

# RESEARCH ON THE INTERACTIVITY OF CHINESE RESIDENTS' CULTURAL CONSUMPTION AND FILM INDUSTRY

Yao-ling OU<sup>1</sup>, Hong-guo SUN<sup>2\*</sup>

<sup>1,2</sup>Department of Mathematics and Finance Hunan University of Humanities Science and Technology  
Loudi , China, \* corresponding author,sunmathematics2007@163.com

## ABSTRACT

Film industry is one of the core strength of culture industry. In recent years, with the development of science and technology and new media, the film industry has stimulated the consumption of residents' culture with innovative content, technology and diversified cultural communication channels. For cultural consumption and the inherent interactive relationship between the film industry, this article selects the related data from 2006 years to 2016 years, using Eviews to establish regression model. Firstly study the development of the film industry's impact on residents' culture consumption. Secondly, it demonstrates the promotion of cultural consumption to the film industry economy. The final result shows that there exists mutual influence and interaction between cultural consumption and film industry. Under the interaction of the two, consumers should maintain rational consumption and enhance their own appreciation of film culture in order to avoid impulsive consumption and conspicuous consumption. At the same time, film market should strengthen management and establish a screening mechanism in order to prevent the terrible quality films and the excessive commercial films to consume audience.

*Keywords: film industry, culture consumption, new media linear regression model*

## 1. QUOTE

With the development of the national economy and the decline of the engel coefficient, cultural and recreational consumption is no longer a luxury of life, and consumers have become more open-minded in the concept of cultural consumption. The pursuit of cultural entertainment has become one of the indispensable choices for consumers. Film industry as one of the core of the cultural industry, with swift and violent development speed in recent years, diversified subject types and stable consumer structure, influence on cultural industry gradually under the lead of the new media, thus affecting resident's cultural consumption. In 2017, with the release of popular films such as "Battle Wolf 2" and "The Ex-file: The Return of the Exes", they have raised a craze of films in a short time." Battle Wolf 2" high box office in 5.631 billion shocked the nation, so that people have to re-examine the film industry's influence on national life, and the film industry's promotion of Chinese cultural industry and consumer culture consumption.

## 2. THE DEVELOPMENT OF CHINESE FILM INDUSTRY.

### 2.1 The economic development of China's film industry.

Hua Zhenying and Liu Zongyuan (2013) describes the film as a kind of cultural industry, shoulder the responsibility of the more important, it will be some is not only a commercial operating system, more important is a good interpretation of the mission of cultural inheritance. Since its birth, the film industry has had a certain "artistry" and "commercialization", and the film is a commercialized form of artistic cultural content in the media. As a cultural industry, film adheres to the spread of culture and art, and also insists on the commercial operation system.

In recent years, with the development of network technology and the emergence of new media, the film economy has been further developed:

(1) The number of cinemas and number of times films released in 2011-2016:

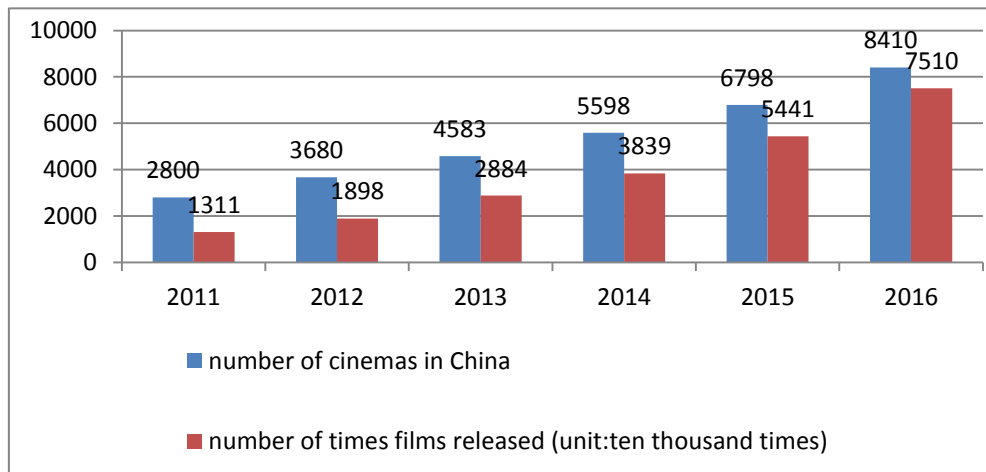


Figure 1 the number of cinemas and number of times films released in 2011-2016

(2) The number of films released in 2011-2016:

