A Study on the Promoting Effect of County Cultural Industry Development on Economic Growth in Guizhou Province

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Abstract. To research the mechanism of cultural industry for promoting the regional economic growth, the two measure indicators are determined. Combined with the actual situation of Guizhou, and using SPSS statistical software fitting regression. The paper carries out empirical research on the impact of county culture industry on the economic growth of Guizhou. The result shows that general public budget expenditure and cultural industry per capita for regional cultural industry play greater role in promoting economic growth. Finally, the suggestions are made about how to speed up the cultural industry and economic growth.

Introduction

As a new economic growth point of the third industry, cultural industry has already aroused great concern from society. In the sixth Plenary Session of the 17th CPC Central Committee, the Communist Party of China adopted the decision of the CPC Central Committee on deepening the reform of the cultural system and promoting the great development of socialist culture. In accordance with the requirements of comprehensive coordination and sustainable to speed up the development of cultural industry. Making cultural industry to be a pillar industry of the national economy. In 2015 the national culture and related industrial added value of RMB 2.7235 trillion, compared with the previous year increased by 11%, and nominal growth rate of 4.6% higher than the same period GDP, which accounted for 3.97% of GDP and compared with the previous year increased by 0.16%. Culture and related industries is a highlight of the current economic growth, which is playing a more and more important role in promoting economic development and optimizing the economic structure. Because of the fusion of multi ethnic groups and different ethnic cultures, Guizhou has created rich and colorful national culture. With its unique regional characteristics, Guizhou is a natural museum of national folk arts and crafts and cultural products. Relying on the rich national cultural resources of Guizhou, Guizhou cultural industry has big potential and extensive market foreground. In recent years, with the support of national policy measures, Guizhou has built top ten cultural industrial park and top ten cultural industry base. Statistically, comprehensive output value of Guizhou
national folk arts and crafts and cultural products in 2014 has exceeded 50 billion yuan and the number of enterprises have more than 2400 households, which have driven employment of nearly 2 million people. In the 13th five-year period, Guizhou province continue to expand 44 major categories of 4 key projects. Through the construction of a sound development system and the development of the cultural industry to change the current situation of Guizhou cultural industry “small scattered weak” situation. These measures will guarantee the future development of cultural industry in Changchun. However, Guiyang as the underdeveloped areas, the development of cultural industry is still in the lower level because of the many factors of the audience. Therefore, it is of great significance to the development of cultural industry in Guizhou and the local economic growth to clarify the development of the county cultural industry in Guizhou province for the promotion of regional economic growth in Guizhou.

Many scholars have made a special study on whether the development of cultural industry can promote economic growth and how to affect the economy. In a study by Jing Wang (2008)[1], the author used the provincial panel data to establish a multiple linear regression model of economic foundation, infrastructure and government support to the cultural industry’s economic contribution. The results show that cultural consumption and cultural investment have positive impact on the economic contribution of cultural industries in different parts of the country. Xiangyu Jin and Peng Wu (2009)[2] calculated that China’s provincial regional cultural capital stock levels of cross section data in 2005. Using the Cobb-Douglas function of production, the regression analysis proved that the cultural capital has positive influence on the development of regional economy. Lixin Lu (2009)[3] based on the data from 1990 to 2006, using co-integration analysis method analysis of the impact of China’s cultural industry investment on China’s economic growth; Lin Wang, Jiang Gu (2009)[4] used the statistics data of the 14 city of the Yangtze River Delta region to analyze the relationship between economic growth and development of the cultural industry, and analyzed the mechanism of the cultural industry on economic growth. It is concluded that the development of cultural industry has a significant role in promoting economic growth in the Yangtze River Delta region. Wangchun Cai (2010)[5] based on input output model, using the method of correlation analysis points out that culture industry has a positive impact on economic growth through the two dimensions of output value and structure effect. Shiqing Chen, Jianjian Li, Fang Gong (2010)[6] based on statistical data from 1991 to 2008 in Hunan Province, the empirical results show that the cultural industry to a certain extent contributed to the economic growth of Hunan Province. Renshou Zhang, Xiaojun Huang, Peng Wang (2011)[7] based on the input output table in 2007 in Guangdong Province, the empirical results show that the cultural industry has led to economic growth in Guangdong. But it is not the key to the economic development of Guangdong. Chengzhong Wu, Zhen Li (2013)[8] taking the Chang Zhu Tan city circle as the sample. The study found that the development of core cultural industries to promote the economic growth in Hunan. Weidong Shi, Xiaoxing Wei (2013)[9] constructed the PIS model of cultural industry to economic growth and analyzed the impact of cultural industries on economic growth path. The results show that the cultural industry can not only promote economic growth, but also affect the economic growth through the accumulation of human capital and technological innovation. Chuanzhong Du (2014)[10] analyzed the impact of culture on economic growth from the perspective of regional. The author thought that the cultural industry development of the effect on economic growth show obvious regional characteristics. Mainly reflected in the output value and the factors of production integration,
improve investment efficiency and talent structure optimization which caused by culture
industry development.

