A COMPARATIVE STUDY OF THE CONTRIBUTION OF

VALUE-ADDED SERVICES TO CHINA'S TOTAL INDUSTRY EXPORT

Yan Xiao & Lina Zhao

School of Economics, Central South University of Forestry and Technology, Changsha, Hunan, China

ABSTRACT

For a long time, the absence of uniform statistical standards for services has led to a lack of data on global services trade. Developed countries and developing countries have been trying to measure the contribution of service trade to economic growth. To achieve the accuracy of trade service data under the same unified caliber, China wants to formulate the service industry development strategy to promote the upgrading and optimization of industrial structure. This article is based on the TIVA statistical data in the OECD database, according to 14 services sectors' contribution to 34 export industries, the paper makes a comparative study on value-added between China domestic service industry and a group of ten foreign countries. The paper gets conclusions as followed: Firstly, the domestic value-added of China's service industry have great differences in the contribution to the export of primary industry, the secondary industry and the tertiary industry; Second, relative to China's domestic contribution, the ten countries' contribution also shows the characteristics of departmental agglomeration, and the value-added capacity of China's service sector is obviously weak; Third, due to service industry's different value-added contributions on the primary industry, the secondary industry, the tertiary industry, how to effectively improve global competitiveness of China's industries through the service value-added process is very different among service sectors. China needs to improve the sector competitiveness of the service sectors, namely mechanical equipment rental services, public management and defense, mandatory social security, computer and related services, transportation, and warehousing services. The key to speeding up the structural adjustment of the export industry is to focus on the service sector as a breakthrough, and also to enhance the global competitiveness of the service industry.

KEYWORDS: *Service Industry, Value Added, Ten Countries, Contribution Degree, Comparative Study*

INTRODUCTION

With the growth of China's trade in goods entering the bottleneck stage, the growth of the service sectors has become a new growth area. How to develop strategic policy effectively to promote the service industry to get a rapid

growth in China has become the focus of attention of government decision-making layer. Because of the existence of natural differences on the domestic value-added contributions to exporting industry, to analyze and quantify the contribution degree of differences is the basis to develop a sound strategy on service sectors. Before that, it is of great significance to analyze the differences of China's service industry's contribution ability to all sectors of the exporting industry and to formulate strategies to improve the service industry.

In China, the current research on service trade mainly concentrated on the international competitiveness of the service sectors. The World Trade Organization agreement in the negotiations of the Doha round of trade in service encounter huge obstacles , under the condition of this , talking about the competitiveness of China's service industry is of little significance. Under the trend of trade protectionism, the TPP agreement was abandoned by the United States, and all regional free trade agreements are facing the trend of reverse liberalization of the service industry. The liberalization of the service industry is becoming increasingly distant.

The international competitiveness of the service industry cultivation research should first make it clear China's position in the global service industry, the service industry contributions of our country to the whole exports industry's become the base of analysis and research, while micro sample data becomes the basis of the research for the whole industry to export, rapid development in the global industrial chain of OECD TIVA database, the contribution of service industry added value to the whole industry exports will have important significance for our in-depth analysis of China's service industry contributions to the whole economic performance , which provide a solid support of strategy and tactics for the development of our country, this research will promote the rapid development of service industry.

LITERATURE REVIEW

The new trend of economic restructuring of the service has been formed (Vandermerwe 1988), the manufacturing industry in the process of fragmentation of the global production chain in the evolution and development of the information technology is constantly updated and network intensive service industry leads to increasingly convenient and cost of remote transactions is decreasing gradually, with the manufacturing industry and the new service industry has created a the new trend of the trend of service is the manufacturing industry (Servitization of Manufacturing) to further promote the development of production chain and value chain.

Based on the added value of trade forward decomposition method, combined with the new version of WIOD (2016) database, Cheng Dazhong (2017) calculates the China overall and segments of service trade export situation, the conclusion shows that the Chinese service economy in a country industrial structure and trade structure in the significant asymmetry problem[1]; Chinese service industry value through the export of indirect export of manufactured goods; 2014 Chinese service in the world export market share reached 12.88%, second only to the United States, ranked second in the world; value-added Chinese service industry is weak, economic performance is low[2]. Wang Shuli (2015), the trend of globalization has led to stagnation and decline in investment in the major sectors of the production services sector. At the same time, foreign production services investment has been replaced by domestic inputs, and this substitution has been concentrated in the middle and high technology sectors[3]. By using input-output model, design evaluation indexes for the development and evaluation of industrial fusion interaction, Zhang Qingzheng (2015) argued the intrinsic relationship between this industry status quo and measure of quantitative analysis of producer services and strategic emerging industries[4]. Guo Jing (2015) argued because of not excluding the impact of imported intermediate inputs, the traditional