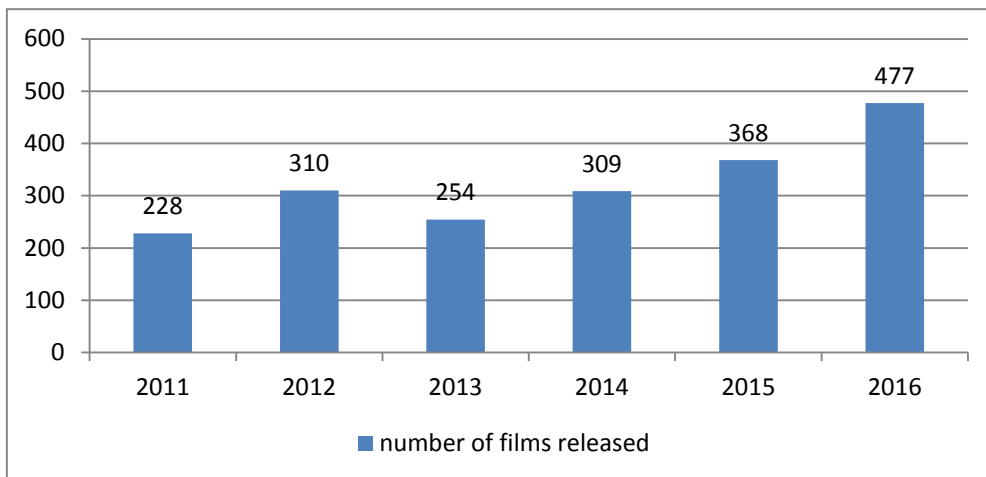


Figure 2 the number of films released in 2011-2016

Note: FIG. 1- FIG. 2 all data is from the China Competition Information (www.askci.com).

(3) National films box office statistics in 2011-2016:

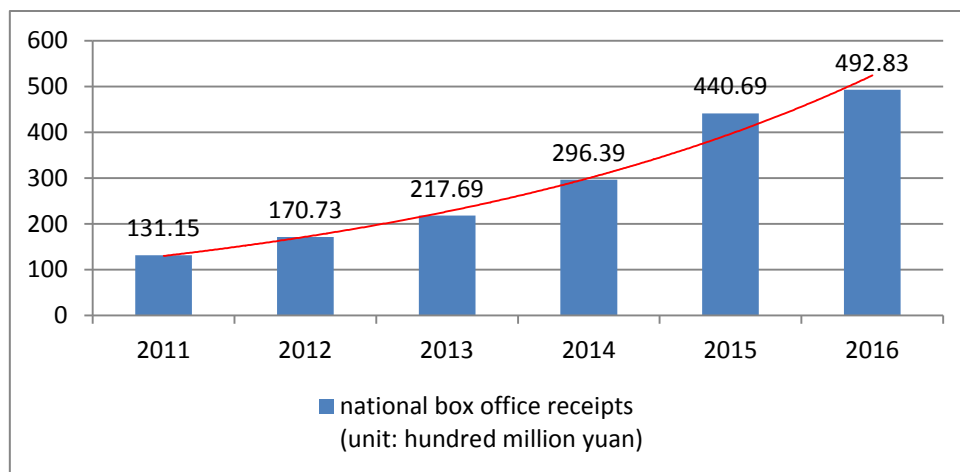


Figure 3 national films box office statistics in 2011-2016

Note: figure 3 all data is from the China Statistical Yearbook.

According to the above figure, between 2011 and 2016, the number of cinemas in China and the number of films being released are increasing, indicating that the development of Chinese film industry is booming. With the development of The Times and the demand of consumer culture and entertainment, more and more venues and resources are provided to consumers, thus stimulating consumer movie consumption. Meanwhile, consumer culture and entertainment demand and film consumption also influence the film industry's goal of better environment and more abundant resources.