Above all, most of the empirical study results show that the development of cultural industry
has a significant role in promoting economic growth. For this reason, this paper takes GDP as
the dependent variable as a measure of regional economic growth, the cultural industry in per
capita income as variables to reflect the level of development of cultural industry, the total retail
sales of social consumer goods, fixed assets investment and the general public budget
expenditures as control variables. On the basis of the above multiple linear regression model is
established. This paper selects the statistical data of 88 districts and counties of Guizhou
Province in 2014, and empirically tests the promotion effect of Guizhou county cultural
industry development on the regional economic growth in Guizhou.

The Construction of Regression Model

GDP is the core indicator of national economic accounting, and it is also an important
indicator to measure the overall economic situation of a country or region. In general, GDP will
be affected by consumption, investment and government spending, known as the three carriages
driving economic growth. Total retail sales of social consumer goods, namely, the final
consumption expenditure is the fundamental driving force of economic growth in a region.
Investment expenditure is an important part of the fixed assets investment. The general public
budget expenditure is the expenditure of the public finance, which is spending arranged by the
government to provide public services to the market. In recent years, the cultural industry has
developed rapidly. The per capita income of cultural industry has become one of the important
factors that affect economic growth.

Therefore, based on GDP = C + I + G, this paper takes the GDP as the dependent variable,
takes the cultural industry per capita income as the independent variable, and takes total retail
sales of social consumer goods, fixed assets investment and general public budget expenditure
as control variables. Then a multiple linear regression model was constructed:

\[
\ln y = -12.586 + 0.263 \ln x_1 + 0.267 \ln x_2 + 0.641 \ln x_3 + 0.348 \ln x_4
\]

(1)

\(y\) represents Gross Regional Product;
\(x_1\) represents total retail sales of social consumer goods (million yuan);
\(x_2\) represents fixed assets investment (million yuan);
\(x_3\) represents general public budget expenditure (million yuan);
\(x_4\) represents the cultural industry per capita income (yuan);
\(\varepsilon\) represents random disturbance term;
\(\alpha_0\) represents the constant term of the regression model;
\(\alpha_1, \alpha_2, ..., \alpha_4\) represents the coefficient of each explanatory variable.
The Construction of Regression Model

Resource and Process of Data

In order to study the influence of county cultural industry development on economic growth in Guizhou Province. In this paper, based on the relevant research results at home and abroad, combined with the availability of data, the paper selected y as a measure of regional economic growth, selected total retail sales of social consumer goods \( x_1 \), fixed assets investment \( x_2 \) and the general public budget expenditure \( x_3 \) as the control variable, and selected the per capita income of the cultural industry \( x_4 \) as a reflection of the cultural industry development level of variables. Sample range is set to 2014. Sample data from <2015 Guizhou statistical yearbook> and Guizhou provincial CPPCC actual research data. At the same time, in order to reduce the variance of multiple linear regression, the elastic relationship between variables is obtained, and all the raw data are logarithmic.

Empirical Results and Analysis

In this paper, SPSS20.0 software is used to analyze the original data. In order to eliminate the presence of heteroscedasticity, and get the elastic relationship between the variables. The “GDP”, “total retail sales of social consumer goods”, “fixed asset investment”, “the general public budget expenditure” and “per capita income” cultural industries were logarithmic transformation. The transformed variables are represented by \( \ln(y), \ln(x_1), \ln(x_2), \ln(x_3), \ln(x_4) \). In order to more intuitive analysis of the various related indicators, in the “Statistics” in addition to the choice of the system itself, but also choose “covariance matrix” and “a total of linear diagnosis” two options. The regression results are as follows:

Table 1. Model Summary.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.974a</td>
<td>.948</td>
<td>.945</td>
<td>.18692</td>
</tr>
</tbody>
</table>

From Table 1 we can see that the R Square is 0.948 very close to 1, which shows that the model is very high degree of fit, and can be a test of goodness of fit. The model is suitable for the interpretation of the current problem.

