

The Employment Structure of the Development of the Service Industry in the Yangtze River Delta Area

LI Xiaochun
LIANG Panke
TAWADA Makoto

The Yangtze River Delta is one of the most important economic areas in China, where the manufacturing industry has become a strong driving power of the Chinese economic development. So far, the manufacturing industry in the Yangtze River Delta area has been the main industry to absorb massive labor force. However, with the growth of the service industry in this area, the labor force absorption capability of the service industry has been continuously strengthened. Is the service industry supplanting the manufacturing industry as the major industry that absorbs labor force in the Yangtze River Delta area? What is the current situation of the labor force absorption of the service industry in the Yangtze River Delta area? And how will future of the development of the service industry and the employment structure evolution in this area be? This study will carry out the research on these questions in the methods of the elasticity analysis and employment deviation degree analysis according to the statistical data and try to point out the structure problems accompanied by the development of the service industry in the Yangtze River Delta area and to present policy proposals to cope with those problems.

I. Introduction

The Yangtze River Delta area has always been the important area that absorbs migrant labor force. A great amount of surplus-labor of the countryside has come to this area for working and living and has been absorbed into non-agricultural industries. The Yangtze River Delta area is one of the most important economic areas in China with its distinguishing economic features. The industrial manufacturing economy of this area has been establishing a world-level manufacturing base and has been promoting the new economic development of China. In this situation, so far, the

manufacturing industry in the Yangtze River Delta area has been the main industry and successfully absorbed massive labor force. However, with the rapid growth of the service industry in this area, the labor force absorption capability of the service industry has been continuously strengthened.

The development level of the service industry in one region is one of the important indices to measure the modernization level of that region. With the advantages of having large variety of sections including labor-intensiveness, capital-intensiveness and technique-intensiveness in the service industry, the service industry has relatively a large

employment capacity. Generally speaking, the production value and the employment population of the service industry in developed countries or regions should be stably 70% of the GDP and of the total employment population, respectively. In recent years, the production value proportion of the service industry in the Yangtze River Delta area has been continuously increasing. In 1978, the industrial structure of the Yangtze River Delta area, which is measured in terms of value added, was 19.6 : 61.3 : 19.1, and in 2006, the structure has become 5.4 : 53.9 : 40.7. Along this, the employment population of the service industry in the Yangtze River Delta area has also been largely going up. In 1990, the employment population in the Yangtze River Delta area was 12.75 million, but it has reached 30.96 million in 2006. The proportion of the employment population of the service industry to the total employment population has increased from 16.9% in 1990 to 36% in 2006¹⁾. Some Chinese academic researchers think optimistically that the service industry in the Yangtze River Delta area has a large development space. It is gradually supplanting the manufacturing as the major section that absorbs immigrant labor force. (See, for example, J.Li (2003), S.Zhang (2006), C.Zand and F.Cai (2002), W.Ren (2005), J.Zhang (2005), Y.Zhu and N.Jiang (2006), and N.Zhao (2002).)

According to the experience of

developed countries, the proportion of the service industry in the employment structure will surely surpass that of the manufacturing industry. However, is the present time the turning point for the Yangtze River Delta area? In the future period of time, how will the development and employment structures of the service industry in the Yangtze River Delta area be? The solution of these questions is significant to clarify the trend of the employment market in the Yangtze River Delta area and to solve the problems existing in the development of the service industry. Consequently, the present study will carry out research on these questions.

Hereinafter, the study will firstly summarize the antecedent researches on the development of the service industry and the labor force employment; then we will investigate the development situation of the service industry in the Yangtze River Delta area. After that, we will analyze the development of the service industry and the labor market in the Yangtze River Delta area by the methods of the elasticity analysis and employment deviation degree analysis according to the statistical data. In the end, we will come to the conclusion and propose some policies for the economic prosperity of the Yangtze River Delta area.

II. Industrial Structure and Labor Force Employment: Literature Review

1. Economic development and changes in labor force distribution among industries

Early in the 17th century, William Petty, a British classic political economist, said in his famous books, *Political Arithmetic*, that, along with the economic development, per capita income becomes higher in the manufacturing industry than in the agricultural industry, and then becomes higher in the commercial industry than in the manufacturing industry. The income difference among industries is the source of the movement of labor force from industry to industry. After Petty, many economists theoretically analyzed the evolvement of the industrial structure and the industrial distribution of labor force. Based on the observation of economic phenomena and plenty of statistical data, they got conclusions about the industrial structure and changes in the employment structure. Thereinto, Colin Clark, who is a British economist, is the representative. In his book *Condition of Economic Progress* written in the 1940s, Clark summarized the rule of a change in labor force distribution among three major industries, which are the first industry consisted by mainly agriculture, the second industry consisted by manufacturing and third industry consisted by service and commercial sectors, according to the time

series data of the labor input and output in all national sections of 20-plus countries, that is, along with an increase in the national per capita income, the labor force was firstly transferred from the first industry to the second industry; with a further increase in the national per capita income, the labor force was transferred to the third industry. Considering the distribution of labor force in the three industries, the labor force proportion in the first industry gradually descended while that of the second and the third industries tended to ascend, especially the third industry. (See Clark (1974).) This concept of Clark was called "Petty-Clark's Law". According to this law, we know that the proportion of agricultural labor in the total labor force becomes relatively small while that of the second and third industries become relatively large in the countries or regions as the per capita income grows.

