

Analysis on the International Competitiveness of China's Service Trade Exports

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Abstract—This paper analyzes the development status of China's service trade by using the international market share Index, TC Index and RCA index, and makes relevant international comparisons. The research shows that: first, the growth rate of China's goods trade and the growth rate of service trade do not match, compared with the trade in goods, the scale of trade in services is relatively small; second, China's service trade development and developed countries exist a certain gap; third, China's Construction services export comparative advantage is strong, with a certain potential for development.

Keywords—international competitiveness, TC index, RCA index

I. LITERATURE REVIEW

A. Trade in Services

The studies of Deardoff (1985) and Melvin (1989) are the most representative, evaluating the factor intensity of various sectors of service trade through the contribution of various elements to trade in services, and studying the influence of factor endowment on the comparative advantage of a country's trade in services.

Krugman (1991) Through the study of the specialization of enterprises and the specific needs of consumers, it is concluded that enterprises in the face of fixed costs, if entering a larger market, with a larger scale of production, its average cost will be lower.

B. China's Trade in Services

Li Yang (2008) This paper analyzes the development factors of China's service trade by using the least squares method, and points out that the development of domestic services, the development of international service and the development of trade in goods are positively correlated. Zhang (2016) A comparative analysis of China and the United States found that China's trade in services is growing rapidly, but the foundation of development is weak, and the trade deficit of China's services is increasing year by year, and the United States has a huge advantage in the trade surplus of services.

C. Competitiveness of China's service trade

Chen Hong (2010) The development status of China's service trade is analyzed by using international market share, TC Index and RCA index. The results show that the overall international competitiveness of China's service trade is low, but it has increased in recent years. Wangdeng (2016) to conduct a more study of China and the BRICS countries, it is concluded that the competitiveness of China's services trade is weaker than that of other countries, and the market share of insurance services is slightly higher than that of other countries.

II. ANALYSIS OF THE CURRENT SITUATION OF CHINA'S SERVICE TRADE COMPETITIVENESS

The common evaluation method of service international trade competitiveness is to make use of international market share Index, TC Index and RCA index. These coefficients are diverse and can reflect the competitiveness of service trade from many angles. Below we use the relevant index to analyze China's service trade export competitiveness.

A. Analysis of the Overall Competitiveness of China's Service Trade

According to the data of the China Statistical Yearbook, China's total trade in services in 2016 was \$657.5 billion, total exports of trade in services amounted to \$208.3 billion, total imports amounted to \$449.2 billion, and the trade deficit in services had reached \$240.9 billion, an increase of 11.84% over 2015. Figure 1 shows the import and export status of China's trade in services in 2005-2016. As can be seen in the figure, China's service trade deficit is increasing in size, from \$15.5 billion in 2009 to \$240.9 billion in 2016.

In addition, the growth rate of China's trade in goods and the growth rate of trade in services do not match, compared to trade in goods, the scale of trade in services is relatively small.

In absolute terms, China's trade in goods exports in the past 12 years has been far greater than the volume of trade in services exports, and this gap has been widening, from 2005 the difference between 678.2 billion dollars to 2016 difference of 1.8893 trillion U.S. dollars, trade in services as a proportion of trade in goods changed little, remained at about 0.1%.

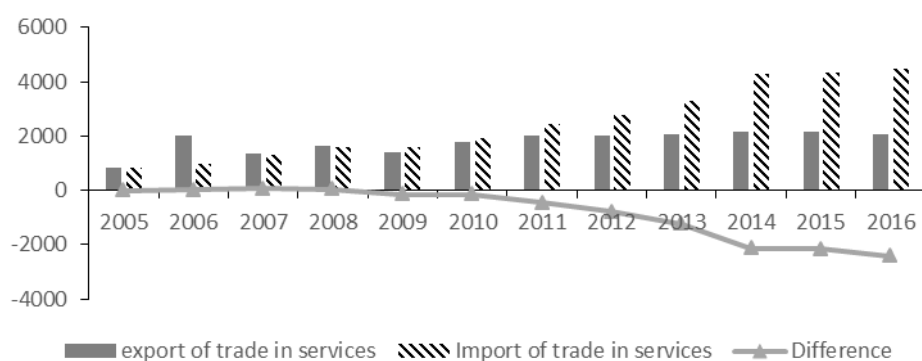


Fig.1. 2005-2016 Import and export status of China's service trade (in billions of US dollars)

