

The development of producer services in China^{*}

Li Jiangfan , Jiang Bo^{**}

This paper introduces the background of development of the producer service sector in China. According to detailed statistics, several development characteristics are analyzed in the various aspects such as the proportion and scale, absolute development level, internal structure, contribution rate to GDP, labor productivity, investment returns, foreign direct investment, and so on. Then, it summarizes the development experiences of China's producer services in regards to theoretical innovation, development strategies, traction roles, development of sub-sectors, supply innovation, and expansion of openness levels. Finally, it analyzes several problems in China's producer service sector during the course of development, concerning development level, internal structure, exporting capacity, and regional distribution of China's producer services. It points out the development direction of softening production factors.

Keywords: producer services, tertiary industry, service industry

The producer service sector is referred to as the services provided “to the intermediate producers rather than the final consumers” (Greenfield, 1960), or “the means of production in the form of service” which “constitute directly the production factors of primary, secondary, and tertiary industries” (Li, 1986, 1987, 1990). In the narrow sense, producer services refer to the essential production factors in the form of services provided to agriculture and industry, while generalized services refer to the services invested in production factors in the production process of tangible products and services. Producer service sectors are the sectors that provide production factors in the form of services to the production of tangible products and services in the three levels of industry, including financial intermediation, leasing and business services, scientific research and technical services, wholesale and retail trades, transport, storage and post, information transmission, computer services, and software. Nowadays, producer services are playing an increasingly important role in the global economy. Currently, China is undergoing development and economic structural upgrading, and promoting the development of producer services. This paper aims to make a brief analysis

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^{**} Li Jiangfan(Corresponding Author, email: lijf@mail.sysu.edu.cn), Professor, Sun Yat-sen University, Guangzhou, China; Jiang Bo(email: jib2002_gz@163.com), Assistant Research Fellow, Sun Yat-sen University, Guangzhou, China.

of the background, characteristics, experiences, problems, and directions of the development of producer services in China.

1. The background of development in China's tertiary industry

1.1. *Slow development period: 1949-1979*

The tertiary industry, namely the generalized service sector, means the remaining industries of the whole economy excluding primary industry (or broadly agriculture) and secondary industry (or broadly industry). Before the reform and opening up in 1979, China's tertiary industry grew slowly, and accounted for a small share of total GDP. During the period from 1952 to 1980, the added value structure of China's three industries changed from 50.7: 21.0: 28.3 to 30.4: 49.0: 20.6, and the employment structure from 83.5:7.4:9.1 to 68.7: 18.3: 13.0. In terms of international comparison, the employment proportion of China's tertiary industry in 1980 was only 13.0%, ranking 106th among 126 countries or regions in the World Bank statistics, while the added value proportion in China was 22% in 1982, ranking second from the bottom among 93 countries or regions.

The reasons for the slow growth of China's tertiary industry are as follows: firstly, it is caused by the misunderstanding of economic theory. The service sector is treated as a "non-productive sector", and the increase of its share is considered to be "the obvious performance of the decay and parasitism of imperialism". China doesn't realize that the increase of its service sector is the inevitable trend of economic development all around the world. In practice, the tertiary industry is discriminatorily treated as the "non-productive sector", thus the investment of resources is held back and development is hampered. Secondly, it is caused by the misunderstanding of development strategies. Tertiary industry is not included in the national economic development strategy during a time when primary and secondary industries are developing greatly. Thirdly, it is caused by policy mistakes. The long-term low-price of service has harmed the interests of the service sector, and the fact that some service activities are criticized and fought as capitalist factors dampens the enthusiasm for promoting service sector development.

1.2. *Rapid development period: 1980-2013*

Since the reform and opening up, China's tertiary industry has grown rapidly. During the period of 1980-2013, the value added structure of China's three industries has changed from 30.4:49.0:20.6 to 10.0:43.9:46.1 (See Figure 1), which indicates that the proportion of the tertiary industry exceeded the secondary industry in 2013 for the first time. The employment structure went from 83.5:7.4:9.1 to 68.7:18.3:13.0 (See Figure 2). The value added proportion of the tertiary industry has increased by 25.5%, and its employment proportion has increased by 23.1%.

During the same period, service products per capita¹ has increased significantly from 91 RMB yuan to 2,015 RMB yuan, an increase of 22.1 times (in comparable prices). The gap of tertiary industry development between China and the World is narrowing. The ratio of China's service products per capita to the world has increased from 5.1% in 1978, to 11.5% in 2000, 20.8% in 2006, and 41.6% in 2012 (See Table 1).

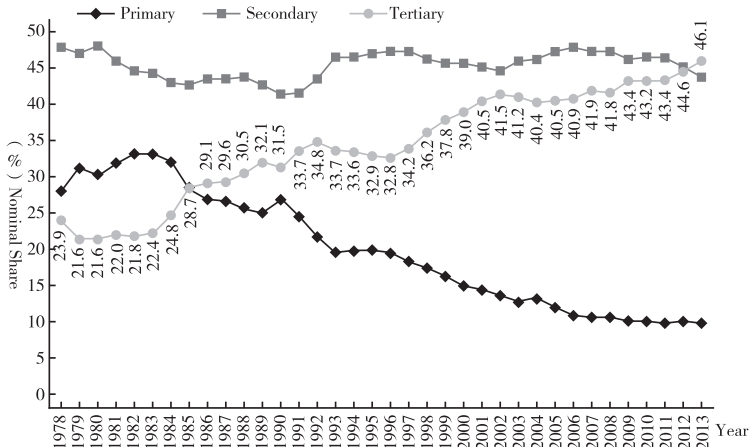


Figure 1. The ratio of three industries to GDP during 1978-2013(current prices)

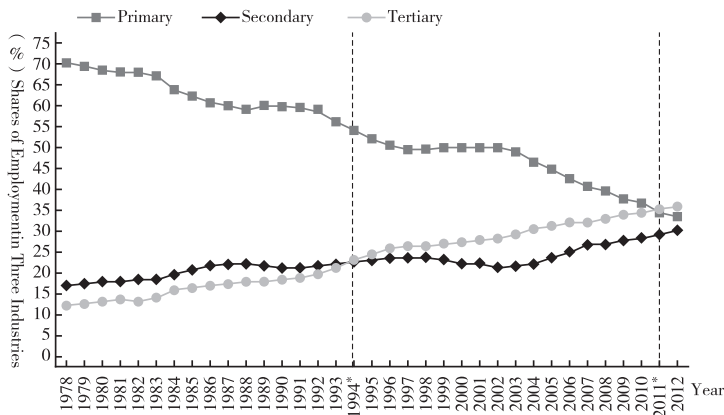


Figure 2. China's employment structure among the three industries during 1978-2006

Source: National Bureau of Statistics of China.

¹ In 1994, I argued that it was reasonable to measure one region's tertiary industry's development level with absolute indicators as well as the relative indicators of the tertiary industry's proportion. I put forward two indicators of service products per capita (calculated by dividing the value added of tertiary industry by total population) and service density (calculated by dividing the added value of tertiary industry by total area of land), in order to eliminate defects of uncertainty by using relative indicators (Li, 1994). Accordingly, the two indicators of producer service products per capita (calculated by dividing the added value of producer services by total population) and producer service density (calculated by dividing the added value of producer services by total area of land) can be used to measure the absolute level of producer services.

Table 1

International comparison of service products per capita (U.S. dollar/person, current prices)

Year	1978	1984	1990	1995	2000	2006	2012
World	1146	1512	2496	3308	3474	4873	6404
China	59	73	111	211	400	1013	2662
Asia	366	512	902	1506	1452	1811	3128
Europe	2575	2880	6518	8439	7834	14191	16974
U.S.	6608	11197	16527	20729	27530	35664	40537
Japan	4726	6457	14914	28082	25458	24068	33615
Korea	551	1015	2901	5815	5883	10666	11976
Russia	--	--	1139	1316	838	3425	7256
India	74	107	146	162	210	410	814
Brazil	705	635	1402	2766	2133	3269	6601
Africa	778	1117	1528	2042	1749	3131	4550
China/World (%)	5.1	4.8	4.5	6.4	11.5	20.8	41.6

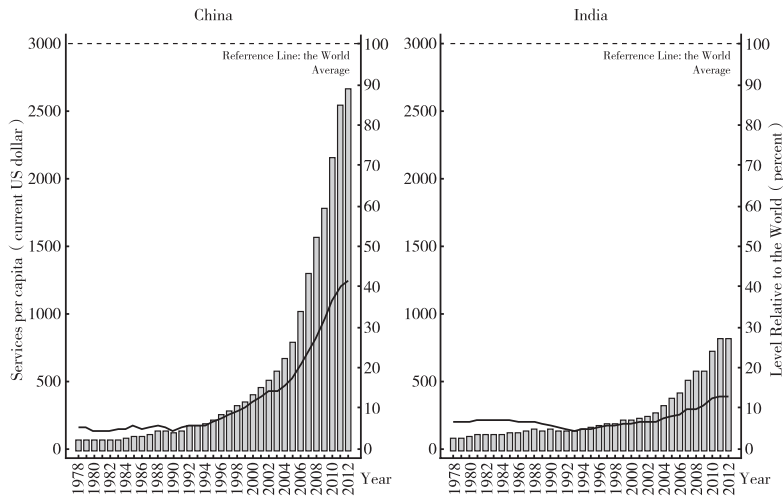
Source: Calculated with data from United Nations Statistics Division, <http://unstats.un.org/unsd/snaama/selbasicFast.asp>.