Through an empirical research, Hollis Chenery, a former-president of the World Bank and economist, got conclusion that as the per capita income becomes higher, the employment level of the service industry will continuously increase. He thought it would be the general trend in the process of economic development. (See Chenery and Syrquin (1988).)

2. Change of employment structure in the service industry

The service industry includes different

types of sections such as labor-intensive, technique-intensive, capital-intensive and knowledge-intensive. In each type of sections, labor absorption capability is different. Simon Kuznets, an American economist, pointed out in his book, *Modern Economic Growth*, that, with the economic growth, the absorbed labor employment population by the commercial and service industries is growing continuously and regularly. Thereinto, the commerce and finance are the biggest sections in the service industry, then the personal service in the next and the government service the third. (See Kuznets (1985).) Gershuny and Miles (1983) discovered through the research on the trend of the employment proportion of various sections in the service industry of the EC countries from 1963 to 1978 that the employment proportion of the production service sections and the nonmarketed final service sections (mainly including education, medicine and health, social welfare, governmental service, etc.) increased rapidly, while that of other sections either decreased or did not change much.

3. Researches on the labor force absorption of the service industry in China

The Chinese academic researchers also paid great attention to the research on the service industry. With regard to the research methods, there are both theoretical and empirical approaches. The

almost common view of the scholars is that the service industry will become the major industry that absorbs the labor force of China. For example, Li (2003) analyzed the labor force input in the third industry in China. In his opinion, the rapid development of the third industry makes it stronger in absorbing labor force than the first and second industries. Based on the calculation of the employment elasticity, Zhang (2006) thought that the service industry is the main channel that absorbs labor force. Although there are almost none of researches on the employment elasticity of the service industry in the Yangtze River Delta area, there are many researches concerning the employment elasticity of regional economies, which reached the conclusions similar to the national employment elasticity researches. Based on the calculation of the employment absorption elasticity of the third industry in Guangdong Province, Wei (2003) showed that the third industry maintains a relatively high labor force absorption capability and would become the strongest industry in absorbing labor force. By the calculation of the employment absorption elasticity of various sections in the third industry, he showed that, among the sections in the service industry, the development of residential service and financial insurance, real estate, public utility, wholesale and retail trade of catering, health, sports

and social welfare, education and cultural art, and broadcasting and television promote a great increase in labor employment. Consequently, he suggested that these sections should be developed to promote the employment in Guangdong area.

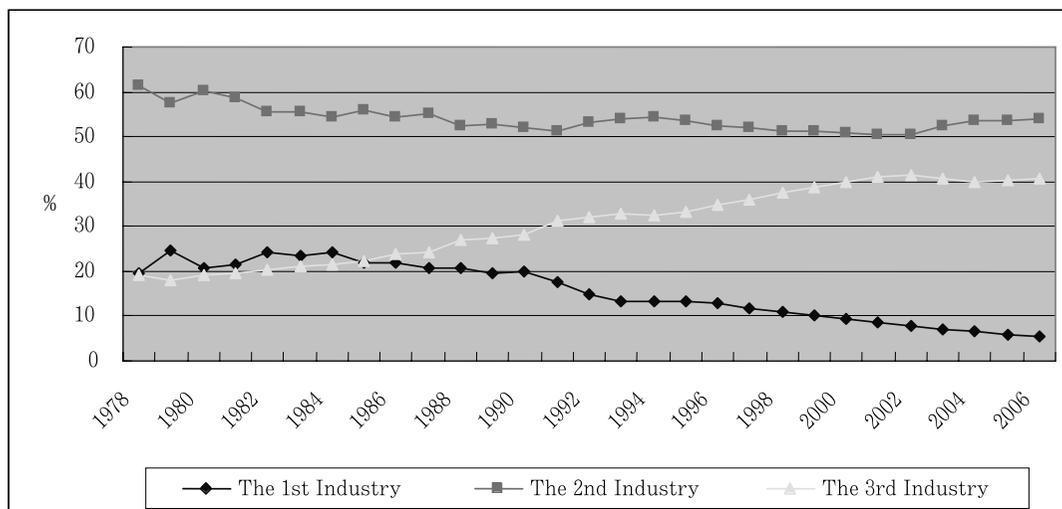
III. The Service Industry and Employment Structure in the Yangtze River Delta Area

This part will describe the development process and the present situation of the labor employment of the service industry in the Yangtze River Delta area according to statistical data since the Reform and Opening-up Policy was carried out and will analyze the characteristics of the

labor employment in this area. Lacking statistical data of the whole Yangtze River Delta area, the data to use in this study is the one accumulated from the data of Shanghai, Jiangsu and Zhejiang statistical yearbooks.