In figure 3, we can see that the box office revenue continued to rise from 2011 to 2016, and the transition to 20 billion yuan was completed in 2013. In 2015, China's box office exceeded 40 billion yuan, up 48.7% year on year, which is the fastest growing year for China's film industry. Currently, Chinese films have become the second largest movie market in the world, and they are narrowing the gap with the North American film market.

## 2.2 The influence of the film industry.

Zhang Chuanmin (2012) believes that to be influential, attractive and highly recognized, a lot of cultural products need to be exported. As a cultural product, the film adheres to the obligation of spreading culture and has corresponding positive externalities.

Firstly, the film industry promotes the development of other related industries. The movie is the media of the star industry, advertising, music industry and the game industry. To a large extent, it can promote the sales of related products by driving influence of the star industry, advertising industry, music industry and the game industry. As a kind of publicity carrier, the film can promote the development of China's tertiary industry by promoting the economic development of relevant filming locations, film and TV cities, tourist attractions and theme parks. Electronic products, as the conveyor of the film industry, are driven by the reaction force. For this reason, the film industry can also promote the sales of computer and mobile related electronic products.

Secondly, the film industry promotes China's international recognition. The export of Chinese film, not only can increase the film overseas sales, also can promote China's international recognition, carry forward the Chinese national culture, so as to attract more foreign friends to buy Chinese products, to China's tourism.

## 3. THE DEVELOPMENT OF FILM INDUSTRY ENHANCES THE CONSUMPTION OF RESIDENTS' CULTURE

Film is a kind of cultural commodity. As a commodity, to realize its value, it must satisfy consumer demand and realize economic benefits. In order to realize economic benefits, the film industry needs constant innovation and reform to meet the needs of consumer culture and entertainment, thus stimulating consumer culture consumption. The innovation development of the film industry influences the consumption of residents' film culture, which include the following aspects:

Firstly, development and innovation of film technology. Before the advent of IMAX-3D cinematography, Chinese films were dominated by 2D films. It wasn't until 2010 that the release of American 3D blockbuster "Avatar" in Chinese theaters really opened the transition between Chinese 2D films and 3D films. The movie "Avatar" has created a huge 3D movie-watching craze in China due to its novel IMAX-3D technology. In 2010, "Avatar" was the highest-grossing film of the year in China, with 1.32 billion yuan, making it the market for 3D movies. During the next few years China gradually produced more and more 3D movies, like "Flying Swords of Dragon Gate" and "Monster Hunt" both have achieved good box office record. The 2018 3D film "Operation Red Sea" shocked the nation with a box office total of 3.647 billion yuan.

Secondly, reform and innovation of film industry media. New media is the media form emerging under the new technology support system, such as mobile TV, network, digital film, touch media, etc. Compared with newspapers, magazines, radio and television, the new media is called "fifth media". With the development of network technology,

new media has been developed. The development of new media has broadened the channel of cultural communication for the film industry, and people's access to films has increased, which has stimulated the consumption of film culture.

#### 4. THE CONSUMER CULTURE CONSUMPTION DRIVES THE FILM INDUSTRY ECONOMY DEVELOPMENT.

According to the survey, the statistical results of residents' consumption level from 2006 to 2016 are as follows:

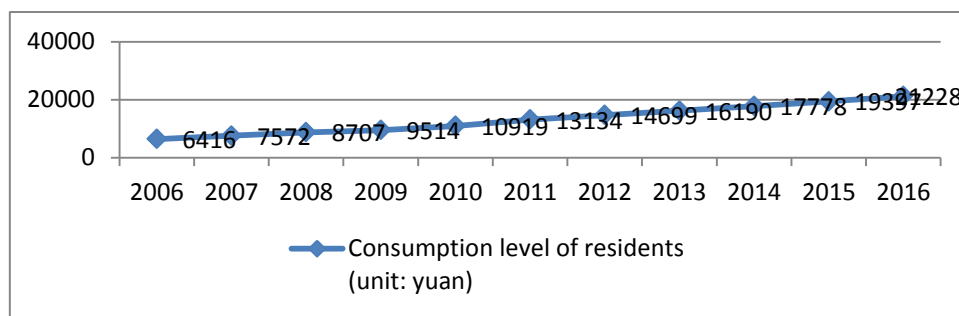


Figure 4 residents' consumption level in 2006-2016

Note: figure 4 all data is from the China Statistical Yearbook.