TABLE I. 2005-2016 CHINA'S TRADE IN SERVICES AND EXPORTS OF GOODS (IN BILLIONS OF US DOLLARS)

Year	Export of services	Export of goods	services/goods
2005	838	7620	0.11
2006	2014	9690	0.21
2007	1348	12205	0.11
2008	1626	14307	0.11
2009	1426	12016	0.12
2010	1774	15778	0.11
2011	2003	18984	0.11
2012	2006	20487	0.10
2013	2058	22090	0.09
2014	2181	23423	0.09
2015	2176	22735	0.10
2016	2083	20976	0.10

B. Analysis of International Market Share of China's Service Trade

Table II shows the changes in total exports of China's services trade over the past 12 years. According to the data, the total export of world trade in services has maintained a growth trend in the past 12 years, increasing by \$1.3356 trillion trillion and growing at an average annual rate of 15.93% per cent, while the growth in China's trade in services increased from 2005 to \$83.8 billion in 2016 to \$208.3 billion, with a total increase of \$124.6 billion, The average annual growth rate was 13.51% per 2.42% lower than the total exports of world trade in services over the same period. China's international market share of service trade has seen a trend of first growth and then decline, with little overall change (except 2006), which remains at around 4%.

TABLE II. 2005-2016 CHANGES IN CHINA'S SERVICES TRADE EXPORTS (IN BILLIONS OF US DOLLARS)

Year	Total export of China's service trade	Total exports of world trade in services	International market share of China's service trade (%)
2005	838	25127	3.34
2006	2014	28418	7.09
2007	1348	34203	3.94
2008	1626	38464	4.23
2009	1426	34973	4.08
2010	1774	38434	4.62
2011	2003	42780	4.68
2012	2006	43469	4.61
2013	2058	46250	4.45
2014	2181	48615	4.49
2015	2176	51413	4.23
2016	2083	54372	3.83

C. Analysis of TC Index of China's Service Trade

TC Index is the competitive Advantage index, also known as the Trade Competitiveness Index, refers to a country's import and export trade balance accounted for the proportion of its total import and export trade. It is generally believed that the closer the index is to 1, the greater the competitiveness, equal to 1, indicating that the industry only exports do not import; The closer the index is to 1, the weaker the competitiveness, equal to 1, indicating that the industry is only imported and not exported; equal to 0 indicates that the competitiveness of the industry is at the intermediate level. The specific formulas are as follows:

$$TC \text{ index} = (\text{Export} - \text{Import}) / (\text{export} + \text{Import}) \quad (1)$$

TABLE III. 2005-2016 TC INDEX AND INTERNATIONAL COMPARISON OF CHINA'S SERVICE TRADE

YEAR	CHINA	UK	USA	GERMANY	FRANCE
2005	-0.060	0.121	0.112	-0.130	0.067
2006	-0.046	0.148	0.114	-0.093	0.064
2007	-0.031	0.179	0.144	-0.082	0.071
2008	-0.039	0.170	0.140	-0.068	0.079
2009	-0.102	0.205	0.142	-0.044	0.071
2010	-0.088	0.195	0.154	-0.099	0.046
2011	-0.142	0.227	0.177	-0.103	0.065
2012	-0.190	0.230	0.181	-0.094	0.059
2013	-0.285	0.236	0.202	-0.100	0.044
2014	-0.290	0.256	0.207	-0.087	0.033
2015	0.281	-0.233	-0.204	0.049	-0.011
2016	0.418	-0.232	-0.189	0.051	0.012

The data in Table III show the TC index of China's trade in services and its comparison with the international. First of all, China's 2015 TC index is negative, from 2005-0.060 to 2014-0.290, indicating that China has been a net importer of trade in services, in the international disadvantaged position, but in the past two years there has been improvement. The TC index in most years in the UK, the United States and France is greater than 0, indicating that their trade in services is relatively competitive, with the TC indices of each of the three countries rising first and then falling, and the competitiveness of these countries has waned in the last two years.