1. The development of the service industry in the Yangtze River Delta area

In recent years, the service industry in the Yangtze River Delta area has achieved a great development with a higher increase than that of the second industry. From 1990 to 2000, the average annual increase of the value added in the third industry was 23.5%, which was 4.5% higher than that of the second industry during the same period of time; the added value of the service industry



Data source: the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook 2006, and Statistical Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006.

Figure 1: Trend of changes in the composition of the 3 industries in the Yangtze River Delta Area

Table 1 The production value and its proportion of the service industry in the Yangtze River Delta area in 1978-2006 (hundred million, %)

Year	Yangtze River Delta		Shanghai		Jiangsu		Zhejiang	
	Production Value of the Service Industry	Proportion	Production Value of the Service Industry	Proportion	Production Value of the Service Industry	Proportion	Production Value of the Service Industry	Proportion
1978	123.31	19.10	50.76	18.61	49.44	19.84	23.11	18.68
1979	133.21	17.94	53.83	18.79	53.37	17.88	26.01	16.50
1980	154.84	19.08	65.69	21.06	58.15	18.18	31.00	17.25
1981	173.17	19.70	69.84	21.51	62.62	17.89	40.71	19.91
1982	194.03	20.20	74.44	22.08	69.50	17.81	50.09	21.46
1983	219.62	21.00	82.97	23.58	76.43	17.46	60.22	23.50
1984	263.87	21.42	98.22	25.13	89.46	17.24	76.19	23.66
1985	342.90	22.18	121.59	26.05	116.60	17.89	104.71	24.49
1986	412.36	23.76	135.12	27.53	144.36	19.38	132.88	26.57
1987	504.09	24.33	159.48	29.24	181.78	19.71	162.83	26.97
1988	706.43	26.93	187.89	28.98	302.85	25.05	215.69	28.17
1989	787.86	27.53	200.73	28.82	340.61	25.77	246.52	29.22
1990	875.33	28.27	241.82	30.94	368.74	26.03	264.77	29.48
1991	1113.81	31.14	309.07	34.58	462.32	28.87	342.42	31.65
1992	1474.67	31.95	402.77	36.14	622.94	29.16	448.96	32.89
1993	2099.78	32.67	579.03	38.11	909.52	30.34	611.23	32.01
1994	2816.37	32.32	794.80	39.92	1186.64	29.25	834.93	31.31
1995	3724.47	33.32	1020.20	40.82	1573.75	30.53	1130.52	32.07
1996	4569.71	34.86	1292.11	43.69	1940.91	32.33	1336.69	32.24
1997	5316.62	36.03	1592.74	46.32	2232.68	33.42	1491.20	32.15
1998	6015.16	37.62	1855.36	48.81	2512.69	34.90	1647.11	33.02
1999	6700.04	38.84	2129.60	50.84	2740.30	35.60	1830.14	34.11
2000	7745.03	40.00	2486.86	52.12	3069.46	35.88	2188.71	36.26
2001	8777.09	40.99	2728.94	52.38	3454.90	36.53	2593.25	38.43
2002	10050.82	41.63	3038.90	52.93	3891.92	36.69	3120.00	40.02
2003	11623.50	40.74	3404.19	50.85	4493.31	36.11	3726.00	39.66
2004	13677.29	39.85	4097.26	50.75	5198.03	34.65	4382.00	38.98
2005	16488.93	40.32	4620.92	50.48	6489.14	35.45	5378.87	40.03
2006	19310.30	40.66	5205.30	50.55	7817.00	36.28	6288.00	40.18

Data resource: calculated according to the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook 2006, and Statistical Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006. The production value of every year is adjusted by the price index.

