Relationship Between Producer Services Developing Level and Urban Hierarchy
—A Case Study of Zhujiang River Delta

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Abstract: As the Central Place Theory indicates, the centricity of a central city can influence the extension of its service. Since the service industry in the theory is mostly consumer services, it is worth studying the relationship between the producer services and the centricity of the city in the service society with producer services becoming a more important part of the service industry. The paper takes the case of the Zhujiang (Pearl) River Delta (PRD), a developed region in China, to study the relationship between the developing level of producer services and the urban hierarchy. Based on the analysis about the spatial difference of the producer services in the nine cities of the PRD, and the division of the nine cities according to some economic indices, it is shown that there is a correlation between the developing level of producer services and the urban hierarchy. Furthermore, two deductions about the future status of the producer services in the city and the location of the producer services in a large region can be made from this correlation between the developing level of producer services and the urban hierarchy.

Keywords: producer services; urban hierarchy; correlativity; Zhujiang (Pearl) River Delta (PRD)

1 Introduction

As Christaller put forward in the Central Place Theory in the 1930s, the hierarchy of central cities was mainly divided by the extent to which they provided goods and service to the hinterland, and the centricity would affect the service extension directly—the higher the centricity, the larger the service area (Zhang, 2000; Zhou et al., 2001) . This means that the developing level of the service industry correlates closely with the centricity of the city. However, the service industry mentioned in the Central Place Theory mainly referred to consumer services. Since then the producer services, a part of the service industry system, have played a larger and larger role in the national economies of Western countries and become the part impacting the regional development most deeply, having started their rapid growth in the 1970s and continuing on until today (Coffey and Polese, 1989). It thus becomes important to study the relation between the development of producer services and the centricity of the city in this new service economy stage, and it will also be useful for advancing the Central Place Theory under the new background.

The higher the developed level of the producer services, the stronger the service function of the city that the producer services belong to, which also means the stronger the centricity of the city. Therefore, studying the relation between producer services and the hierarchy of the city that they situated in, will help to analyze the orientation of producer services in varied hierarchical city, and provide suggestions for the location of the producer services within the region. This article studied the relation between the producer services and the hierarchy of the cities in the Zhujiang (Pearl) River Delta (PRD), in which they situated, then deduced two implications about the location and development of producer services in China.
According to the division of producer services in the Western countries, the need of the research, the statistical data available, and the classification of the service industry in the census and statistic yearbooks in China, the producer services in this paper include finance, insurance, real estate (FIRE) services, information consultant services, computer application services, and scientific research and technological services.

2 Status of Producer Services in Zhujiang River Delta

It has been proved that there was a close correlation between the developing level of producer services and national economy in China (Zhong and Yan, 2003). The good developing conditions in the PRD provide a nice base for the development of producer services there.

Because the production values of the information consultant services and the computer application services have not been counted independently in most of the statistic books in China, the paper will take the number of employees as an index to reflect the developing status of producer services in the PRD. Although the divisions of the industries in the Fourth Census (1990) and First National Economic Census (2004) were a little bit inconsistent, whose absolute value of the producer services in these two censuses can not be compared directly, the change of the producer services in the PRD, Guangdong Province and China can still be seen in those 14 years via the proportion of the employees and the location quotient (Table 1).

Table 1 Developing level of producer services in PRD, Guangdong Province and China in 1990 and 2004

<table>
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<th>PRD</th>
<th>Guangdong Province</th>
<th>China</th>
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<tbody>
<tr>
<td>Employee in producer services (person)</td>
<td>151476</td>
<td>1982897</td>
<td>248038</td>
</tr>
<tr>
<td>Proportion in whole workforce (%)</td>
<td>1.22</td>
<td>10.83</td>
<td>0.74</td>
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<tr>
<td>Proportion in tertiary industry (%)</td>
<td>5.05</td>
<td>39.12</td>
<td>4.23</td>
</tr>
<tr>
<td>Location quotient</td>
<td>1.88</td>
<td>1.33</td>
<td>1.14</td>
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</tbody>
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Note: The producer services in the census of 1990 including finance, insurance, real estate, consultant services, and scientific research and technological services, while those of 2004 refer to information transfer, computer services and software industry, financial services, real estate, business services and scientific research & technological services. Sources: National Bureau of Statistics of China, 1992; 2006; O1NECGP, 2006

From the proportion of the producer services’ employees to the whole workforce, the producer services have shown great growth in the PRD, Guangdong Province and whole China in those last 14 years, with the greatest growth in the PRD, up from 1.22% to 10.83%. Comparing the growth in the proportion of the producer services’ employees to the whole workforce in the PRD, the proportion of producer services’ employees in the tertiary industry grew much greater (34.07%). While the number in Guangdong Province rose 25.41%, and that of Chinese average just rose 16.45%. It shows that the producer services in the PRD not only enlarged the scale of the employment and occupied a certain status in the tertiary industry in the past 14 years, but also took a leading status in the development of the tertiary industry in the PRD.

From the location quotient, it can be seen that the location quotient of producer services in the PRD was always higher than that of Guangdong Province in the 14 years, which were both higher than 1 in those two regions. It is obvious that the promoting role of producer services to the regional development has strengthened in those two regions, and the base for exporting producer services in the PRD was better than the average of Guangdong Province.

In sum, the developing level of producer services in the PRD was higher than that of Guangdong Province and Chinese average as well as the developing speed was always faster all along, showing the effect of producer services as the basic economic activity.

1 The paper takes the Fifth Census as the main statistics to do comparison research of all Zhujiang River Delta cities’ producer services, while economic census statistics are adopted in the paper for the analysis of producer services overall development in the Zhujiang River Delta, Guangdong and whole China, due to the unavailable presence of “Economic Census Yearbook 2004” in cities of the Zhujiang River Delta. In the meantime, the paper will take the industry category standard used in the 5th Census to define the producer services for the comparison of all cities’ producer services in the Zhujiang River Delta, though there was new standard set in 2003. The choice will not impact on the final result.