Figure 3. Comparisons between China and India in services per capita and the level relative to the world(1978-2012)

Source: United Nations Statistics Division.

2. Development characteristics of China's producer services

With the rapid development of tertiary industry, China's producer services have developed by leaps and bounds.¹ It can be characterized as follows.

¹ Since China changed the statistical caliber of tertiary industry in 2003, the data before and after 2003 are not comparable. Hence this paper analyzed the development of China's producer services with the data from 2004 to 2011.

2.1. The proportion of producer services in GDP improves slightly, and the scale continues to expand

During the period of 2004–2011, the added value proportion of China's producer services in GDP has risen from 22.38% to 24.73%. While the proportion of the primary industry has dropped from 13.39% to 10.09%, and that of the secondary industry fluctuates around 46%, while that of tertiary industry shows an upward trend, rising from 40.38% to 44.59%.

Table 2

The share of China's producer services in GDP: 2004–2012 (% , current prices)

Year	Primary Industry	Secondary Industry	Tertiary Industry	Producer Services
2004	13.39	46.23	40.38	22.38
2008	10.73	47.45	41.82	23.84
2011	10.04	46.59	43.37	24.73
2012	10.09	45.32	44.59	

Source: *China Statistical Yearbook*.

During the same period, the added value of China's producer services has increased by 2.27 times, which is higher than the growth rate of GDP (1.95 times), the primary industry (1.22 times), the secondary industry (1.98 times), and the tertiary sector (2.18 times).

Table 3

Added value of China's producer services: 2004–2011 (100 millions RMB yuan, current prices)

Year	GDP	Primary Industry	Secondary Industry	Tertiary Industry	Producer Services
2004	159878	21413	73904	64561	35774
2008	314045	33702	149003	131340	74869
2011	473104	47486	220413	205205	116990
2012	518942	52374	235162	231406	—

Source: *China Statistical Yearbook*.

2.2. The absolute development level of producer services has improved steadily, and the gap with the world is narrowing

China's producer service sector products per capita and producer service sector density have improved greatly since 2004. The producer service products per capita has increased from 2,752 RMB yuan per capita in 2004 to 8,683 RMB yuan per capita in 2011, an increase of 2.15 times. The annual growth rate was higher than 10% in all years except for 2009, and was even as high as 27.41% in 2007. During the same period, producer services density has increased from 372,700

RMB yuan per square kilometer in 2004 to 1,218,600 RMB yuan per square kilometer in 2011, with an increase of 2.27 times and an average annual growth rate (AAGR) as high as 18.44%.

Table 4

China's absolute development level of producer services: 2004-2011 (10 thousands RMB yuan/km², RMB yuan/person)

Year	Tertiary Industry		Producer Services		
	Service density	Service products per capita	Producer service density	Producer service products per capita	Growth rate of producer service products per capita (%)
2004	67.25	4967	37.27	2752	—
2005	78.04	5730	42.62	3129	13.70
2008	136.81	9890	77.99	5638	18.77
2011	213.76	15230	121.86	8683	18.61
AAGR (%)	17.96	18.44	17.36	17.84	—

Source: Calculated with data from *China Statistical Yearbook*.

However, China's producer service products per capita is still very small among the world (See Table 5). In 2011, it was only \$ 1,269, which is roughly equivalent to the global level in the mid-1990s, or of BRIIAT in 2008, or of Russia in 2005, or of Brazil in 2006. China ranks higher than India, but far less than the United States, Japan, European NAFTA countries, East Asia (excluding China, Mongolia, North Korea), and other developed countries or regions. But, the gap between China's producer service products per capita and global levels is shrinking. In 1995, China's producer service products per capita was only 7.68% of the global average, but after rapid growth, it increased to 16.61% in 2004, and to 43.53% in 2011.

Table 5

International comparison of the producer service products per capita. (U.S. dollar /person)

Year	China	India	Russia	Brazil	U. S.	Japan	World	EU27	NAFTA	East Asia	BRIIAT	China/World (%)
1995	116	66	720	1102	8766	11626	1472	4788	6510	10408	508	7.86
2000	206	88	535	805	12108	10393	1560	4661	8985	9376	448	13.24
2005	340	164	1506	1070	14640	10556	2055	7737	11004	10112	772	16.54
2010	1036	320	3187	2476	16368	11873	2661	9233	12442	11146	1479	38.91
2011	1269	373	3823	2845	16936	13020	2916	9933	12947	12227	1708	43.53

Note: 1. EU27 includes the 27 countries in European Union. 2. NAFTA or the Northern American Free Trade Area, includes the United States, Canada and Mexico. 3. East Asia includes Japan, Korea, China Taiwan, but not mainland China. 4. BRIIAT includes Brazil, Russia, India, Indonesia, Australia and Turkey. Producer service products per capita is calculated by dividing the added value of producer services by total population.

Source: Calculated with data from WIOD database.

Box 1. The development of Beijing's producer services

In 1994, tertiary industry accounted for 47% of Beijing's GDP; this was the first year that tertiary industry exceeded secondary industry. In 1995, the proportion of tertiary industry to GDP was 50.1%, and then continued to increase to 76.4% in 2012. During the "Eleventh Five-Year Plan", Beijing's GDP grew by 11.4% annually, and reached 1377.79 billion RMB yuan with more than 10,000 RMB yuan per capita. In 2012, the added value of Beijing's producer services reached 899.75 million yuan, which accounted for 65.82% of Beijing's tertiary industry, and 50.32% of GDP. Beijing has entered into a producer services-led economy, where producer services contribute more and more to the development of Beijing's economy.

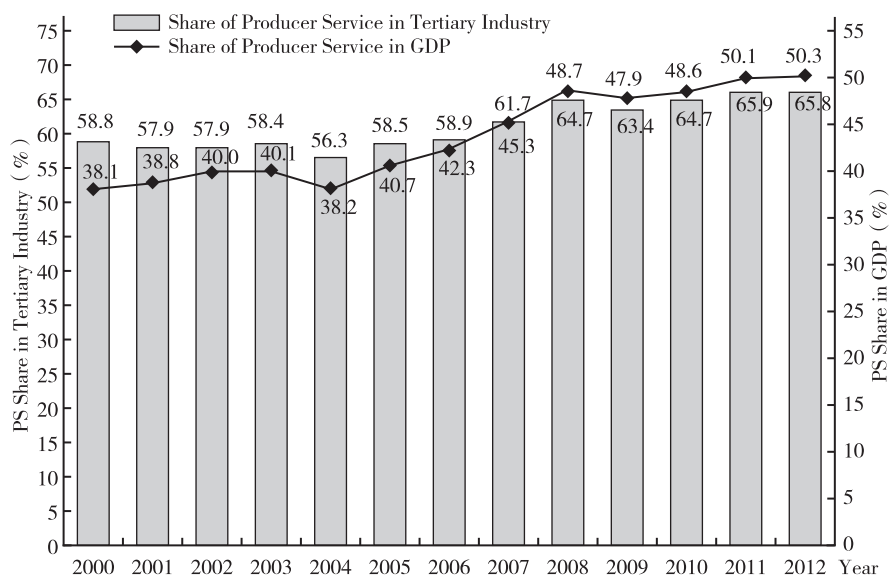


Figure 4. The proportion of Beijing's producer services in tertiary industry and GDP: 2000-2012

Source: *Beijing Statistical Yearbook 2013*.

After the development during the "Eleventh Five-Year Plan", technology innovation and business model innovation of Beijing's producer services became highly active. Nowadays, Beijing's producer services present characteristics of high-end orientation and efficiency, and become the main high-end industry that provides efficient enterprises and high-paying positions. From the perspective of headquarter economy, Beijing had 31 headquarters of "Fortune 500" companies, which is just slightly less than Tokyo, Japan. From the perspective of the number of financial corporation's headquarters, Beijing had 46 in 2007, preceded only by New York, London, Tokyo, Toronto, Hong Kong, and Chinese Taipei. The number of financial branches had reached 101, among the top 10 of all cities. Beijing had 11 high-tech multinational headquarters, ranking ninth in the world, as well as 145 management, accounting, and legal multinationals, ranking sixth; and 88 advertising/media multinationals, ranking seventh. In 2010, 170 producer services companies from Zhongguancun Science Park were listed at home or abroad.

2.3. The evolution tendency of the internal structure of producer services is gradually upgrading, the industrial structure tends to optimization, and the types of emerging business continue to spring out of this development

Table 6 shows the proportion of added value and the growth rate of sub-sectors of China's producer services during the period of 2004–2011. It reflects the evolution trends of the internal structure of China's producer services. During this period, the AAGR of producer services was 18.44%. The 6 sub-sectors can be divided into two categories by their AAGR. Category I is significantly higher than the producer services, including financial intermediation (25.04%), leasing and business services (20.07%), scientific research and technical services (21.78%), and wholesale and retail trades (19.68%). Category II is significantly lower than producer services, including transport, storage and post (13.52%), information transmission, computer services, and software (12.80%).