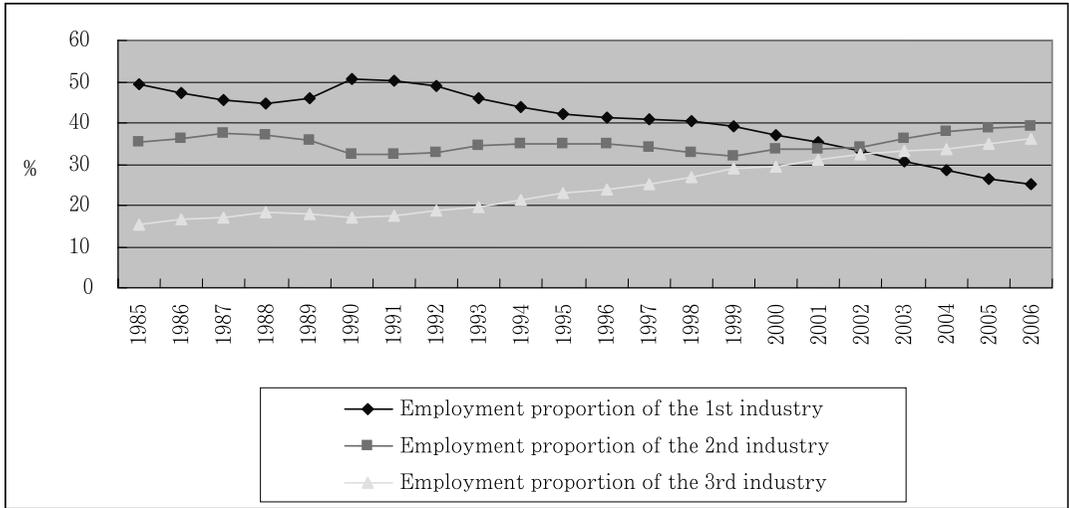
increased from 87.533 billion in 1990 to 193.103 billion in 2006; and the proportion of the service industry reached 40.7% in 2006. Figure 1 shows the trend of the composition rate in value added of the three industries in the Yangtze River Delta area from 1978 to 2006, which reveals that the gradual increase of the service industry in the Yangtze River Delta runs through the whole period of time.

Table 1 shows the production value and its proportion to GDP of the Yangtze River Delta area and those of the three major districts from 1978 to 2006. The service industry in Shanghai is the most developed area in the Yangtze River Delta area with a total value added of 52.05 billion and a proportion of more than 50% in 2006. Since 2000, the production value of the service industry in Jiangsu has been higher than that of Zhejiang, but its proportion among the three districts is the lowest. The development of the service industry inside the Yangtze Delta area is not uniform.

2. The employment proportion of the manufacturing and service industries

The service industry in the Yangtze River Delta area is continuously developing with respect to the employment scale. The absolute employment population of the service industry in the Yangtze River

Delta area has largely increased as well as the relative employment proportion to the other industries. From 1985 to 2006, the employment population of the service industry increased from 9.637 million to 30.96 million. The service employment population annually increases by 5.7%, which is 3.3% higher than the employment increase. The labor absorption capability of the service industry has become more and more evident, where the detailed data can be referred to in Figure 2. Along this evolvement, the employment structure in the Yangtze River Delta area has also greatly changed in the way that the employment population and employment proportion of the first industry has decreased rapidly, the employment proportion of the second industry has been steady and the proportion of the service industry has been continuously increasing while the employment population rising from 15% in 1985 to 36% in 2006. What is worth remarking is that, before 2001, the employment proportion of the service industry increased with a relatively high speed, and the employment proportion of the first industry was the highest. Since 2001, the proportion of the service industry has increased to nearly the same height of the second industry, which forms the mutual rise of the proportions of both the service and the second industries. However, the proportion of the service industry has never surpassed



Data resource: calculated according to the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook, and Statistical Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006.

Figure 2: Employment Structure of the three industries in the Yangtze River Delta area

that of the second industry. Since the proportion of GDP of the second industry is far larger than that of the service industry, the labor force absorbed by the second industry far exceeds that of the service industry. At present, the second industry still occupies the major part in the economy of the Yangtze River Delta area.

3. The modern service industry

Inside the service industry in the Yangtze River Delta area, the traditional labor-intensive service sections such as wholesale and retail, lodging and catering, etc. still occupy large proportions in the service industry. Shanghai is where the service industry develops the best in the Yangtze River Delta area. So let us take

Shanghai as an example to investigate the structural change inside the service industry. As seen in Table 2, the employment population of the wholesale and retail section in Shanghai reached 1.3131 million in 2005, which had the largest employment population in the service industry. However, along with a constant economic development, the traditional service industry has been going saturation with an unchanged employment population and a slightly decreased proportion of the lodging and catering industries. This indicates that the labor force absorption capability of the traditional service industry has become weaker in Shanghai.

Compared with the stagnancy of the traditional service industry, the modern

The Employment Structure of the Development of the Service Industry in the Yangtze River Delta Area

service industry has been well developing. The modern service industry started developing rapidly from the period of time when industrialization became remarkable, where the modern service industry is the knowledge-and-skill-intensive service industry relying on the information technology and the modernized management concepts.

