Econometric Analysis of Development of Real Estate Industry in Zhanjiang

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Abstract. In order to promote the development of real estate in Zhanjiang City, this essay uses the method of econometrics to establish the regression model with the related indicators of real estate development in Zhanjiang from 2000 to 2013 as the econometric analysis. The results show that the total real estate output value of Zhanjiang City is closely related to capital investment and labor input in the real estate industry. Therefore, it can be concluded that in order to promote sustainable development of real estate industry in Zhanjiang, it is necessary to increase capital investment and labor input in the real estate industry.

Introduction

The real estate industry has the characteristics of large industrial value, high correlation and strong industrial driving ability, and healthy and stable development. The real estate industry is of great significance for maintaining and promoting the overall steady economic growth under the current economic background in our country. The urban real estate is not only closely related to people's livelihood, but also closely linked with the trend of economic development. It is one of the important pillar industries in the national economy. From the historical experience of national economic development, we can see that the development of the real estate industry will have a lasting impact on economic development and spread to many industries, including the steel industry, building materials industry, construction industry, transportation industry, service industry, financial industry, chemical industrial, mechanical and electrical industry, communications, commerce, urban landscape, shopping and tourism, work and living environment and standards of social civilization, are closely related with the real estate industry. The real estate industry's impact on the national economy is crucial.

Zhanjiang is in the process of accelerating urbanization. At this stage, the population will quickly concentrate on urban areas and form a large demand for urban real estate. Therefore, it is necessary to analyze the influencing factors of real estate development in Zhanjiang.

Model Setting and Data Description

Table 1 shows real estate development effectiveness indicator data in Zhanjiang from 2000 to 2013. The data is from Zhanjiang City Statistical Yearbook and Zhanjiang City Government portal.
Table 1  Table of real estate development effectiveness indicator data in Zhanjiang

<table>
<thead>
<tr>
<th>Year</th>
<th>Total output of real estate $Y$ (million yuan)</th>
<th>Capital investment in real estate industry $K$ (million yuan)</th>
<th>Labor input of real estate industry $L$</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2762.24</td>
<td>785.05</td>
<td>3078</td>
</tr>
<tr>
<td>2001</td>
<td>4735.59</td>
<td>829.91</td>
<td>3120</td>
</tr>
<tr>
<td>2002</td>
<td>5312.45</td>
<td>1066.91</td>
<td>3295</td>
</tr>
<tr>
<td>2003</td>
<td>5934.53</td>
<td>1145.67</td>
<td>3275</td>
</tr>
<tr>
<td>2004</td>
<td>8898.71</td>
<td>1566.62</td>
<td>5670</td>
</tr>
<tr>
<td>2005</td>
<td>8889.24</td>
<td>2078.06</td>
<td>7105</td>
</tr>
<tr>
<td>2006</td>
<td>10521.04</td>
<td>2394.46</td>
<td>6546</td>
</tr>
<tr>
<td>2007</td>
<td>12509.93</td>
<td>3400.17</td>
<td>7863</td>
</tr>
<tr>
<td>2008</td>
<td>14807.27</td>
<td>3675.42</td>
<td>9684</td>
</tr>
<tr>
<td>2009</td>
<td>17786.64</td>
<td>4727.28</td>
<td>10305</td>
</tr>
<tr>
<td>2010</td>
<td>21089.69</td>
<td>7504.25</td>
<td>11853</td>
</tr>
<tr>
<td>2011</td>
<td>26384.87</td>
<td>10745.97</td>
<td>11990</td>
</tr>
<tr>
<td>2012</td>
<td>31110.97</td>
<td>11496.31</td>
<td>12356</td>
</tr>
<tr>
<td>2013</td>
<td>33934.04</td>
<td>15478.46</td>
<td>13395</td>
</tr>
</tbody>
</table>

The real estate investment in real estate capital $K$ and real estate labor input $L$ of Zhanjiang City are the vertical axis, and Zhanjiang City real estate output value $Y$ is abscissa. Make scatter plot, which is as shown in Figure 1.

![Figure 1](image_url)  

Figure 1  Scatter plot of total value of output $Y$, capital investment $K$, and labor investment $L$ of Zhanjiang

As can be seen from the scatter plot, Zhanjiang City real estate total value of output $Y$, capital investment $K$, real estate labor input $L$ have a linear relationship. According to the scatter plot, build a regression model:

$$Y_t = \beta_0 + \beta_1 K_t + \beta_2 L_t + \mu_t \quad t = 1, 2, \cdots, 14$$
Estimation of Model Parameters

Using EVIEWS software and the method of OLS to estimate the parameter of the model, the results are shown in Figure 2.

![Figure 2 The regression results of real estate industry output and real estate industry capital investment and labor force in Zhanjiang](image)

The regression equation is as follows:

$$\hat{Y}_t = 314.9421 + 1.402363K_t + 0.971904L_t \quad t = 1, 2, \cdots, 14$$

Conclusion

When the other conditions remain unchanged, when the capital investment of real estate in Zhanjiang $K$ is increased by 1, the total value of output of real estate industry in Zhanjiang is increased by 1.402. When the other conditions are unchanged, when the labor input of real estate industry $L$ is increased by 1, the total output of real estate in Zhanjiang will be increased by 0.972.

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