Table 6

The added value share and growth rate of sub-sectors of China's producer services (%)

Year	Transport, Storage and Post		Information Transmission, Computer Services and Software		Wholesale and Retail Trades		Financial Intermediation		Renting and Business Services		Scientific Research and Technical Services	
	Share	Growth Rate	Share	Growth Rate	Share	Growth Rate	Share	Growth Rate	Share	Growth Rate	Share	Growth Rate
2004	26.01	—	11.84	—	34.81	—	15.08	—	7.34	—	4.92	—
2005	26.07	14.64	11.99	15.76	34.13	12.14	14.88	12.87	7.65	19.09	5.29	22.99
2008	21.86	12.06	10.50	17.21	34.97	25.05	19.85	20.47	7.49	19.45	5.33	16.04
2011	19.18	17.25	8.36	10.11	37.14	21.54	21.33	18.96	8.04	20.84	5.95	23.58
AAGR (%)	—	13.52	—	12.80	—	19.68	—	25.04	—	20.07	—	21.78

Source: Calculated with data from *China Statistical Yearbook*.

There are two points worth noting in the evolution trends of the internal structure of China's producer services:

(1) China's producer services are still dominated by traditional services, but the proportion of them is gradually decreasing. The added value proportion of transport, storage and post, and wholesale and retail trades have dropped from 60.82% in 2004 to 56.31% in 2011, but they still account for more than half of producer services.

(2) The internal structure of China's producer services has been continuously optimized, and the proportion of knowledge-intensive and technology-intensive services is increasing. The added value proportion of modern service industries including financial intermediation, leasing and business services, scientific research and technical services, and information transmission, computer services, and software in producer services has risen from 39.18% in 2004 to 43.69% in 2011. What's more, financial intermediation, leasing and business services, scientific research and technical services have improved in terms of achieving an AAGR of higher than 20%, and

thus the proportion of the 3 sub-sectors in producer services has risen from 27.34% to 35.33%. The main reason is that with the transformation and upgrading of China's economy, the demand hierarchy of all industries has gradually improved. Under the induction of market interest mechanisms, new forms of emerging producer services such as research and design, information services, management consulting, technology services, business and exhibition services, and cultural and creative services have continuously sprung up. These new emerging service forms begin to become new growth points of China's producer services. Thereby, China's producer services begin to show the changing trend from an industrial structure dominated by labor-intensive sectors to one dominated by knowledge & technology-intensive sectors.

Box 2. Innovation of supply chain financing services by Alibaba, Jingdong, and other e-commerce companies

In 2012, some e-commerce companies such as Alibaba, Jingdong, Suning Tesco, and others carried out microfinance services based on supply chain financing, and began to enter the financial sector.

As the first e-commerce company to do micro-lending, Alibaba provided order-based loans and credit-based loans to its registered members from Jiangsu, Zhejiang, and Shanghai beginning in August, 2012. Enterprises can apply for a loan, which can be effective to use in 24 hours using just their transaction information on the Alibaba platform, without providing any guarantee. The services provided by Alibaba are different from traditional credit services. These services including loan review, risk control, and others are all conducted online. According to the data about its registered members' credit and behavior, Alibaba can assess their ability and willingness to repay loans. With a built-in mechanism of monitoring and closing, it controls for risk. Statistics suggest that Alibaba has lent more than 300 billion RMB yuan, and its failure to repay rate was only 0.3%, much lower than the average rate of China's commercial banks. Jingdong officially released its service system of supply chain finance in November, 2012. Jingdong's funds come from banks, which is different from Alibaba. Jingdong obtains packaged funds from the bank first, using its own cash flow as guarantee of repayment. Then it distributes loans to its qualified small vendors. By now, Jingdong's supply chain financial products have provided more than 5 billion yuan worth of credit lines from Bank of China, Construction Bank, Bank of Communications, Industrial and Commercial Bank of China, and China Merchants Bank, among other commercial banks..

2.4. The contribution rate of producer services to GDP has risen in the waves, and producer services is becoming an important impetus of the national economy

Table 7 shows that the contribution rate of producer services to China's GDP has risen in waves during the period of 2005-2011. Correspondingly, the contribution rates of primary and secondary industry have fallen from 2005 to 2011, and that of the tertiary industry has risen.

Table 7

The contribution rate of producer services to China's GDP during 2005-2011 (%)

Year	Primary Industry	Secondary Industry	Tertiary Industry	Producer Services
2004	7.80	52.23	39.92	—
2005	5.61	51.11	43.27	20.52
2008	5.73	49.25	45.02	25.19
2011	4.61	51.61	43.77	26.30
2012	5.72	48.71	45.56	—

Source: Calculated with data from *China Statistical Yearbook*.

Table 8 shows the contribution rate of sub-sectors to China's producer services during 2005-2011. The contribution rates of transport, storage and post, information transmission, computer services, and software have fallen, while the contribution rates of wholesale business, retail trades, and financial intermediation have risen in waves, and that of leasing and business services, scientific research, and technical services are fluctuated between 6% and 11%.

Table 8

The contribution rate of sub-sectors to China's producer services during 2005-2011 (%)

Year	Transport, Storage and Post	Information Transmission, Computer Services and Software	Wholesale and Retail Trades	Financial Intermediation	Renting and Business Services	Scientific Research and Technical Services
2005	26.48	12.99	29.41	13.49	9.76	7.87
2008	14.50	9.50	43.16	20.79	7.52	4.54
2010	15.41	4.60	43.32	20.59	10.21	5.86
2011	17.53	4.77	40.89	21.13	8.62	7.06
AAGR (%)	-6.64	-15.38	5.65	7.77	-2.05	-1.79

Source: Calculated with data from *China Statistical Yearbook*.

2.5. The labor productivity of producer services has increased continuously, and producer services have become an important engine in improving labor productivity of the economy

Table 9 shows that the labor productivity of China's producer services has increased rapidly during 2004-2011 with an AAGR of 15.05%, higher than the growth rate of total economy (12.59%), secondary industry (11.15%), and tertiary industry (14.62%). The labor productivity of China's producer services has increased by 1.66 times, while the labor productivity of the secondary and tertiary industry has increased by only 1.07 and 1.58 times, respectively, and the total economy's labor productivity has increased by 1.28 times. Thus, it is clear that producer services are playing a significant role in promoting the growth of China's labor productivity.

Table 9

Labor productivity of China's producer services during 2004-2011 (10 thousands RMB yuan /person, %)

Year	Total Economy	Secondary Industry	Tertiary Industry	Producer Services
2004	14.40	15.75	10.87	16.92
2008	25.76	27.83	20.43	33.27
2011	32.82	32.61	28.13	44.76
AAGR(%)	12.59	11.15	14.62	15.05

Source: calculated with data from *China Statistical Yearbook*.

From the perspective of the growth rate of labor productivity, the 6 sub-sectors of China's producer services can be grouped into 3 categories: (1) Category I includes wholesale and retail trades, financial intermediation, scientific research, and technical services; its growth rate is higher than the other producer services. (2) Category II includes transport, storage and post, leasing and business services; its growth rates are lower than producer services, but higher than the total economy and the secondary industry. (3) Category III includes information transmission, computer services, and software; its growth rate is the lowest. The reasons are as follows. Firstly, with development of technology, many industries, links, and procedures with the use of manual operations have been highly standardized and automated, and more precise instruments are used, thus manual operations are reduced greatly. Secondly, with the increase of human capital, the added value of knowledge-intensive producer services is improved. Thirdly, China's governments at all levels have attached importance to infrastructure investment in recent years, and the infrastructure capital formation of capital-intensive producer services continues to increase. All of these factors have contributed to the growth of output and the reduction of costs, and thus labor productivity has increased.

Table 10

Labor productivity of sub-sectors of China's producer services during 2004-2011 (10 thousands RMB yuan/person, %)

Year	Transport, Storage and Post	Information Transmission, Computer Services and Software	Wholesale and Retail Trade	Financial Intermediation	Renting and Business Services	Scientific Research and Technical Services
2004	14.73	34.24	21.23	15.15	13.51	7.92
2008	26.09	49.28	50.90	35.60	20.42	15.54
2011	33.85	45.97	67.10	49.39	32.83	23.34
AAGR (%)	12.76	4.48	18.25	18.95	13.83	16.81

Source: Calculated with data from *China Statistical Yearbook*.

Box 3. Development of Shanghai's producer services

Since the 1990s, the proportion of Shanghai's tertiary industry in GDP had shown a steady improvement. In 1999, it exceeded 50%, indicating that tertiary industry became the dominant sector in Shanghai's economy. In *Global Urban Competitiveness Report: 2007–2008*, Shanghai's tertiary industry scored a 0.677, ranking 25th in the world. After the global financial crisis in 2008, Shanghai's tertiary industry still maintained rapid growth. Data in 2012 shows that tertiary industry shared a record height of 60.45% of Shanghai's GDP, while the growth rate of Shanghai's tertiary industry in 2011 and 2012 was 9.6% and 10.6%, respectively.