Compared with the traditional service industry, the modern service industry can be characterized as a hi-tech knowledge and technique-intensive industry. The modern service industry mainly includes financial service, information service, leasing and commercial service, logistics and real estate, etc. As shown in Table 2, among

Table 2: The Employment Number and its proportion of the sections in the Service Industry of Shanghai 2003-2005 (Proportion to the total social employment)

Sections of the Service Industry	Employment Number (hundred thousand)			Proportion in the Whole Social Employment		
	2003	2004	2005	2003	2004	2005
Whole Service Industry	422.21	453.61	479.97	51.93%	54.20%	55.60%
Transportation, Warehousing and Post Industries	45.90	47.70	48.40	5.65%	5.70%	5.61%
Information Transmission, Computer Service and Software Industries	7.10	7.85	9.48	0.87%	0.94%	1.10%
Retail and Wholesale	113.80	125.53	131.31	14.00%	15.00%	15.21%
Lodging and Catering	23.51	23.05	23.60	2.89%	2.75%	2.73%
Finance	17.32	15.92	18.24	2.13%	1.90%	2.11%
Real Estate Industry	28.87	28.94	28.96	3.55%	3.46%	3.35%
Leasing and Business Service Industries	21.60	38.11	45.87	2.66%	4.55%	5.31%
Scientific Research, Technical Service and Geological Prospecting	12.40	13.35	15.23	1.52%	1.60%	1.76%
Water Conservancy, Environment and Public Facility Management	7.72	6.70	6.74	0.95%	0.80%	0.78%
Resident Service and Other Services	73.43	74.73	78.3	9.03%	8.93%	9.07%
Education	27.54	27.30	27.63	3.39%	3.26%	3.20%
Health, Social Security and Welfare	16.33	17.67	18.29	2.01%	2.11%	2.12%
Culture, Sports and Entertainment	8.14	8.28	8.25	1.00%	0.99%	0.96%
Public Administration and Social Organizations	18.56	18.48	19.67	2.28%	2.21%	2.28%

Data resource: calculated based on Shanghai Statistical Yearbook 2006

the modern service industry in Shanghai, information transmission, computer service and software, retail and wholesale, and leasing and business service have been absorbing more employment population with increasing employment proportion. In particular, the employment proportion of the leasing and commercial service increases very fast. In a short period from 2003 to 2005, the employment population has increased from 216 thousand to 458.7 thousand and the employment proportion increasing from 2.66% to 5.31%. The modern service industry in the Yangtze River Delta area led by Shanghai is still on the initial stage of development and it has a tremendous potential in labor absorption.

4. Internal structure and employment structure of the service industry: the international perspective

The employment structure of the service industry in the Yangtze River Delta area lags far behind the level of developed countries. Take Shanghai, the leading city in this area, as an example. The service industry occupied 55.60% of the total social employment (see Table 2) in 2005, while it is generally around 75% in advanced countries (see Table 5). The low level employment ratio of the service industry is the reflection of the development gap among all sections within the service industry.

Although the statistical standards

may be different among countries as well as years, we can still see from the comparison of Table 3 and Table 4 that there is a serious defect inside the service industry in the Yangtze River Delta area compared with the US. For example, on the one hand, as shown in Table 3, the real estate and the leasing and business, which represent the service industry of the Yangtze River Delta area occupied around 17.25% of the total production value of the service industry in 2005. Comparing it with the corresponding lines in Table 4, this proportion in the US is 31.12%. On the other hand, comparing the employment structure of the real estate and the leasing and business service in Table 2 and Table 5, we can see that the employment proportion of the real estate and the leasing and business service in Shanghai where is the most developed region in the Yangtze River Delta area is only 8.66% in Table 2. The general level of the Yangtze River Delta area is calculated lower than this number, while the employment proportion of these sections in developed countries at large reaches 12% in US as exhibited in Table 5. This is not a coincidence. The low production value of the modern service industry will consequentially lead to the low level of the employment structure of that industry. In other words, the development lag of some major sections of the modern service industry in the Yangtze River

Table 3: The proportion of production value of the sections in the service industry in the Yangtze River Delta in 2005 (Proportion to the total production value of the service industry)

Transportation, Warehousing and Post Industries	11.14%
Information Transmission, Computer Service and Software Industries	6.03%
Retail and Wholesale	23.75%
Lodging and Catering	4.10%
Finance	11.60%
Real Estate Industry	12.75%
Leasing and Business Service Industries	4.50%
Scientific Research, Technical Service and Geological Prospecting	2.74%
Water Conservancy, Environment and Public Facility Management	1.21%
Resident Service and Other Services	3.00%
Education	7.23%
Health, Social Security and Welfare	3.37%
Culture, Sports and Entertainment	1.50%
Public Administration and Social Organizations	7.09%

Data resource: calculated according to the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook, and Statistical Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006.