international market share (IMS) and revealed comparative potential (RCA) index overestimated the international competitiveness of service industry China direct exports; because not consider materialized in the manufacturing industry in the export of services indirect exports, the traditional IMS and RCA index Chinese underestimated the international competitiveness of service industry as a whole; the international market Chinese service industry share is increasing year by year, but still showed a strong comparative advantage, but the service industry direct export comparative disadvantage is deteriorating trend[5]. Pang Ruizhi (2014) calculated the productivity and growth of service industry and industry by using the provincial panel data of China during the year. Research shows that productivity in service sector is higher than average in industry, but slightly higher in industry. However, in recent years, the growth of service industry has the trend of catching up with industry. That is, the "Baumol Fawkes hypothesis" and the domestic formulation of the low efficiency of service industry are not established in China at the present stage. Moreover, the extent of industrialization has a positive impact on productivity, but has little effect on growth[6]. Zhang Yajun (2014) this paper will study the relationship between the structure of regional input-output model decomposition technique is applied to the production of the service industry and manufacturing industry, the method discussed in the industrial association can be investigated based on the endogenous growth between the two. From the producer services sector, endogenous growth effect, transportation, storage and postal industry, information transmission, computer services and software industry, leasing and business services, scientific research and technical services and geological prospecting industry tends to rise, but the financial industry and the real estate industry still needs to be improved[7]. Yuan Zhigang (2014) argued that because of not excluding the impact of imported intermediate inputs, the traditional international market share (IMS) and revealed comparative advantage (RCA) index overestimated the international competitiveness of service industry China direct exports; because not consider materialized in the manufacturing industry in the export of services indirect exports, the traditional IMS and RCA index Chinese underestimated the international competitiveness of service industry as a whole; the international market Chinese service industry share is increasing year by year, but still showed a strong comparative advantage, but the service industry direct export comparative disadvantage is deteriorating trend[8]. Tan Hongbo (2012) China's service industry TFP growth rate is almost zero, mainly due to this should belong to the "progressive sector" producer services to the overall service sector TFP growth caused by inadequate contribution[9].

In summary, the microcosmic research for the service sector is very large in advance, but Chinese service industry research contribution to China's total export industry and foreign service industry as the research contribution to industry of our country whole industry exports almost No. To investigate the China service value of whole industry export contribution, and compared the foreign service industry as the source of the whole industry Chinese industry contribution of exports is the only way which must be passed the industrial association micro level and global level.

Analysis Model and Data

Data Selection

In this paper, OECD's trade-related value-added database (TIVA-- Trade in Value-added) as the basic data source, select the relevant data of 14 value-added services sector, value-added data of 34 export sectors, 11 countries (France, Germany, Ireland, Japan, Holland, Spain, Britain, the United States, India, China Singapore).

Table 1: OECD TIVA Database Industry Code, Customs Commodity Scope

Numbering Section	Scope	Industry Name (Export / Source Industry)
1	C01T05	Agriculture, hunting, forestry and fishing
2	C10T14	Mining and quarrying
3	C15T16	Food products, beverages and tobacco
4	C17T19	Textiles, textile products, leather and footwear
5	C20	Wood and products of wood and cork
6	C21T22	Pulp, paper, paper products, printing and publishing
7	C23	Coke, refined petroleum products and nuclear fuel
8	C24	Chemicals and chemical products
9	C25	Rubber and plastics products
10	C26	Other non-metallic mineral products
11	C27	Basic metals
12	C28	Fabricated metal products
13	C29	Machinery and equipment, nec
14	C30T33X	Computer, Electronic and optical equipment
15	C31	Electrical machinery and apparatus, nec
16	C34	Motor vehicles, trailers and semi-trailers
17	C35	Other transport equipment
18	C36T37	Manufacturing nec; recycling
19	C40T41	Electricity, gas and water supply
20	C45	Construction
21	C50T52	Wholesale and retail trade; repairs
22	C55	Hotels and restaurants
23	C60T63	Transport and storage
24	C64	Post and telecommunications
25	C65T67	Financial intermediation
26	C70	Real estate activities
27	C71	Renting of machinery and equipment
28	C72	Computer and related activities
29	C73T74	R&D and other business activities
30	C75	Public admin. and defence; compulsory social security
31	C80	Education
32	C85	Health and social work
33	C90T93	Other community, social and personal services
34	C95	Private households with employed persons

Note: C01T05 stands for international customs, and the goods range from chapter first through chapter fifth. Others in the table are followed by analogy. Straight writing industry that belongs to the first and second industry; Industry belongs to the service industry in italics.