From the perspective of the internal structure of Shanghai's tertiary industry, producer services have gradually become the dominant sector, which share 54.72% of Shanghai's tertiary industry. In 2012, wholesale and retail trades and financial intermediation accounted for 26.98% and 20.09%, and were the two largest industries among the 6 sub-sectors. Leasing and business services, information transmission, computer services and software, transport, and storage and post accounted for 8.73%, 7.53% and 7.34%, respectively. From the perspective of headquarter economy, Shanghai is China's financial center, and it ranks 26th in the world in financial intermediation. In 2007, there were 6 headquarters of financial multinational corporations and 130 branches in Shanghai.

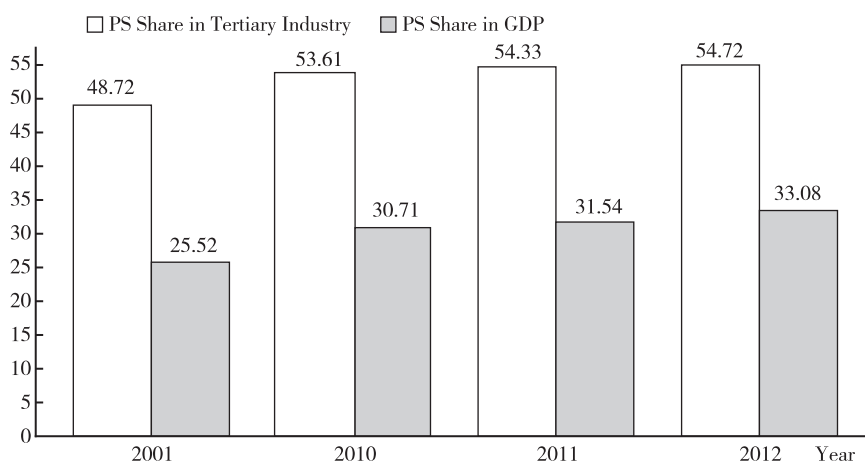


Figure 5. The proportion of Shanghai's producer services in tertiary industry and GDP (%)

Source: *Shanghai Statistical Yearbook 2013*.

Shanghai has made great progress on RMB settlement in cross-border trade, stock index futures, "three-port", "three area" linkage. It contributes to about 25% of China's total domestic financing. Shanghai Port's handling capacity of international standard containers was among the top ports in the world, and its cargo throughput ranked first. Shanghai accounted for more than a quarter of national total import and export and service trade. Its gathering and diffusing function and service capability as an economic center has improved significantly, and the exchanges and cooperation with the Yangtze River Delta and other parts of the country continue to deepen.

2.6. Investment return of producer services is apparently higher than that of total economy, and producer services are becoming an important area of foreign direct investment

Table 11 shows that during the period of 2004–2011 the investment output per unit of China's producer services was always higher than total economy, secondary industry, and tertiary industry. In 2004, China's producer services, secondary industry, tertiary industry, and the total economy was 3.12, 2.57, 1.62, and 2.27, respectively. In 2011, the investment output per unit was reduced to 2.68, 1.66, 1.21, and 1.52, respectively. It is obvious that the investment output per unit of China's producer services is ahead of the average level.

Table 11

The investment output per unit of China's producer services during 2004–2011

Year	Total Economy	Secondary Industry	Tertiary Industry	Producer Services
2004	2.27	2.57	1.62	3.12
2008	1.82	1.94	1.45	2.96
2011	1.52	1.66	1.21	2.68

Source: Calculated with data from *China Statistical Yearbook*.

Table 12 shows that the investment output per unit varies among sub-sectors of China's producer services. (1) The investment output per unit of financial intermediation is very high, generally above 40. In 2007, it reached 78.30. (2) The investment output per unit of information transmission, computer services, and software is higher than producer services, and it was rising in twists and turns. (3) The investment output per unit of wholesale and retail trades, leasing and business services, scientific research, and technical services are higher than producer services, but they begin to decline. Maybe this is because the fixed capital investment in these industries is saturated, the output growth of these industries can be increased further by improving the total factor productivity followed by the accumulation of human capital and implementation of management innovation. (4) The investment output per unit of transport, storage, and post is not only far below producer services and the average level, but has also been declining over the past 8 years. The investment output per unit in this industry has fallen from 1.22 in 2004 to 0.79 in 2011. This phenomenon should be related to the investment saturation of transportation and storage services because of Chinese large-scale infrastructure construction in the last 10 years. Therefore, this resulted in the reduction of the marginal investment return in this industry and the investment output per unit has declined.

Table 13 shows that the actual use of foreign investment of China's producer services has grown rapidly during the period of 2004–2012. China's producer services are becoming an increasingly popular and important area of foreign direct investment. FDI inflows share of China's producer services to total FDI inflows has increased from 10.39% to 26.60%, and the AAGR of FDI inflows of producer services is 21.40%, much higher than the primary industry (8%), the secondary industry (1.8%), and the tertiary industry (19.18%).

Table 12

The investment output per unit of sub-sectors of China's producer services during 2004-2011

Year	Transport, Storage and Post	Information Transmission, Computer Services and Software	Wholesale and Retail Trades	Financial Intermediation	Renting and Business Services	Scientific Research and Technical Services
2004	1.22	2.56	9.78	39.65	6.24	5.28
2008	0.96	3.63	7.00	57.05	4.14	5.11
2011	0.79	4.50	5.84	39.08	2.78	4.15

Source: Calculated with data from *China Statistical Yearbook*.

Table 13

FDI proportion of China's producer services during 2004-2012 (%)

Year	Total Economy	Primary Industry	Secondary Industry	Tertiary Industry	% of All Industries ¹	% of Services ²
2004	100	1.84	74.98	23.18	10.39	44.83
2008	100	1.29	57.64	41.07	18.61	45.31
2012	100	1.85	46.96	51.20	26.60	51.96
AAGR (%)	7.94	8.00	1.80	19.18	21.40	—

Note: 1 denotes the proportion of producer services' actual use of foreign investment to the total economy. 2 denotes that to the tertiary industry.

Source: Calculated with data from *China Statistical Yearbook*.

After nearly a decade of development, the proportion of China's producer services to tertiary industry in foreign direct investment has risen from 44.83% in 2004 to 51.96% in 2012. During this period, the FDI of sub-sectors of China's producer services presented various trends. (1) Transport, storage, and post, and leasing and business services account for large FDI proportion of producer services; but this has shown a downward trend. The FDI proportion of these two sectors to China's producer services is declining and the FDI amount of the two sectors has increased by only 1.73 and 1.91 times, respectively. (2) The FDI proportion of wholesale and retail trades to China's producer services is continuously growing, and it has become the largest among the 6 sub-sectors. With its proportion rising, the total FDI amount has increased by 11.79 times. (3) The FDI proportions of financial intermediation, and scientific research and technical services to producer services are small, but they have increased by 7.39 and 9.53 times, respectively. With further increases, they will become the highlight of China's FDI inflows. (4) The FDI proportions of information transmission, computer services, and software to producer services change in the shape of a "W" during the period observed. During the period of 2004-2012, the FDI inflows of information and communication services have increased by 2.67 times. With the further advancement and application of communication and information technology, China's information and communication services will become the largest domains and attract more and more FDI.

Table 14

FDI proportion of sub-sectors of China's producer services during 2004-2012 (%)

Year	Transport, Storage and Post	Information Transmission, Computer Services and Software	Wholesale and Retail Trades	Financial Intermediation	Renting and Business Services	Scientific Research and Technical Services
2004	20.21	14.54	11.74	4.01	44.84	4.66
2008	16.58	16.14	25.78	3.33	29.42	8.76
2012	11.69	11.30	31.84	7.13	27.63	10.42
times	1.73	2.67	11.79	7.39	1.91	9.53

Note: Data in the table denote the proportion of sub-sectors to China's producer services in actual use of foreign investment.

Source: Calculated with data from *China Statistical Yearbook*.

2.7. Producer services have been the most important field of China's overseas direct investment

During the period of 2003-2012, China's overseas direct investment in the three industries has increased by 29.76 times, while overseas direct investment of producer services has increased by 75.28 times, and the proportion of that has increased from 25.52% to 63.29%. Producer services have become the most important area of China's overseas direct investment. Correspondently, the proportion of overseas direct investment in the secondary industry has decreased from 71.72% in 2003 to 31.20% in 2012.

Table 15

Proportion of overseas direct investment of China's producer services during 2003-2012 (%)

Year	Total Economy	Primary Industry	Secondary Industry	Tertiary Industry	Producer Services
2003	100.00	2.85	71.72	25.43	25.52
2008	100.00	0.31	17.24	82.46	81.21
2012	100.00	1.66	31.20	67.14	63.29

Source: Calculated with data from *China Statistical Yearbook*.

Table 16 shows that overseas direct investment of China's producer services is mainly concentrated in renting and business services, wholesale and retail trades, and financial intermediation. During 2003-2012, leasing and business services were always the largest industry, and accounted for the biggest proportion of overseas direct investment in China's producer services. Since 2008, its proportion has been fluctuating around 50%, and the absolute amount has increased by 94.92 times. The proportion of overseas direct investment in wholesale and retail trades to producer services declines in waves. However, the proportion was still as high as 23.48% in 2012 and has increased by 35.53 times during this period. It became the second largest

sector in overseas direct investment of China's producer services among the 6 sub-sectors. The proportion of overseas direct investment of financial intermediation demonstrates an N-shape situation, rising first and then falling. At 18.12% in 2012, financial and insurance activities became the third largest sector in overseas direct investment.