According to the data survey, the consumption level of residents increased year by year, from 6,416 yuan in 2006 to 21,228 yuan in 2016, and the consumption level of residents has more than tripled in these 11 years. The consumption level of residents drives people to pursue high quality of life, so the consumption concept is changed. Entertainment and leisure consumption become more frequent, which further promotes the consumption of film culture and promotes the economic development of the film industry. Li Huailiang and Zhang Nan (2017) said that cultural consumption is the fundamental driver of the film industry and the main factor that determines whether the value of the film and its additional products can be realized.

#### 5. AN EMPIRICAL STUDY ON THE INTERACTIVITY OF CULTURAL CONSUMPTION AND FILM INDUSTRY.

##### 5.1 Setting and research methods of the model.

###### (1) Selection of variables.

There are many sources of revenue in film industry, and because of the film industry data are difficult to obtain, so in this paper, the model will use the box office as a representative of the film industry's revenue. And because of the official cultural consumption expenditure per capita data is not comprehensive, so this article will use urban residents' per capita cultural consumption expenditure and rural residents' per capita cultural consumption expenditure as per capita cultural consumption respect, taking them as the research object. In model 1, the influence of national film box office revenue on the per capita cultural consumption expenditure of urban and rural residents is studied. In model 2, the influence of the per capita cultural consumption of urban and rural residents on national film box office revenue is studied.

In the model, the explanatory variable is the cause of the change, and the interpreted variable is the result of the change. In model 1, we use national film box office revenue ( $y$ ) as the explanatory variable, urban residents' per capita cultural consumption expenditure ( $x_2$ ) and rural residents' per capita cultural consumption expenditure ( $x_3$ ) as the interpreted variables respectively, to study the influence of film industry on Chinese residents culture consumption. In

model 2, we will use urban residents' per capita cultural consumption expenditure ( $x_2$ ) and rural residents' per capita cultural consumption expenditure ( $x_3$ ) as explanatory variable respectively, the national film box office revenue ( $y$ ) as the interpreted variable, to study the influence of Chinese residents culture consumption on film industry.

**(2) Data selection.**

This article selects 2006-2016 national film box office revenue ( $y$ ), urban residents' per capita cultural consumption expenditure ( $x_2$ ) and rural residents' per capita cultural consumption expenditure ( $x_3$ ); all the data is derived from the China Statistical Yearbook. Due to the limitations of data selection, the data used in 2011 and 2012 are the cash consumption expenditures of urban and rural per capita culture.

Through linear regression analysis, it obtained respectively the  $x_2$  and  $y$ , the  $x_3$  and  $y$ , the  $y$  and  $x_2$  and  $x_3$  linear relationship, according to explanatory variable and interpreted variables between the quantitative regularity to establish regression model, and hypothesis testing.

**(3) Model setting in model 1.**

The model setting of national box office revenue and per capita cultural consumption of urban residents.

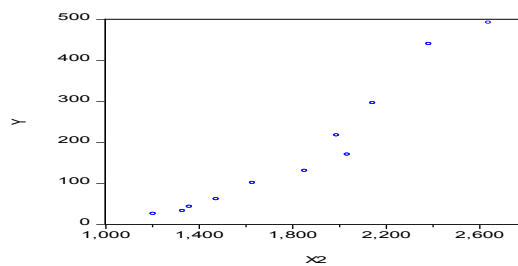


Figure 5 scatter plot of national film box office receipts and per capita cultural consumption of urban residents.

In order to facilitate the analysis of  $x_2$  and  $y$  intuitively, the scatter plot of  $x_2$  and  $y$  is made. From the scatter plot, it can be seen that the per capita cultural consumption expenditure of urban residents increases with the increase of domestic film revenue, which is similar to linear relationship, and there is a correlation between them.

Based on the scattered plots of the national film box office revenue and the per capita cultural consumption of urban residents, it is analyzed that the per capita cultural consumption of urban residents has a quantitative regularity with the change of the box office revenue. The following linear regression model can be considered through this regularity:

$$x_{2t} = \sigma_1 + \sigma_2 y_t + \mu_t \quad (1)$$

$\sigma_2$ : the influence of national film box office revenue ( $y$ ) on the per capita cultural consumption expenditure ( $x_2$ ) of urban residents.