Table 4: The proportion of production value of the sections in the U.S. service industry in 2000-2003 (Proportion to the total production value of the service industry)

Sections of the service industry	2000	2001	2002	2003
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	17.00%	16.81%	16.95%	16.73%
Hotels and Restaurants	3.54%	3.44%	3.46%	3.43%
Transport, Storage and Communication	8.63%	8.28%	7.95%	7.93%
Financial Intermediation	10.04%	10.13%	10.13%	10.44%
Real Estate, Renting and Business Activities	31.77%	31.82%	31.42%	31.12%
Public Administration and Defense; Compulsory Social Security	9.42%	9.46%	9.62%	9.73%
Education	6.39%	6.48%	6.55%	6.51%
Health and Social Work	8.12%	8.47%	8.76%	8.94%
Other Community, Social and Personal Services Activities	4.91%	4.96%	5.01%	5.01%
Private Households with Employed Persons	0.18%	0.17%	0.15%	0.16%

Data resource: calculated according to the International Statistical Yearbook 2005, China Statistics Press, November, 2005.

Table 5: The employment proportion of the sections in the service industry of some developed countries (Proportion to the whole employment)

Industry	Britain 2003	Australia 2003	Canada 2003	USA 2002
Whole service industry	75.33%	75.00%	74.74%	75.62%
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	15.59%	20.07%	17.30%	20.59%
Hotels and Restaurants	4.28%	4.92%	6.49%	
Transport, Storage and Communication	6.96%	6.34%	7.13%	6.02%
Financial Intermediation	4.42%	3.67%	4.22%	12.22%
Real Estate, Renting and Business Activities	11.09%	12.04%	11.93%	
Public Administration and Defense; Compulsory Social Security	6.85%	5.84%	5.16%	36.79%
Education	8.55%	7.21%	6.67%	
Health and Social Work	11.51%	9.85%	10.69%	
Other Community, Social and Personal Services Activities	5.52%	5.02%	4.66%	
Private Households with Employed Persons	0.50%	0.03%	0.47%	
Extra-Territorial Organizations and Bodies	0.05%	0.01%	0.01%	

Data resource: Calculated according to the international statistical yearbook 2005.

Delta area is an important factor causing the low employment level of the service industry. Similarly, it will be found from the comparison of Table 2 and Table 5 that the employment structure of the wholesale and retail and the lodging and catering that are more traditional in Shanghai is closer to the British and American level and basically stable. However, in sections characterized as the modern service industry such as education, health, social security and welfare, etc., there is wide gap of employment structure between Shanghai and developed countries.

In the Yangtze River Delta area,

newly developing sections such as the real estate and the leasing and business service have not appeared for long. So it would be natural if these lag behind that of developed countries. However, we know from Table 1 that, since 1999, the industrial structure of the service industry in the Yangtze River Delta area has always been around 40% for 7 years. If it is continuing in future or temporarily fixed, the modern service industry of the Yangtze River Delta area will not be able to greatly develop. Then we should say there is a problem of the internal structure in the service industry of the Yangtze River Delta area and this

problem will cause a further problem of the employment structure of the service industry. If the demand in modern services could not smoothly grow, the internal structure and employment structure of the service industry in the Yangtze River Delta would not fundamentally change.

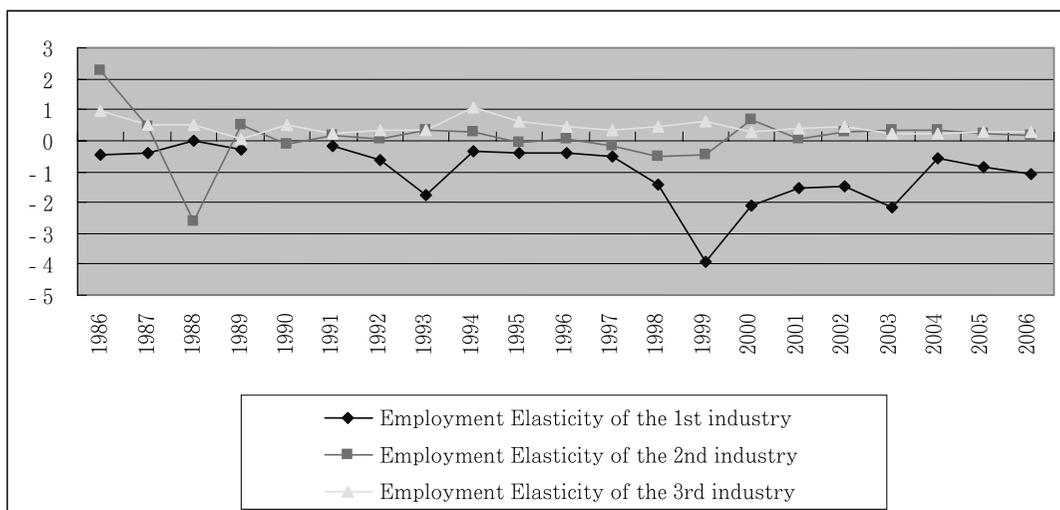
IV. The Employment Elasticity Analysis and the Structure Deviation Degree Analysis of the Service Industry in the Yangtze River Delta Area

1. The employment elasticity analysis of the service industry

The employment elasticity is defined as the ratio of the percentage change of the employment number to the percentage change of the value added. The employment elasticity is an important

index of measuring the employment creation by the economic growth. The higher the employment elasticity index is, the more labor the economic growth will absorb.