Table 16

Overseas direct investment proportions of sub-sectors of China's producer services during 2003-2012 (%)

Year	Transport, Storage and Post	Information Transmission, Computer Services and Software	Wholesale and Retail Trades	Financial Intermediation	Renting and Business Services	Scientific Research and Technical Services
2003	10.60	1.21	49.04		38.27	0.88
2007	21.91	1.64	35.60	8.99	30.22	1.64
2008	5.85	0.66	14.35	30.94	47.83	0.37
2012	5.38	2.23	23.48	18.12	48.12	2.66

Source: Calculated with data from *China Statistical Yearbook*.

3. The experience of developing China's producer services

3.1. The innovation of service economy theory promotes the great development of China's tertiary industry and producer services

China has long been influenced by "Theory of the unique importance of material production" in the planned economy era, and put undue emphasis on manufacturing and agricultural production, ignoring tertiary industry.

For a long time, academia, business, and government in China has regarded service staff as "non-production workers" who are believed not to create value and social wealth; they rely on the donations of the "material production sector", and are frequently accused of "eating the rice planted by farmers and wearing the clothing made by workers, while knowing nothing about farming and manual labor". Not producing tangible product seems to be a guilty deed. The theoretical mistakes have led to denigration, compression, and inhibition of industrial policies for services in practice.

In the early 1980s, Chinese academia began a great debate of whether service sectors create a product, added value and wealth, and contribute to progress. *Tertiary Industry Economics* is a representative achievement of academic research in this period (Li, 1990). In this book, economist Jiangfan Li presents *Service Product Theory* and proofs that service staffs obtain the "rice" and "clothing" from agriculture and manufacturing by providing "service products", which are produced and consumed at the same time to the counterparty in return.

Hence there is no reason to criticize service staff for knowing nothing of farming and manual working, just as we can't criticize farmers and workers for not becoming teachers or doctors. It's the inevitable result of labor's social division and each performing its own functions.

Traditional theories of Political Economics regard products as only material objects and

deny the viewpoint that “non-material production workers” produce products. Chinese popular thought has lent to the theoretical origin of this fallacy and is an important reason for the slow development of China’s tertiary industry.

To correctly understand the social status of the tertiary industry, identifying the key issue is necessary to breaking the traditional product conception, and put labor in the form of non-material objects into the scope of social products.

Jiangfan Li builds a new theoretical system with the foundation of Service Product Theory, and correctly applies Political Economics in the tertiary industry. Li explores, summarizes, and explains a series of new problems centering on service sectors which emerge in modern economic life, and further supplements and enriches the basic principles of traditional Political Economics, and reveals the economic laws of the tertiary industry from the two aspects of general economic laws and unique economic laws through complicated economic phenomena in the tertiary industry.

The research achievement was adopted by China State Council in the “Decision on Accelerating the Development of Tertiary Industry,” and has had a positive impact for the practice and decision-making of China’s tertiary industry development.

In the early years of reform and opening up, most Chinese scholars in service economics believed that services were only a means of consumption and production processes don’t need services to act as factors of production.

Sha et al.(1981) presents that all production processes need “non-material means of production” to serve as production factors. Li (1987) divides service products into the means of production in the form of services and the means of consumption in the form of services, pointing out that producer services “constitute direct production factors in primary, secondary, and tertiary industries” and act as means of production in the production process of material and service products, participating in value creation.

In 1990, Jiangfan Li won China’s highest economic award, the “*Sun Yefang Economic Science Award*”, with his book *Tertiary Industry Economics* (Li, 1990). It marked the end of controversial issues of fundamental theory about “whether services create value or not”. This book is the earliest theory literature in China which systematically analyzes the producer service sector and how this sector provides producer services for primary, secondary, and tertiary industries. It laid a solid theoretical foundation for research of producer services and the tertiary industry.

3.2. *The strategic decisions of the tertiary industry promote the development of tertiary industry*

The rapid development of China’s tertiary industry since the reform and opening up is closely related with the fact that China introduced the concept of tertiary industry and implemented strategic decisions to accelerate the development of tertiary industry. In the urgent need to upgrade the economic structure and under the impetus of several ideological debates in theoretical cycles, governments at all levels gradually understood the tertiary industry, increasingly

supporting the development of tertiary industry.

The concept of tertiary industry initially appeared in China's investigation report in 1979. In the first half of 1981, China launched a propaganda program in support of tertiary industry, mainly to solve the employment problem. In the latter half of 1981, some authorities argued that tertiary industry is "a concept permeated with the essence of capitalism", and that the concept of tertiary industry therefore puts China into a "limbo".

In 1984, the central leaders formulated guidelines to vigorously develop China's tertiary industry. In 1985, the National Bureau of Statistics built the statistical system of tertiary industry. 1986 was the first time the concept of "tertiary industry" appeared in the National Five-Year Plan. Since reform and opening-up, the central government has introduced service industry policies, which have had great impact and wide coverage. The policies emphasized the development of the service industry and producer services.

(1) In 1992, the CPC Central Committee of and the State Council issued the "Decision on Accelerating the Development of Tertiary Industry", noting that accelerating the development of the tertiary industry is the inevitable result of productivity improvement and social progress. This "Decision" focused on the key areas not only including producer services closely related to economic development, such as business, the materials industry, foreign trade, finance, insurance, storage and so on, but also including emerging producer services associated with technological progress, such as consulting (including technology, legal, accounting, auditing, consulting, etc.), information, various technology services, and so on, as well as fundamental producer services which have overall and guiding influences on the development of national economics, including transportation, post and telecommunications, scientific research, and so on. This is the most important strategic decision of the China's tertiary industry development, and guides the healthy development of tertiary industry.

(2) By the end of 2001, the State Council of the PRC issued "Opinions on Policy Measures to Accelerate the Development of the Service Sector during the Period of the 10th Five-Year Plan". The "Opinions" proposed 7 aspects of policy measures to promote the development of the service sector, including optimizing service sector structure, accelerating the reform and reorganization of enterprises, deregulating market access of service sector, expanding opening up, and increasing service sector investment in different ways.

The "Opinions" stressed 4 aspects to optimize producer services, as follows: To strengthen the reorganization and transformation of transportation, commerce circulation, agricultural services, and other industries; To promote the development of organizational forms and service modes, such as chain operation, franchise, logistics, agency systems, multimodal transport, e-commerce, and so on; To develop information, finance, insurance and accounting, consulting, legal services, technology services, and other intermediary service industries; To according to the position of urban functions, to reorganize and transform the traditional services, focusing on the development of a modern service industry and emerging services.

(3) In March, 2007, the State Council issued the "Opinions of the State Council Concerning Accelerating the Development of the Service Sector", which was another deregulation policy

for the development of the service sector. The “Opinions” proposed explicitly to increase policy support to actively promote the development of producer services, develop production-oriented services, and accelerate the convergence of a modern manufacturing and service industry; foster the formation of national and regional service centers, industrial design and R&D centers, and regional logistics centers which have prominent functions; encourage foreign investment in services that actively play a role in international service outsourcing business; and foster outsourcing industry bases.

(4) In December, 2012, the State Council issued “The 12th Five-Year Plan of Service Sector Development”. In a separate section, the “Plan” describes the direction and key areas of China’s producer services development during the period of the 12th Five-Year Plan. It points out that China should focus on promoting industrial transformation and upgrading as well as speeding up the process of agricultural modernization, promote the middle-high end development of producer services, deepen the industrial convergence, refine specialization, enhance service function, improve innovation capabilities, and continuously improve the comprehensive competitiveness of its industry.

There are 12 key areas of producer services as follow: financial services, transportation, modern logistics, high-tech services, design consulting, technology services, business services, e-commerce, engineering consulting services, human resource services, energy saving and environmental protection services, as well as emerging activities and emerging industries.

Specific measures include: To accelerate the development of rural producer services: To further open up the service sector through the development of the services trade. This would be aided by improving the utilization of foreign capital in the service sector. This would also encourage domestic enterprises to implement “go global” strategies. Further more, it would deepen cooperation of the service sector between Mainland China and Hong Kong and Macao, and promote cross-strait cooperation in the service sector.

(5) In August, 2014, the State Council issued the “Guiding Opinion on Accelerating the Development of Producer Services to Promote Industrial Structure Adjustment and Upgrading” (Issued by State Council of PRC [2014] No.26). It was the first time the central government introduced policies with special emphasis on supporting the development of producer services, and was a milestone.

The “Guiding Opinion” points out to accelerate innovation and development of producer services, achieve a higher level convergence between the service sector, agriculture, and industry, promote industrial structure optimization and adjustment, and improve the efficiency and quality of the economy. The “Guiding Opinion” encourages enterprises to develop the top of the value chain and accelerate the convergence of manufacturing and IT services.

