The evaluation value of art economic development in Jiangsu Province has increased from 0.0459 in 2011 to 0.9383 in 2020, and the average growth rate in 10 years has reached 35.22%, indicating that the development of East-Asian culture in Jiangsu Province has promoted art economic development. In other words, the development of East-Asian culture and art economic development promote each other. From the perspective of numerical value, the stimulation effect of East-Asian culture on art economic development is higher than that of art economic development on East-Asian culture.

From the value of coupling degree C between East-Asian culture development and art economic development, there is an increasing trend from 2011 to 2020. 2011 is the embryonic stage of development, and 2012-2015 is the running in stage of development. Since 2016, the relationship between the development of East-Asian culture and art economic development in Jiangsu Province has entered a stable stage.

From the value of the coupling coordination degree D of East-Asian culture development and art economic development, 2011 belongs to serious imbalance, 2012 and 2013 belong to mild imbalance, 2014 and 2015 belong to near imbalance, 2016, 2017 and 2018 belong to forced imbalance, and 2019 and 2020 belong to primary coordination. This shows that the coordination between the development of East-Asian culture and art economic development in Jiangsu Province is still at a relatively low stage. Jiangsu Province should take certain measures to make the development of East-Asian culture and art economic development stimulate and influence each other, and increase the coupling and coordination between the two.

## **5. Countermeasures and suggestions for promoting the coordinated development of East-Asian culture and art economic development**

From the results of empirical analysis, it can be seen that since 2016, the relationship between the development of East-Asian culture and art economic development in Jiangsu Province has entered a stable stage, but the coordination between the development of East-Asian culture and art economic development in Jiangsu Province is still at a relatively low stage. Jiangsu Province should take certain measures to stimulate and influence the development of East-Asian culture and art economic development, and increase the coupling and coordination between the two.

### **5.1 With the help of "Internet +" and "East-Asian culture +" to drive art economic development**

The development of "Internet +" is increasingly mature, and the development of East-Asian culture in Jiangsu Province also has a certain scale. At present, there are 19 Jiangsu East-Asian culture demonstration parks (key demonstration parks) and 19 enterprise East-Asian culture demonstration bases in Jiangsu Province. The development mode of "East-Asian culture +" is to combine cultural creativity with the Internet with the help of "Internet +" thinking. On the basis of the existing East-Asian culture demonstration parks and bases, efforts should be made to cultivate more cultural enterprises as large as Tongcheng group and tuiou technology, so as to lead the new trend of domestic East-Asian culture development. At the same time, the role of emerging media can be used to further integrate digital cultural creativity and we media, pay attention to the priority development of cultural mobile communication media, and gradually cultivate new projects integrating East-Asian culture and emerging media. Drive the development of "East-Asian culture +" with innovation, integrate 5g, artificial intelligence, big data and other technologies into the development of "East-Asian culture +", endow the East-Asian culture with more high-tech content, thus promoting regional art economic development.

## 5.2 Build East-Asian culture with regional characteristics with the help of regional cultural resources

Jiangsu Province has rich cultural resources such as the famous "Wu Culture", "Jinling culture", "Huaiyang culture" and "Xuhuai culture". Jiangsu Province can build a East-Asian culture with Jiangsu characteristics based on these cultural resources. For example, integrating the regional cultural characteristics into the publicity and creativity of the products, designing the exclusive brand or exclusive packaging with local characteristics, so that people can think of the products in Jiangsu Province for the first time every time they buy or see the products, which can expand the popularity and influence of the products. In addition, the creativity with regional characteristics can attract people's attention and cause emotional resonance, and the infectious creativity can move consumers. Therefore, to a certain extent, building cultural and creative industries with regional characteristics can stimulate people's purchasing desire and promote regional art economic development.

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## Appendix

**Table 1.** Weight of various indicators of East-Asian culture development and art economic development

Level I indicator	Level 2 indicator	Index weight
East-Asian culture Development performance	Regional GDP of cultural and creative industries (100 million yuan)	0.0735
	Operating income of service enterprises above designated scale (100 million yuan)	0.0721
	Per capita expenditure on education, culture and entertainment (yuan)	0.0726
	Proportion of household cultural, educational and entertainment expenditure (%)	0.0748
East-Asian culture Development impetus	Internal expenditure of research and experimental development funds (100 million yuan)	0.0734
	Patent authorization quantity (PCs.)	0.0669
	General public budget expenditure on culture, tourism, sports and media (100 million yuan)	0.0747
	Investment in fixed assets of the tertiary industry (100 million yuan)	0.0746

East-Asian culture Development factors	Number of cultural, art and cultural relics institutions(PCs.)	0.0712
	Expenditure on activities of Art Museum and cultural center (10000 yuan)	0.0522
	Number of employees of art performance groups (person)	0.0740
	Number of art and cultural centers(PCs.)	0.0719
	Number of employees in culture, art and cultural relics (person)	0.0763
	Total expenditure of public library business expenses (10000 yuan)	0.0718
Art economic development Development performance	GDP (100 million yuan)	0.0714
	Per capita GDP (yuan)	0.0713
	Local general public budget revenue (100 million yuan)	0.0735
	Proportion of tertiary industry in GDP (%)	0.0727
Art economic development Development impetus	Total retail sales of consumer goods (100 million yuan)	0.0721
	Total import and export volume (USD 100 million)	0.0694
	Domestic and foreign currency deposits of financial institutions (100 million yuan)	0.0715
	Actual amount of foreign direct investment (USD 10000)	0.0671
Art economic development Development factors	Number of employed persons at the end of the year (10000)	0.0726
	Total wages of on-the-job employees (yuan)	0.0729
	Number of service enterprises above designated scale (unit)	0.0725
	Urban per capita park green area (m <sup>2</sup> )	0.0734
	Number of college students in general higher education (10000)	0.0674
	Energy saving and environmental protection expenditure (100 million yuan)	0.0721

**Table 2.** Coupling evaluation results of East-Asian culture development and art economic development

year	Comprehensive evaluation value of East-Asian culture	Comprehensive evaluation value of art economic development	Coupling degree (C)	Coupling coordination degree (D)
2011	0.1442	0.0459	0.1866	0.1261
2012	0.2446	0.1644	0.3136	0.2482
2013	0.2676	0.2880	0.3724	0.3228
2014	0.3326	0.3728	0.4193	0.3867
2015	0.4111	0.4547	0.4647	0.4507
2016	0.4796	0.5422	0.5045	0.5108
2017	0.5838	0.6214	0.5486	0.5768
2018	0.6621	0.7303	0.5893	0.6436
2019	0.7475	0.8097	0.6234	0.6995
2020	0.8533	0.9383	0.6685	0.7775