**(4) Film box office revenue and per capita cultural consumption model of rural residents.**

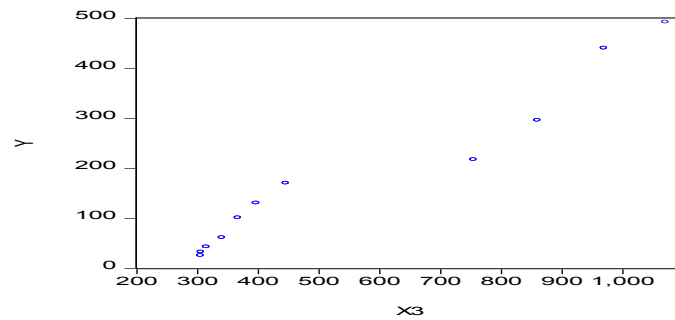


Figure 6 scatter plot of national film box office and per capita cultural consumption of rural residents.

In order to facilitate the analysis of  $x_3$  and  $y$  intuitively, the scatter plot of  $x_3$  and  $y$  is made. From the scatter plot, it can be seen that the per capita cultural consumption expenditure of rural residents increases with the increase of domestic film revenue, which is similar to linear relationship, and there is a correlation between them.

Based on the scattered plots of the national film box office revenue and the per capita cultural consumption of rural residents, it is analyzed that the per capita cultural consumption of rural residents has a quantitative regularity with the change of the box office revenue. The following linear regression model can be considered through this regularity:

$$x_{3t} = \theta_1 + \theta_2 y_t + \mu_t \quad (2)$$

$\theta_2$ : the influence of national film box office revenue ( $y$ ) on the per capita cultural consumption expenditure ( $x_3$ ) of rural residents.

**(5) Model setting in model 2.**

Urban residents per capita cultural consumption, rural per capita cultural consumption and national film revenue model setting.

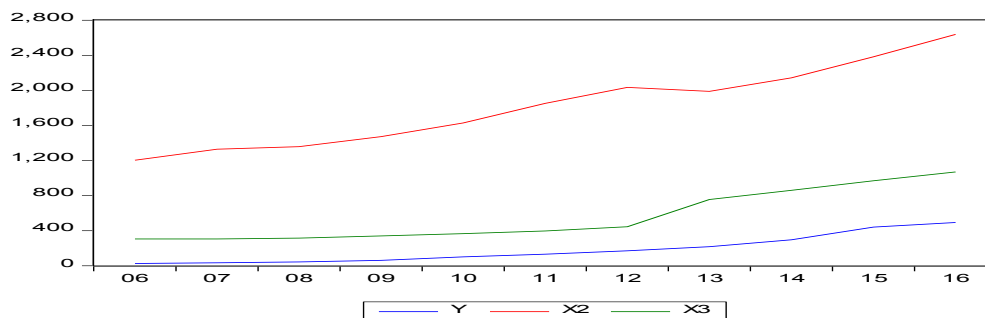


Figure 7 the data graph of the national film box office revenue and urban and rural per capita cultural consumption expenditure.

By figure we can see, national film box office revenue ( $y$ ), per capita cultural consumer expenditure of urban residents ( $x_2$ ), and per capita cultural consumption expenditure of rural residents ( $x_3$ ) in the same direction, the changes may have a certain correlation between each other, exploring to set the model for the linear regression model form:

$$y_t = \beta_1 + \beta_2 x_{2t} + \beta_3 x_{3t} + \mu_t \quad (3)$$

$\beta_2$ : the influence of the per capita cultural consumption ( $x_2$ ) of urban residents on national film box office revenue ( $y$ ).  $\beta_3$ : the influence of the per capita cultural consumption ( $x_3$ ) of rural residents on national film box office revenue

(y).

**(6) Parameter estimation.**

Table 1 estimation parameter

	Y	X2	X3
C	-217.9005 (-5.0806)	1320.404 (20.8034)	235.3517 (6.9343)
Y		2.7293 (10.3442)	1.7555 (12.4422)
X2	0.1527 (3.1099)		
X3	0.3181 (4.1176)		

Note :() represents t statistic value.