This policy focuses on the development of 11 key areas, including research and development, third-party logistics, financial leasing, IT Services, energy saving and environmental protection services, inspection, testing and certification, e-commerce, business consulting, service outsourcing, after-sales service, human resources services, and brand building by implementing 6 policy measures including further expanding opening up, improving fiscal policy, land policy and

price policy, strengthening intellectual property protection and talent, and establishing a sound statistical system.

In recent years, many local governments, especially in developed regions (typically in Guangdong, Shanghai, Suzhou, Jiangsu, Nanjing, Tianjin, Hangzhou, etc.), have introduced policies to promote the development of producer services. These policies can be subdivided into two types, one is the development programs, and the other is policy advice. Development programs are mainly focused on assessing the status of the development of local producer services, clarifying the meaning of producer services development, setting development goals, defining key areas of region and industry, and providing some guidance and direction of principle. In comparison, policy advice appears to be more specific and detailed, which mainly list related incentives in detail about taxation, finance, banking, market access, land, water, and so on.

3.3. Emphasis on the tractive force of producer services in industry transformation and upgrading, and promoting the development of industry-oriented producer services

To promote new industrialization with Chinese characteristics, policy needs to promote the deep convergence of informatization and industrialization, provide traction for producer services in industry transformation and upgrade, and enhance the core competitiveness and sustainable development capacity of industry.

In January, 2012, the State Council issued the “Industrial Transformation and Upgrading Plan (2011-2015)” (Issued by State Council of PRC [2011] No.47). The “Plan” notes that China’s new industrialization needed to develop producer services vigorously, provide traction for informatization in transformation and upgrading, promote the change from “production-oriented manufacturing” to “service-oriented manufacturing”, and accelerate the manufacturing industry transformation of digitization, networking, intelligence, and service. To sum up, the “Plan” focused on producer services related to industrial transformation and upgrading from 3 aspects: raising the level of industrial informatization, developing producer services which enhance the competitiveness of electronic information industry, and developing industry-oriented producer services and promoting service-oriented manufacturing.

3.4. Emphasis on the development of producer services sub-sectors, and promoting the value chain embedding function of producer services

To implement the “12th Five-Year Plan”, “Opinions on Accelerating the Development of the Service Sector”, improve producer services role in the industrial value chain, and promote industrial transformation and upgrading, the nation issued policies to promote development of different, special producer services.

3.4.1. High-tech service sector

In December, 2011, the State Council issued the “Guiding Opinions on Accelerating the Development of High-tech Service Sectors” (Issued by State Council of PRC [2011] No.58), which points out that the high-tech service sector is an important part and high-end link of the modern service sector, and accelerating the development of the high-tech service sector has important significance for expanding domestic demand, creating jobs, fostering the growth of strategic emerging industries, and promoting the optimization and upgrading of industrial structure.

The “Guiding Opinions” determines the 8 high-tech services as key areas, including research and design services, intellectual property services, inspection services, transformation of scientific achievements services, information technology services, digital content services, e-commerce services, and bio-technology services, and supports the short and long term goals of the high-tech service sector through 8 policies as follows: increasing fiscal support, expanding financing channels, improving the market environment, fostering market demand, enhancing innovation capability, strengthening personnel training, deepening international cooperation, and guiding agglomeration development.

In addition, industrial planning and policy opinions for the following aspects also have been put forward successively: financial services, circulation services, e-commerce services, environmental services, recycling economy services, maritime services, air transport services, internet services, high-end software and emerging information services, cultural creativity and design services, and small and mid-size enterprises (SMEs) in producer services.

3.4.2. Financial services

In August, 2014, the State Council issued the “Opinions on Accelerating the Development of the Modern Insurance Service Sector” (Issued by the State Council of PRC[2014] No.29).

In June, 2011, the General Office of the State Council issued the “Notice about Opinions on Promoting the Normal Development of Financing Guarantee Sector” (Issued by the State Council of PRC[2011] No.30).

3.4.3. E-commerce services

In March, 2008, the General Office of the State Council issued the “Opinions on Accelerating the Development of E-commerce” (Issued by the State Council of PRC[2005] No.2).

3.4.4. Circulation services

In August, 2012, the State Council issued the “Opinions on Deepening the Reform of Circulation System to Accelerate the Development of Circulation Sector” (Issued by the State Council of PRC [2012] No.39).

3.4.5. Energy conservation and environmental protection services and recycling economy services

In June, 2012, the State Council issued the “The 12th Five-Year Development Plan of Energy Conservation and Environmental Protection Sector” (Issued by the State Council of PRC[2012] No.19), which made energy conservation and environmental protection services a key area of the development for the energy conservation and environmental protection sectors during the 12th Five-Year Plan. It implemented the project of fostering energy conservation and environmental protection services, and developed environmental protection services systems including investment and financing for the environment, clean production audits, green certification assessments, environmental insurance, environmental litigation, educational training, and so on.

In February, 2013, the State Council issued the “The development Strategy and Recent Action Plan of Recycling Economy” (Issued by the State Council of PRC[2013] NO.5), which proposed to build a recycling-based services system, make the service industry greener, and promote the convergence of the service sector and other industries.

3.4.6. Transport services

In September, 2014, the State Council issued the “Opinions on Promoting the Healthy Development of the Maritime Industry” (Issued by the State Council of PRC[2014] No.32), which emphasized that the maritime industry is an important basic industry for economic and social development, and proposed to develop a modern maritime service industry vigorously.

In July, 2012, the State Council issued the “Opinions on Promoting the Development of the Civil Air Transport Industry” (Issued by the State Council of PRC [2012] No.24), which pointed out that the civil air transport industry is an important strategic industry for economic and social development. It emphasized the development of general aviation services and enhancement of transport service quality, thus promoting the development of air transport service economics, including air passenger and cargo transportation, general aviation, aviation maintenance, aviation finance, aviation travel, and aviation logistics.

3.4.7. Internet of things services

In February, 2013, the State Council issued the “Guiding Opinions on Promoting the Healthy and Orderly Development of Internet of Things” (Issued by the State Council of PRC[2013] No.7), which points out that the internet of things is highly integrated and comprehensive application of next-generation information technology and it has characteristics of strong permeability, great leading effects, and so on. To promote the development of the internet of things, China needs to support enterprises to develop online professional services and value-added services which are helpful to expand market demand, promote the marketization of application services, accelerate the development of the service outsourcing industry, and foster emerging service sectors.

3.4.8. High-end software and emerging information services

In July, 2012, the State Council issued “The 12th Five-Year Plan of National Strategic Emerging Industry Development” (Issued by the State Council of PRC[2012] No.28), which points out that development of high-end software and emerging information services is one of the important tasks of national strategic emerging industries development. It needs to actively foster cloud computing services, e-commerce services, and other emerging service activities, as well as apply IT to develop the digital content industry, cultural creativity, and the design service industry, and promote the transformation of China’s information services.

3.4.9. Cultural creativity and design services

In March, 2014, the State Council issued “Opinions on Promoting the Convergence Development of Cultural Creativity, Design Services and Other Related Industries” (Issued by the State Council of PRC[2014] No.10), which points out that cultural creativity and design services with characteristics of high knowledge, high value-added services, low energy consumption, low pollution, and so on, are present in various fields and sectors of economic society. It proposes that China should promote the development of new and high-end services such as cultural creativity and design services, deepen its convergence with the physical economy, foster new growth points of national economy, and improve its industrial competitiveness.

3.4.10. Small and mid-size enterprises (SMEs) of producer services

In September, 2009, the State Council issued the “Opinions on Further Promotion of the Development of SMEs” (Issued by the State Council of PRC[2009] No.36), to encourage SMEs’ development in producer services such as research and development, industrial design, technical consulting, information services, modern logistics, and so on. The goal was to promote SMEs’ expansion in emerging fields such as software development, service outsourcing, network animation, advertising, creative work, e-commerce, and so on. This will strengthen the service function of financial services and credit information services in the development of SMEs.

3.5. To increase investment through various channels in order to promote innovation of producer service supply

The guarantee for growth of input in the tertiary industry is a prerequisite to promote sustained, stable, and rapid development of the tertiary industry. In the “Opinions on Policy Measures to Accelerate the Development of Service Sector During the Period of 10th Five-Year Plan” issued at the end of 2001, the government explicitly proposes to increase investment of service sector in different ways, and three specific measures were put forward:

(1) The central and local governments should arrange a certain amount of investment to accelerate the development of the service sector, to attract more bank credit funds and social investment.

(2) Banks should increase credit support for the service sector appropriately, and lend actively to services enterprises and their construction projects that meet necessary conditions.

(3) Encourage qualified service enterprises to enter the capital market to receive financing through stocks, corporate bonds, project financing, assets reorganization, and equity transfer. This will create conditions to gradually resolve the unreasonable prices problem of water, gas and electricity which some service sectors meet.

Furthermore, the National Development and Reform Commission (NDRC) issued the “Measures for the Use of the National Service Sector Development Guiding Fund” in 2004, which in detail defined the meaning of establishing a national service sector development fund, key areas of the guiding fund to support, and methods to be used for allocation. This provided an important catalyst to increases input of producer services through a multi-channel approach.