Figure 3 shows the employment elasticity of the three industries in the Yangtze River Delta area from 1986 to 2006. The figure shows that the employment elasticity of the first industry is unstable with a negative value in most years, which means that the agricultural industry releases much surplus-labor to the society without absorbing labor force. Since the 1990s, the employment elasticity of the manufacturing industry has been gradually stable. And since 2003, the employment elasticity of the service industry has become stable and its



Data resource: calculated according to the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook 2006 and Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006.

Figure 3: Comparison of the employment elasticity of the three industries

graphs of the manufacturing industry and the service industry almost converge with each other as seen in the figure.

Actually, the employment elasticity is different in countries as well as development stages. Generally speaking, the employment elasticity decreases with an economic development as well as a

rise in labor productivity. The economic growth will lead to a rise in labor productivity and the labor productivity rises in two ways: one is the technical progress, and the other is the employment structure change corresponding to the economic structure. On the former case, a single person is able to accomplish the work of two, which makes the

Table 6: The evolvement of the employment elasticity of the service industry in the Yangtze River Delta in 1986-2006

Year	Employment growth rate of the service industry	Production growth rate of the service industry	Employment elasticity of the service industry	3-year moving average of the employment elasticity
1986	11.95%	12.70%	0.94	—
1987	5.98%	12.49%	0.48	—
1988	7.63%	15.88%	0.48	0.63
1989	-0.16%	-4.84%	0.03	0.33
1990	3.77%	7.23%	0.52	0.34
1991	4.06%	19.94%	0.20	0.25
1992	8.17%	22.97%	0.36	0.36
1993	6.05%	19.65%	0.31	0.29
1994	8.72%	8.15%	1.07	0.58
1995	8.21%	13.26%	0.62	0.67
1996	5.56%	12.71%	0.44	0.71
1997	4.43%	13.63%	0.32	0.46
1998	6.34%	13.49%	0.47	0.41
1999	7.51%	11.73%	0.64	0.48
2000	4.32%	14.18%	0.30	0.47
2001	4.97%	13.01%	0.38	0.44
2002	6.52%	15.01%	0.43	0.37
2003	3.40%	14.53%	0.23	0.35
2004	3.05%	13.51%	0.23	0.30
2005	5.76%	19.05%	0.30	0.25
2006	4.39%	15.80%	0.28	0.27

Data resource: calculated according to the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook, and Statistical Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006.

employment elasticity decrease; on the latter case, if the economic growth of capital-intensive industries exceeds the labor-intensive industries, the elasticity will also decrease. (See, for example, Zhang and Cai (2002).)

There is another reason of a decrease in the employment elasticity, that is, when a certain industry develops to a certain degree and the market supply can basically satisfy the needs, the employment elasticity of this industry will also decrease.

Table 6 shows the change of the employment elasticity of the service industry in the Yangtze River Delta area. Since 1995, the employment elasticity of the service industry of the Yangtze River Delta area has tended to continuously decrease. The employment elasticity of the service industry decreases from 1.07 in 1995 to 0.28 in 2006, which indicates that the employment creation effect of the production growth of the service industry is getting weak. As for the Yangtze River Delta area, the reason of a decrease in the employment elasticity has something to do with the internal structure of the service industry. We have known from the analysis in the previous section that the traditional sectors in the Yangtze River Delta area is going saturation while the modern service sectors that can absorb labor force less than the traditional sectors. The decrease of the employment

elasticity of the service industry in the Yangtze River Delta is not only explained by the technological progress but also by the internal structural changes of the industry.

2. The structure deviation degree analysis on employment in the service industry

The structure deviation degree refers to the difference between the proportion of employment population of a certain industry to the whole economy and the proportion of added value of this industry to that of the whole economy, namely:

Structure deviation degree of employment =

$$\frac{\text{Employment number of a certain industry}}{\text{Employment number of all industries}} -$$