Empirical Results Analysis

From 1995 to 2011, the proportion of China's domestic value-added to total exports showed a trend of convergence to the center

In 1995, China's average domestic value-added rate was 73.41%, and in 2011 the average rate rose to 77.16%. The highest and lowest proportion in 1995 China domestic value-added difference reached 72.71 percentage points

(98.97%-26.26%=72.71), 2000, 2005, 2008, 2009, 2010, the difference in 2011 were 75.55, 64.65, 53.55, 52.78, 52.87 and 51.58 percentage points. The data show that the gap in value-added of China's overall industry is narrowing, representing a balanced growth trend of domestic value-added of China's total industrial exports, and achieving a balanced development of the industry.

Table 2: China's Domestic Value-Added Accounted for a Very Bad Proportion of Total Exports

1995	2000	2005	2008	2009	2010	2011
72.71	75.55	64.65	53.55	52.78	52.87	51.58

Note: Unit: percentage point.

Table 3: Changes in the Proportion of Domestic Value-Added to Total Exports

	1995	2000	2005	2008	2009	2010	2011
1	92.99	92.23	89.94	90.16	91.32	90.18	89.85
2	65.04	69.78	73.4	75.82	77.54	75.95	73.77
3	61.1	64.73	74.76	77.29	78.48	75.48	74.59
4	56.73	61.82	69.07	74.66	75.96	73.58	73.52
5	65.32	62.25	72.06	66.16	65.7	64.61	60.59
6	26.83	31.78	50.13	59.44	58.59	58.28	56.09
7	41.82	39.19	47.99	53.09	57.62	54.69	52.03
8	43.68	44.37	53.55	58.65	60.55	58.16	55.41
9	49.21	49.72	55.65	61.55	63.52	63.42	61.44
10	78.52	77.12	73.04	70.78	74.48	72.34	70.02
11	74.48	72.25	72.72	75.54	76.61	74.84	73.8
12	51.42	50.85	59.5	64.03	65.22	62.81	59.75
13	59.95	61	65.19	70.44	71.45	70.45	69.58
14	26.26	22.46	31.21	43.19	44.32	43.77	45.01
15	30.28	31.82	43.22	53	52.43	53.9	51.37
16	41.81	46.04	58.94	67.11	68.9	68.55	66.86
17	62.91	66.03	64.27	69.03	72.29	72.51	72.41
18	71.94	74.07	74.11	80.48	80.24	78.54	77.68
19	95.82	94.03	92.19	91.35	92.2	91.03	90.72
20	94.1	92.52	88.61	87.95	89.59	88.4	87.91
21	96.85	95.24	96.34	95.52	96.24	95.94	95.89
22	97.45	96.08	94.82	94.81	95.6	94.87	94.81
23	96.17	94.43	90.22	90.29	92.12	91.15	90.83
24	95.67	93.24	90.15	92.76	93.75	93.3	93.31
25	98.15	98.01	95.86	96.74	97.1	96.64	96.59
26	98.97	97.04	94.24	96.64	96.3	94.96	94.83
27	97.28	94.39	90.32	88.71	89.7	87.97	87.87
28	94.02	90.7	88.09	88.1	89.2	87.44	87.32
29	96.55	93.53	89.81	88.45	89.47	87.72	87.6
31	96.73	95.87	95.21	94.69	95.56	95.12	95.02
32	95.36	93.76	88.89	89.45	91.45	90.53	90.12
33	95.6	94.46	92.45	92.23	93.4	92.54	92.39

Note: Unit:%. Due to the lack of statistical data on OECD, the industry numbers of 30 and 34 are not listed in the table.

China's service sector's contribution to the export of the first and second industries and the value-added contribution to the service sector show remarkable industrial concentration. The top four service industries are wholesale

and retail services, maintenance services, transportation and warehousing services, R & D services and financial intermediation services.

**Table 4: Y2011 China's Service Sector's Value-Added Contribution
to the First Second Industry Export Ranking**

Rank	Industry	Industry Number	Contribution Amount
1	Wholesale and retail trade; repairs	21	65061.489
2	Financial intermediation	25	36193.634
3	Transport and storage	23	28198.935
4	R&D and other business activities	29	25386.357
5	Real estate activities	26	13383.322
6	Hotels and restaurants	22	9211.058
7	Post and telecommunications	24	8262.75
8	Other community, social and personal services	33	6217.827
9	Computer and related activities	28	3128.595
10	Education	31	2295.235
11	Health and social work	32	2197.106
12	Public admin. and defence; compulsory social security	30	657.534
13	Renting of machinery and equipment	27	306.698
14	Private households with employed persons	34	38.809

Table 5: Y2011 China's Service Sector Value Added Contribution to Service Sector Ranking