Recently, the “Guiding Opinions on Accelerating the Development of Producer Services to Promote Industrial Structure Adjustment and Upgrading” was issued in 2014. This further promotes the producer services supply through fiscal and taxation policies, financial service innovations, improving land and price policies, and so on. The concrete measures are as follows.

(1) To explore improving the input mode of financial funds, and focus on improving the weak links in producer services development, such as building public infrastructure, establishing a market credit system, and extending the public service platform.

(2) To encourage development zones, industrial clusters, modern agricultural industry bases, service sector aggregation areas, and development demonstration zones to construct positively significant service platforms.

(3) To study the first application policies of self-dependent innovation products, and increase support for the application of R&D and designing achievements.

(4) To innovate financial services, develop various kinds of financial products and services suited to the characteristics of producer services, and promote supply scale of producer services.

(5) To reasonably arrange land use of producer services to promote economical and intensive development. To encourage industrial enterprises to establish proprietary producer services that promote themselves to transform and upgrade self-owned land.

(6) To establish scientific and reasonable loan pricing mechanisms for producer services enterprises, and increase support for producer services enterprises in key areas.

3.6. To unfalteringly expand opening up, gradually liberalize market access for producer services, and strengthen international cooperation

In the era of economic globalization, the fragmentation of the industrial value chain makes

producer services more and more important in the process of value-added products. Therefore, China is paying much attention to the opening up of producer services in promoting the reform of the tertiary industry and producer services.

The “Guiding Opinions on Accelerating the Development of Producer Services to Promote Industrial Structure Adjustment and Upgrading” issued in 2014, points out further measures for opening up from the following several aspects.

(1) To further liberalize the market access of producer services, and encourage social capital to develop producer services in a variety of ways.

(2) To further reduce the pre-approval of key areas and accreditation projects for producer services, and from “certification first and then business licenses” to “business licenses first and then certification”.

(3) To allow and encourage social capital to participate in market-oriented reform of applied technology R&D institutions and the national comprehensive reform pilots of the service sector.

(4) To explore the implementation of the establishment of national treatment and the negative list management mode to foreign investors.

(5) To simplify the procedures for the examination and approval of overseas investment, and further improve the facilitation of the overseas investment of producer services.

(6) To encourage enterprises to develop international marketing channels using e-commerce, and provide convenient customs clearance measures to e-commerce and express delivery enterprises with qualified conditions. New policy should accelerate the construction of cross-border e-commerce customs clearance pilot programs.

(7) To encourage setting up service institutions for overseas investment and trade.

Furthermore, Mainland China should actively explore the opening up of producer services in different ways, such as signing a comprehensive economic partnership agreement (CEPA) with Hong Kong and Macao, signing a “Cross-strait Economic Cooperation Framework Agreement” with Chinese Taiwan, setting up Shanghai Free Trade Zone and a Shenzhen-Hong Kong Cooperation Policy on Modern Service Industries in the Qianhai Area.

4. The problems and development direction of China’s producer services

4.1. Problems of China’s producer services development

Overall, China’s producer services have developed fairly effectively since the beginning of 21st century, which has laid a solid foundation in the further construction of a high-efficiency producer services development system. However, producer services are facing several problems as far as China’s economic development needs are concerned. Though the total amount of China’s producer services grows rapidly, there still exist some problems, such as poor development levels, structural imbalances between traditional producer services and modern producer services, weak capacity in innovation, and the controlling power of industries.

4.1.1. Overall development level is low

In recent years, although the total amount of China's producer services is relatively large, service products per capita and service density are far lower than developed countries and emerging economies.

We analyze service product per capita. The value-added ratio of China's producer services to GDP increased to 22.48% during the period of 2000-2011, which was just slightly lower than G7 countries and the other BRIC countries. Producer service product per capita in China also grew from \$200 to \$1221, an increase of more than 5 times. However, China's producer service product per capita is far below G7 countries and other BRIC countries (except India). In 2000, China's producer service product per capita was less than one twentieth of Italy's (the lowest of the G7 countries), and just one fifty-seventh of the United States' (the highest of the G7 countries). Even in 2011, China's producer service product per capita was less than one seventh of Italy's, and is now one thirteenth of the United States.

We also analyze service density. During the period of 2000-2011, China's producer service density increased from \$27,000 per square kilometer to \$176,000 per square kilometer, an increase of 5.5 times. However, it is still far lower than that of the United States (25.13-54.60, Britain (162.64-315.56), Germany (124.60-247.22), France (59.79-135.32, Japan (337.67-427.98, Italy (83.49-173.27, and other developed countries.

4.1.2. Internal structural hierarchy is low

China's producer services are still dominated by traditional services, while the share of modern services such as knowledge-intensive and technology-intensive services is relatively small.

The share of leasing and other business services in China's producer services is far less than G7 countries and other BRIC countries. In 2011, the average share of leasing and other business services in G7 countries was 40.92%, while the share in China was only 15.8%, which was far lower than the United States (41.97%), the United Kingdom (50.63%), Germany (51.45%), France (48.94%), and other developed countries, and was also lower than Brazil (28.88%), Russia (23.19%), and India (21.3%). According to new International Standard for Industrial Classification, ISIC 3.0, leasing and other business services include not only the leasing of machinery and equipment, but also computer-related activities, research and development, accounting, legal services, advertising, engineering consultation, management consultation, technical testing and analysis, as well as other business services. All these services have the obvious characteristics of human capital-intensity, knowledge-intensity, and technology-intensity, which means their development level is an important indicator in measuring the modernization of producer services. Moreover, leasing and business services are an important engine for the optimization and upgrading of industrial structure, so they should play a limitless role. However, the development level of these services in China is still relatively backward.

On the contrary, China's producer services are dominated by traditional services like the wholesale trade industry, transportation industry, and so forth. The share of these two industries in producer services is higher than 50%, while the average share of G7 countries is closer to 30%. Meanwhile, traditional financial service activities directly relate with China's currency growth in recent years. However, financial services outside currency, such as financial leasing, credit grants, securities investment, financial derivatives trade, and other emerging financial services, are still relatively backward.

China's producer services have problems of internal structural imbalance; that is, traditional services still play a great role, while modern producer services like leasing and business services which are knowledge-intensive and technology-intensive, and act as "strategic propellers," are still relatively backward.

4.1.3. Capacity of service exports is weak

As global service trade activities are becoming increasingly frequent, the gap between China's imports and exports in services is widening, which indicates that the capacity of service exports and capacity of local producer services are relatively weak.

Taking the total amount into account, the aggregate scale of China's services trade continues to increase, while the deficit is also expanding. Total volume of imports and exports in services has grown from \$66 billion to \$470.6 billion during the period of 2000-2012, China's total volume of imports and exports in services accounted for 5.6% of total global trade in services in 2012, which ranks the third in the world. However, the growth rate of China's imports in services was significantly faster than exports, which made the gap between imports and exports in services wider, the total amount was as high as \$89.7 billion in 2012. Developed countries such as the OECD countries show another story. In OECD countries, exports in services were always much more than imports, so the surplus of services trade continued to expand, which increased from \$72.7 billion in 2002 to \$475.7 billion in 2012 with an average annual growth rate of 21.8%.

Moreover, exports of services in the form of commercial presence play a more important role in further development of industries. Some advanced countries provide their export services mainly in the form of commercial presence through FDI in services. Exports in services of this form have a rather strong capacity for providing new services, which play a key high-end control role in the governance of the global industry value chain under the background of globalization. During the period of 2005-2012, exports in services in the form of FATS of France, Germany, United Kingdom, and United States were close to 2 times or more than the amount of exports in services in the form of balance of payments (BOP). On the contrary, the capacity of China's exports in services in the form of commercial presence is still rather weak. The overall structure shows that China's trade in emerging services has increased rapidly, but trade in traditional services still holds the leading position, while capital-intensive and knowledge-intensive services are still relatively weak and at a comparative disadvantage.

In recent years, China's trade in high value-added services such as computer and information

services, financial services, and insurance services has grown rapidly, but its share in China's service trade is still very low. In 2012, More than 60% of China's total imports and exports in services came from traditional services like transportation and travel. While trade in high value-added and technology-intensive services such as financial services, insurance services, computer, information services, and communications services accounted for only 17.1% of total trade in services.

Take the structure of exports in services into account; international services trade represented by OECD countries tends to be knowledge-intensive, technology-intensive, and capital-intensive. The structure of producer services in China is currently dominated by labor-intensive traditional services (such as travel services and sales services), but is moving towards knowledge-intensive and capital-intensive modern services (research and design services, communication services, financial and insurance services, computer related services, etc.). This change represents the main trend and development direction of international trade in services in the world. However, during the period of 2002-2011, China's share of exports in modern services, such as communications services, financial services, insurance services, and other business services such as royalties and license fees, was basically lower than OECD countries—only the share of exports in traditional services like transportation and construction services was higher than OECD countries.

4.1.4. Regional distribution is imbalanced

China's producer services show obvious differences in regional development; that is, eastern, central, and western development in China is imbalanced.