$$\frac{\text{Value added of a certain industry}}{\text{GDP}}$$

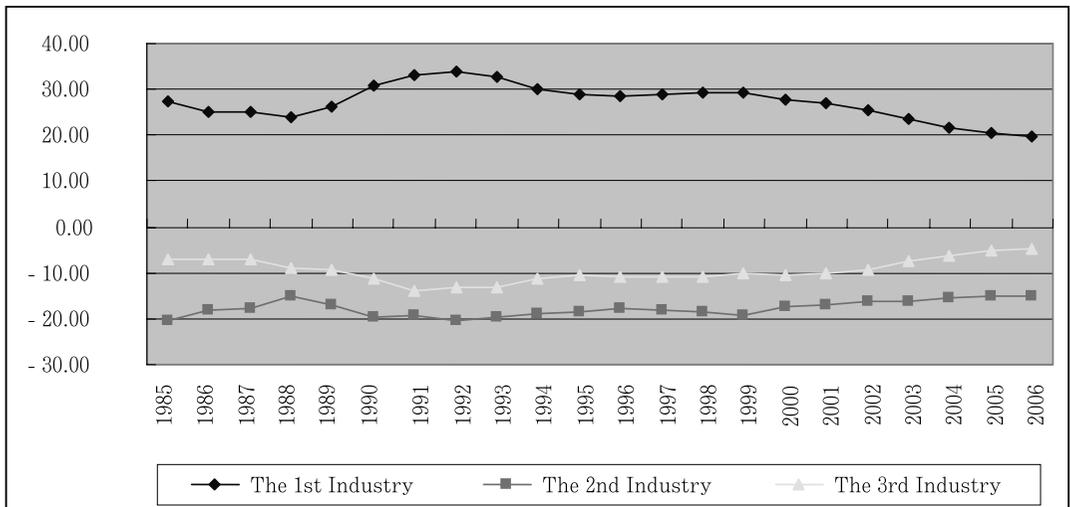
That the structure deviation degree is greater than zero, namely the positive deviation degree implies that the labor productivity of this industry is relatively low and there exists the possibility of labor outflow. Conversely, the negative structural deviation degree means the labor productivity of this industry is relatively high and there exists the pressure of labor inflow. Figure 4 shows the track of changes in the structure deviation degrees of the three industries

in the Yangtze River Delta area since the middle of 1980s.

It is shown by Figure 4 that the structure deviation degrees of the manufacturing industry and the service industry in Yangtze River Delta area have been negative since 1985, and the structure deviation degree of the manufacturing industry is always less than that of the service industry. Especially, after 2003, the difference between them tended to enlarge, which will probably continue if there is no special situation. This means the demand for labor in the manufacturing industry in Yangtze River Delta area will still perch on a high position, which shows that, in Yangtze River Delta area, the manufacturing industry has been and

will still be the main industry to absorb labor force.

Especially from 2002 to 2006, there was a rise in the structure deviation degree of the service industry in Yangtze River Delta, which was -9.2 in 2002 and -4.7 in 2006. This suggests a decrease in the capacity of absorbing labor force in the service industry in Yangtze River Delta area. The main reason for this change, we think, exists in its internal structure. It is because that the development of the traditional sectors in the service industry has nearly become marginal. The absorbing capacity of the traditional sector in these days is less than that in the 1990s, while the modern service sectors are mostly at a primary stage and have not brought their



Data source: the Shanghai, Zhejiang, and Jiangsu Statistical Yearbook 2006, and Statistical Communique on National Economic and Social Development of Shanghai, Zhejiang Province and Jiangsu Province 2006.

Figure 4: Changes of employment structure deviation degree of three industries in Yangtze River Delta area

capacity of absorbing labor force into full play.

V. Conclusion

We have analyzed the current situation and prospect of employment in all industries in Yangtze River Delta area by measuring the employment elasticity and employment structure deviation degree and reached following two conclusions:

Conclusion 1: There is an internal structural problem in the service industry of Yangtze River Delta area for absorbing labor force in this industry.

The service industry in Yangtze River Delta area has been developing continuously for many years. It has made a notable progress but also has some problems. The so-called “big room for the employment in the service industry” stressed in many studies is in terms of the proportion of output value of the service industry to GDP and the comparison with that of developed countries. Due to the problem of the internal structure of the service industry in Yangtze River Delta area, the stagnancy of the traditional service sectors and the inadequate development of modern service industries hamper the smooth absorption of employment into the service industry in Yangtze River

Delta area.

Conclusion 2: The manufacturing industry will still continue to be the main role to absorb labor force in Yangtze River Delta area.

The economy of Yangtze River Delta area is developing very fast, in which both manufacturing industry and service industry have been the main power to fuel the economic growth of this region. Undoubtedly, in the long run, the employment proportion of service industry in Yangtze River Delta area will definitely surpass that of manufacturing industry. However, it does not mean the service industry in this area will replace manufacturing industry to be the main industry of absorbing labor force in the short run. As long as there is no breakthrough in the development of modern service industries, the manufacturing industry will continue to be the main part of employment structure in Yangtze River Delta area.

Note

- 1) The data in this paragraph is calculated by the authors according to the Shanghai, Jiangsu and Zhejiang Statistical Yearbook 2006 and the Shanghai, Jiangsu and Zhejiang Statistical Communique on National Economic and Social Development of Jiangsu Province 2006.

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- (Department of Economics, Nanjing University)
- (Department of Economics, Nanjing University)
- (Graduate School of Economics, Nagoya University)