Table 2. Anova.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>52.717</td>
<td>4</td>
<td>13.179</td>
<td>377.198</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>2.900</td>
<td>83</td>
<td>.035</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>55.616</td>
<td>87</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 2 we can see that the F of this regression model is equal to 377.198, and the p value of F value which is greater than or equal to 377.198 is almost 0. Thus refused to assume that all variables at the same time has no effect on the local GDP.
Table 3. Coefficients.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std.Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(constant)</td>
<td>-12.586</td>
<td>.953</td>
<td>-13.200</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>ln(x_1)</td>
<td>.263</td>
<td>.043</td>
<td>.320</td>
<td>6.107</td>
<td>.000</td>
</tr>
<tr>
<td>ln(x_2)</td>
<td>.267</td>
<td>.080</td>
<td>.266</td>
<td>3.336</td>
<td>.001</td>
</tr>
<tr>
<td>ln(x_3)</td>
<td>.614</td>
<td>.119</td>
<td>.321</td>
<td>5.168</td>
<td>.000</td>
</tr>
<tr>
<td>ln(x_4)</td>
<td>.348</td>
<td>.082</td>
<td>.193</td>
<td>4.256</td>
<td>.000</td>
</tr>
</tbody>
</table>

From Table 3 we can see that \(\ln x_1\), \(\ln x_3\), \(\ln x_4\), \(\ln x_4\) have passed the test of significance, indicating “total retail sales of social consumer goods”, “investment in fixed assets”, “general public spending” and “culture industry per capita income” have a significant effect on GDP. Moreover, the tolerance of \(\ln x_1\), \(\ln x_2\), \(\ln x_3\), \(\ln x_4\) are more than 0.1, and the VIF of \(\ln x_1\), \(\ln x_3\), \(\ln x_4\) are less than 10, passed a collinearity diagnostics. The tolerance and VIF value of \(\ln x_2\) is close to 0.1 and 10, which is basically passed a collinearity diagnostics.

Therefore, the fitting regression model is as follows:

\[
\ln y = -12.586 + 0.263\ln x_1 + 0.267\ln x_2 + 0.641\ln x_3 + 0.348\ln x_4
\]

(2)

\[
\begin{align*}
\text{t} & \quad -13.200 \quad 6.107 \quad 3.336 \quad 5.168 \quad 4.256 \\
\text{P} & \quad 0.000 \quad 0.000 \quad 0.001 \quad 0.000 \quad 0.000
\end{align*}
\]

The conclusion shows that the total retail sales of social consumer goods increased by 1 percentage points, and the gross domestic product increased by about 0.263 percentage points. The fixed asset investment increased by 1 percentage points, and the gross domestic product increased by about 0.641 percentage points. And the per capita income of cultural industry increased by 1 percentage points, the gross domestic product increased by about 0.348 percentage points.

It can be seen that the gross domestic product is very sensitive to the changes in the general public budget expenditure, and the second is the change of the cultural industry per capita income, these two factors will have a greater impact on the GDP. The total retail sales of social consumer goods and investment in fixed assets while also have an impact on GDP, but the impact is relatively small. The above results showed that the development of cultural industries have a significant effect on the economic growth of Guizhou.

Summary

The innovation of this paper is to select the statistical data of 88 counties in Guizhou Province in 2014. The data were analyzed by SPSS statistical software. From the regression analysis we can find that 4 indicators all have a significant impact on GDP, and the general public budget expenditure and per capita income of the culture industry two indicators have a significant role in promoting regional economic growth.
Through regression analysis we can draw the conclusion that Guizhou province should improve the current local government public expenditure ratio, while raising the size of government spending, should pay attention to the structural adjustment. Secondly, it should focus on enhancing the per capita income of the cultural industry, promoting the diversification of the consumption concept of the county culture, and put forward the supporting policies to encourage the cultural consumption, and promote the economic growth in Guizhou. Although compared with the general public budget expenditure, Guizhou county cultural industry development has less effect on Guizhou economic growth. However, Guizhou as a less developed area of the economy, also shows that the cultural industry has a larger development space, which may become an important indicator of the future impact of the regional economic growth in Guizhou.

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References