Though producer service inputs in eastern, central, and western China have increased substantially, the gap between these regions is still large: the share of producer services inputs in eastern China is more than 60%, which is 3 and 4 times that of central and western China, respectively. However, a production softening coefficient shows an entirely different story. According to the calculations, during the period of 2003-2007, production softening coefficients in eastern China were the lowest (24.35%-18.80%), while that of western China was the highest (29.05%-23.88%), and that of central China was just between eastern and western China (24.77%-21.22%). This means that even though eastern China has a higher economic development level, its share of producer services inputs is lower, which contradicts the general rule of production softening coefficients and economic development levels.

4.2. *The development direction of production factors: the softening of inputs*

Premier Li Keqiang chaired a State Council executive meeting on May 14, 2014, to accelerate the development of key and weak links within China's producer services in order to promote the adjustment and upgrading of industrial structure. In the authors' opinion, the main idea of the meeting was to spur quality-raising, efficiency-increasing mechanisms, and industrial upgrading via promoting the growth of industrial production factors in the form of services (that is, the

softening of inputs).

According to service recipients, producer services can be divided into producer services oriented to the primary industry (agricultural producer-services), producer services oriented to the secondary industry (industrial producer-services), and producer services oriented to the tertiary industry (service sector producer-services). In trun, producer service sectors refers to the sectors providing factors of all three industries' production in the form of services. According to its action points, the producer service sectors can be divided into three levels: The first level is the core level of producer services, in which the producer services directly influence production processes, such as R&D, science and technology services, information services, cultural innovation, and production management. The second level is the peripheral level, in which the producer services influence economic circulation processes, such as logistics, trading, financial services, and exhibition services. The third level is the relevant level, in which the producer services influence the producer and investment environment, such as commercial hospitality, catering, entertainment, recreation, and business support services.

As far as the existence form is concerned, production factors include two aspects. The first one is production factors in the form of tangible material objects, such as equipment, instruments, raw materials, materials, fuel and energy, and other production factors. The second is production factors in the form of intangible services, such as research and development services, design, production management, science and technology services, information services, business services, financial services, logistics services, and so on. The softening of production factors means the share of production factors in the form of services increases and the share of production factors in the form of material objects declines. The softening of factors of production and the development of producer services are two versions of the same phenomenon.

The above analysis shows that the growth of production factors in the form of services, that is, the substitution of soft production factors for solid factors of production, has the function for promoting the efficiency of the national economy. The ratio of producer services consumption in the three industries to production factors increases with rising economic development levels. The ratio of producer services consumption of the three industries in developed countries is higher than that of developing countries. With the national economic development level increasing, the demands for production factors in the form of services from agriculture, manufacturing, and service sectors are growing increasingly. The share of production factors in the form of services tends to rise, while the share of production factors in the form of material objects tends to decline.

The State Council executive meeting prioritized the deployment of producer services development, so as to comply with the trend of the softening of production factors. In the authors' opinion, this included not only the increase of softening inputs in manufacturing production areas, but also the increase of softening inputs in circulation. The main methods should include: (1) To increase the softening inputs in the industrial production process that leads to the upgrading of industries by encouraging investments and trade in new materials, new products, new technology research and development applications, and other industrial services (which can be classified as the core level of producer services). (2) To increase the softening inputs of manufacturing and

agricultural sectors by improving the level of industrial informatization, process reengineering and optimization, the construction of the Internet in rural areas, encouraging the development of energy management, and environmental services (core level of producer services). (3) The promotion of the joint development of third-party logistics and manufacturing sectors, so as to increase the softening inputs in circulation processes within the manufacturing sectors and improve circulation efficiency by building a public information platform of logistics and cargo stowage centers and accelerating standardized facility applications (at the peripheral level of producer services). (4) The promotion of efficiency of manufacturing sectors by making use of advantage of division of labor cooperation obtained through services outsourcing. (5) The support of the development of production factors in the form of services through the construction of human resources.

In general, the current focus of the State Council of China on the development of producer services is industrial producer-services. The main idea is to lead quality-raising, efficiency-increasing, and industrial upgrading via promoting the softening of production factors in manufacturing sectors. The fundamental method is to stimulate the increase and upgrading of the manufacturing sectors' demand for services through promoting the growth and innovation of the supply of producer services (demand for services from the manufacturing sector change dynamically here). On the one hand, the increases of services supplies will be encouraged by orderly liberalization of market access and implementing preferential policies to inputs of producer services in manufacturing and in related facets such as human capital (developing high-end talent and innovative teams which are in urgent need in China's producer services sectors), capital (encouraging capital and financial institutions to participate in the broadening of financing channels, providing income tax benefits to selected producer services as high-tech enterprise technology), and material resources (promoting financial lease of equipment, improving fiscal, taxation, land, and price policies, as well as promoting the development of information and the internet). On the other hand, foreign market access restrictions will be orderly removed in some producer services areas (architectural design, accounting, auditing, business, logistics, and other fields), and China's enterprises will be encouraged to invest abroad via the simplification of examination and approval procedures, investment facilitation, and other means.

The aim of these methods is to provide a new engine to the sustainable and healthy development of China's economy and society. This is an innovation of macroeconomic control methods under the downward pressure of China's economy: China should not rely on investment stimulation and extensive development of manufacturing, but instead stimulate the development of producer services so as to increase services demand, and combine the industrial structure adjustment with stable growth and promote the stable growth of economy, leading to raises in quality and efficiency.

It must be pointed out that the tertiary industry itself is also an important service recipient of producer services. A rather large share of the tertiary industry output is treated as production factors of the service sector, which is very common in developed countries. In China, the main portion of producer services is industrial producer-services. However, in developed areas and

metropolitan areas, the development of producer services oriented to the tertiary industry is emerging. As planned by the State Council, China will achieve transformation of industrial structure to that of a service economy by 2020. This means that the ratio of the tertiary industry to national economy will be more than 50% and the ratio of producer services oriented to the tertiary industry to producer services will increase obviously. According to the law of producer services development and learning from international experience, the development of China's producer services should take a strategic positioning as follows: to promote producer services oriented to the secondary industry as a key point throughout China, to expand the development of producer services oriented to the tertiary industry in megacities, and to strive to develop producer services oriented to the primary industry in village and urban areas. The first strategy is based on the fact that China's industrial structure is dominated by the secondary industry, while the second strategy is the demonstration of the fact that industrial structure development will induce the upward tendency of the ratio of producer services oriented to the tertiary industry. Therefore, when the development of industrial producer services is deployed all over the country by the State Council of China, developed regions and megacities of the eastern coastal area in China should promote the development of producer services oriented towards the tertiary industry.

According to the previous lessons of economic development, there are three kinds of harmful tendencies that should be overcome when promoting the development of production factors in the form of services.

The first harmful tendency is to develop production factors in the form of services by way of political movements with the same opinion. The deployment of producer services by the State Council of China is based on the softening tendency of production factors and the key and weak points of China's producer services, which should be carried out with the combination of practice. If the industries list listed by the State Council of China is taken as a standard planning list by all regions in developing producer services without the consideration of local practices and urban and rural characteristics, and then promote the development of producer services by way of political movements as a slavish imitation all over the country, it may lead to some services sectors' overdevelopment and overcapacity of the tertiary industry in the new round of development.

The second harmful tendency is to develop production factors in the form of services in the same way nations develop manufacturing sectors. In the past, the way to develop manufacturing has been to build industrial parks. As new manufacturing enterprises concentrate in industrial parks, it will obtain positive externalities from industrial clusters, reduce costs, and gain a competitive advantage. New industrial producer-services enterprises can also obtain positive externality from services clusters. But some industrial producer-services enterprises need to develop a close relationship with manufacturing enterprises because they play a grand role in the remaking, upgrading, and optimization of manufacturing production and circulation procedures. Some service-oriented enterprises start as manufacturing enterprises in order to cross over to provide producer services concurrently, which means they can provide services with their original workshops and offices, so there is no need for them to gather in service parks. Some producer

services enterprises can expand their service radius and provide remote services with the help of internet technology, so there is no need for them to gather in the same building or park. The government should focus on improving the operating environment, such as to solve problems of market access and finance, to reduce the tax burden instead of building services sector “agglomeration areas”, as a key point in displaying government performance; ultimately, it is not necessary to build a concentrated area of producer services in a certain town.

The third harmful tendency is to develop production factors in the form of services with faith in a “Supply-driven Theory”. It should be admitted that the power of China’s government leading its economic development is quite strong. In manufacturing fields, new enterprises are often using manufacturing procedures of multinational corporations with mature production technologies and a worldwide sales network. As long as the government can solve supply problems such as investment, industrial land, workshop and personnel recruitment, and other supply problems of production factors, demand issues of manufacturing products are negligible since their markets are all over the world. Definitely, “where there is a development goal, the government is committed to achieving it” in manufacturing sectors, or say, “supply drives everything”. However, in services sectors, the scale of services supplies is restricted by service demands since main markets of service products are local. If services demands are insufficient, even though the government can solve supply problems such as investment, industrial land, workshop and personnel recruitment, and other supply problems of production factors, producer services enterprises may not be necessary if there is not sufficient demand. Hence, we should promote the development of producer services according to “the theory of supply and demand”, that is, we should consider both the prerequisites of service supplies and service demands and the local conditions, and whether the services demands will be more than the critical scale to support the independence of the service sector.

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