Rank	Industry	Industry Number	Contribution Amount
1	Wholesale and retail trade; repairs	21	180767.04
2	Transport and storage	23	54306.94
3	R&D and other business activities	29	28709.43
4	Financial intermediation	25	20573.56
5	Hotels and restaurants	22	13230.59
6	Other community, social and personal services	33	12341.1
7	Real estate activities	26	11735.62
8	Post and telecommunications	24	9242.56
9	Computer and related activities	28	4024.16
10	Education	31	1843.52
11	Renting of machinery and equipment	27	1256.3
12	Health and social work	32	995.38
13	Public admin. and defence; compulsory social security	30	254.76
14	Private households with employed persons	34	0

The contribution of ten countries' service industry to the export of China's first and second industries and the contribution of value-added services to China's service industry has shown remarkable industrial concentration. The order

of the same: Wholesale and retail services; maintenance services, transportation and warehousing services, research services, financial intermediary services, real estate services, computer and related services, postal and telecommunication services, other community, social and personal services, machinery and equipment rental services, hotel and restaurant services, public administration and defense, mandatory social security, education, health and social services and private employment services.

Table 6: Degree of Contribution of Value-Added Services to China's First and Second Industries in 2011

Rank	Industry	Industry Number	Contribution Amount
1	Wholesale and retail trade; repairs	21	46552.613
2	Transport and storage	23	20274.768
3	R&D and other business activities	29	19840.742
4	Financial intermediation	25	16779.193
5	Real estate activities	26	5354.515
6	Computer and related activities	28	4064.07
7	Post and telecommunications	24	2961.985
8	Other community, social and personal services	33	2886.508
9	Renting of machinery and equipment	27	2356.978
10	Hotels and restaurants	22	2045.882
11	Public admin. and defence; compulsory social security	30	1197.886
12	Education	31	807.515
13	Health and social work	32	255.538
14	Private households with employed persons	34	0

Table 7: Y2011 Degree of Contribution of Value-Added Services to China's Service Sector

Rank	Industry	Industry Number	Contribution Amount
1	Wholesale and retail trade; repairs	21	1582.603
2	Transport and storage	23	1006.23
3	R&D and other business activities	29	845.8
4	Financial intermediation	25	817.845
5	Real estate activities	26	203.708
6	Computer and related activities	28	175.325
7	Post and telecommunications	24	114.015
8	Other community, social and personal services	33	107.432
9	Renting of machinery and equipment	27	97.582
10	Hotels and restaurants	22	73.903
11	Public admin. and defence; compulsory social security	30	49.419
12	Education	31	33.761
13	Health and social work	32	9.602
14	Private households with employed persons	34	0

With the proportion of ten countries as a whole relative to the contribution of China's service industry, the contribution of ten countries to China's first and second industry's value-added contribution is higher than that of china:

machinery and equipment rental services (27), public administration and defence; compulsory social security (30), and computer-related services (28), transportation and warehousing services (23).

As regards the proportion of ten countries as a whole in terms of their contribution to China's service sector, the contribution of ten countries to China's value-added services has been ranked from high to low relative to the percentage of China's contribution to the service sector: machinery and equipment rental services (27), public administration and defense; mandatory social security protection (30), computer and related services (28), transportation and warehousing services (23).

The contribution of China's service industry to the export of its own industries and the contribution of the ten service industries as the source industries to the export of China's total industry are quite different. The export Chinese services to the whole industry contribution are: Wholesale and retail services; maintenance services, transportation and warehousing services, research services and financial intermediary services; ten countries service industry contribution to the whole industry China big exports are: machinery and equipment rental services, public administration and defence; compulsory social security, computer and related services, transportation and warehousing services. China and ten countries between great complementary in the service industry to promote the China export industry, China in machinery and equipment rental services, public administration and defense; there is a huge space for development and opportunities of compulsory social security, computer and related services, transportation and warehousing services.

CONCLUSIONS AND IMPLICATIONS

Through the analysis we can get the following conclusions: First, in the strategic guidance of the The Belt and Road, how to implementation through project steadily promote the implementation of the strategy, give full play to China's competitive advantage of the service sector, and more active more actively fostering China's relatively weak service sector has become the gap between individual country service industry departments. A great opportunity for development to cultivate a wide range of service industry competitive advantage. Second, it is clear that our whole industry export depends greatly on several foreign large service sectors. Making the imbalance of relevant measures to promote the balance between departments to become the focus of the development of China's service industry: machinery and equipment rental services, public administration and defence; compulsory social security, computer and related service, transportation, and warehousing services has become China's urgent need to vigorously promote the service sector. Third, it is definitely the service sectors make a great contribution to the whole industry exporting, Try to strive to build the contribution of Producer Services Department of a large service sector to promote the strategy, and continue to move forward, to build China's service sector balanced development and global competitive advantage.

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