Table 1 shows that the variable is significant to the dependent variable .In the first equation, the R-squared is high, which shows that all the goodness of fit passed the test, and the models fitting effect are good.

As can be seen from table 1, firstly,the model estimation results in the first equation show that the national film box office revenue increases by 100 million yuan, and the per capita cultural consumption expenditure of urban residents increases by 2.7293 yuan. This is consistent with theoretical analysis and empirical judgment. The model estimation results in the second equation show that the national film box office revenue increases by 100 million yuan, the per capita cultural consumption expenditure of rural residents increases by 1.7555 yuan. This is consistent with theoretical analysis and empirical judgment.

Secondly,the model estimation results in the third equation show that the per capita cultural consumption expenditure of urban residents increased by 1 yuan, and the national box office film revenue increased by 0.1527 hundred million yuan; per capita cultural consumption expenditure of rural residents increased by 1 yuan, and the national film box office revenue increased by 0.3181 hundred million yuan. This is consistent with the theoretical analysis and empirical judgment.

The development of the film industry promotes the consumption expenditure of the residents. Similarly, cultural consumption influences the economic development of the film industry. The empirical analysis is consistent with the analysis.

**6. CONCLUSIONS**

In this era dominated by new media, the film is supported by new media, expanding the channel of publicity for films, expanding the scope of film cultural diffusion, and increasing the means and opportunities for consumers to watch movies. Thanks to the development of network technology and the research and development of emerging technologies, the innovation and development of the film has attracted a large number of consumers to consume, thus promoting the consumption of residents' culture.

Residents' culture consumption and influence the film industry development at the same time, residents' culture consumption under the influence on the film industry: firstly, consumers film culture consumption improves the film industry's revenue, promote the economic development. Secondly, the increase of consumer film culture consumption is continuously promoting the improvement of film production and viewing environment. On the other hand, because of the increasing consumption of culture, film consumption is only a part of cultural consumption, which makes the film industry face increasing pressure of development. In order to increase the proportion of film consumption in cultural consumption, it is necessary to improve the quality of films and improve their competitiveness so as to improve the film industry's revenue.



In short , the film industry itself technology innovation and the growth of influence will promote the cultural consumption, and consumer's cultural consumption not only can spur the film industry development, but also will pull the film industry economic revenue. There exists mutual promotion and interaction between cultural consumption and film industry. In this interactive relationship, consumers should maintain rational consumption, and the film industry should aim to improve film quality and be responsible to consumers.

## 7. SUGGESTION

From the above model, it can be seen that there is inherent interactivity between cultural consumption and film industry. In this interactive context, there are often the following related problems.

Firstly,at present, more and more films are produced and the film quality is uneven. The quality of films is gradually worrying. More and more commercial movies with terrible quality use the stars to promote the hype, making audience overconsumed. And some of the best quality films that have been built with human resources have turned out to be a cold movie. Xu Ping (2012) mentioned in her article, the film belongs to a typical high risk and high yield of the product; if there is no audience to consume, the cost of film shooting can only put in the warehouse, no value. At the same time, as foreign films are shown in large Numbers in Chinese theaters, the proportion of imported films in the box office has gradually increased. The introduction of foreign films has led to the intensification of competition in the Chinese film market, which has exerted a biggish impact on the economy of the domestic film industry and hindered the economic development of the Chinese film industry to some extent.

Secondly,most movie consumers tend to be younger, and it is easy to generate impulsive consumption under the lure of movie star effect and fashion elements. On the other hand, young people tend to have a higher sensitivity to new things, which often lead to vanity and comparison psychology, leading to conspicuous consumption.

At last,For consumers, consumers should keep rational consumption and should not pander to the masses to compare blindly, resulting in unnecessary impulsive consumption. At the same time, it is indispensable to improve the consumer's own film culture appreciation ability.

For the film industry, the following countermeasures can be adopted for its related problems:

- (1) Strengthen management and formulate relevant rules and listing standards.
- (2) Establish a screening mechanism to eliminate the bad films that existed before the listing, and improve the quality of films in order to prevent unnecessary consumption of consumers.
- (3) To promote the balanced development of the film market with corresponding publicity and support for potential films.
- (4) Expand the international market of domestic films and raise overseas sales revenue.

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