In 1965, American economist Balassa proposed using the RCA index (a display comparative advantage) to measure the comparative advantage of a particular commodity in a country or region. The index can eliminate the effects of national aggregates and world aggregate fluctuations and can better reflect the comparative advantage of a particular commodity export in a country or region compared with the world average export level. The specific formulas are as follows:

D. Analysis of RCA Index of China's service trade

$$RCA_{ij} = \frac{x_{ij}/x_{tj}}{x_{iw}/x_{tw}} \quad (2)$$

TABLE IV. 2005-2016 RCA INDEX AND INTERNATIONAL COMPARISON OF CHINA'S SERVICE TRADE

Year	China	UK	USA	Germany	France
2005	0.515	1.346	1.209	0.914	0.947
2006	0.496	1.358	1.202	0.936	1.010
2007	0.489	1.427	1.121	0.905	1.003
2008	0.522	1.324	1.141	0.845	0.925
2009	0.541	1.277	1.112	0.893	1.174
2010	0.548	1.309	1.087	0.847	1.234
2011	0.622	1.235	1.070	0.869	1.271
2012	0.653	1.289	1.058	0.895	1.290
2013	0.696	1.190	1.011	0.910	1.349
2014	0.730	1.196	0.984	0.881	1.404
2015	0.401	2.141	1.540	0.653	1.305
2016	0.284	2.104	1.462	0.622	1.196

Table IV shows the RCA index of China's overall service trade and its comparison with the international. The data in the table show that the RCA index of the United Kingdom, the United States and France are all greater than 1, of which the UK RCA index is greater than 1.25, France nearly six years of the RCA index is greater than 1.25, indicating that the British and French trade exports of services have a strong international competitiveness, the United States services trade exports of strong international competitiveness. Germany's RCA index fluctuates between 0.6 and 1, but most years is greater than 0.8, so Germany's trade in services exports have a certain degree of international competitiveness. China's export RCA index is less than 0.8 year round, so I serve trading countries export competitiveness is weaker.

In terms of historical trends, the UK's RCA index has always been greater than 1.25, suggesting that the UK's services trade is not only competitive but also stable. By contrast, the RCA indices in both China and Germany have fallen in volatility, and the indicative comparative advantage of their services trade has declined.

E. Analysis of the current situation of international competitiveness of service industries in China.

The above is from the overall analysis of China's services trade exports of international competitiveness, through analysis found that China's trade in services, the overall international competitiveness is weak, but specific to the trade in services, the international competitiveness of its various industries are different. Next, it analyzes the export status of various industries of China's service trade in 2012-2016 (as shown in table V).

TABLE V. 2012-2016 STATUS OF TOTAL EXPORTS FROM VARIOUS SECTORS OF CHINA'S SERVICE TRADE (THOUSANDS OF US DOLLARS)

	2012	2013	2014	2015	2016
Transportation	38912165	37645660	38242780	38594332	33827133
Travel	50028000	51664000	56913000	114109397	44431584
Communications services	1793361	2200261	2699483	3311974	4063435
Construction services	12245919	10663040	15354970	16652465	12660612
Insurance services	3329230	3996167	4574146	4976295	4063791
Financial services	1885974	3185081	4530916	2334406	2261761
Computer and information services	14453508	17098440	20172910	23832335	28155590
Royalties and license fees	1044102	886670	676382	1084600	1161196
Other business services	66622537	57235010	68895100	58402863	57956711
Personal, cultural, and recreational services	125579	147159	174837	731421	742331
Government services, n.i.e.	990043	1227632	1054291	1064173	1211714

TableVI depicts the TC index for various industries of service trade in China. As you know from table 6, the development of various sectors of China's services trade is uneven. The TC index can be broadly divided into 3 categories. Category 1: The TC index is positive, such as communications services, construction services and other commercial services, the competitiveness of communications services has increased weakly, the other two categories have declined. Category 2: TC indices are negative, such as transport, travel, insurance services, financial services, proprietary royalties and royalties and personal, cultural and recreational services, and are less competitive. Category3: Changing from positive values to negative values, such as computers and information services, the international competitiveness is weakening.

TABLE VI. 2012-2016 THE TC INDEX OF CHINA'S SERVICE TRADE INDUSTRIES

	2012	2013	2014	2015	2016
Transportation	-0.376	-0.429	-0.431	-0.324	-0.409
Travel	-0.342	-0.427	-0.487	-0.438	-0.709
Communications services	0.042	0.047	0.052	0.057	0.061
Construction services	0.544	0.465	0.518	0.240	0.196
Insurance services	-0.722	-0.694	-0.662	-0.304	-0.521
Financial services	-0.010	-0.074	-0.043	-0.062	-0.046
Computer and information services	0.580	0.383	0.305	0.133	-0.047
Royalties and license fees	-0.889	-0.919	-0.942	-0.906	-0.908
Other business services	0.223	0.095	0.127	0.193	0.145
Personal, cultural, and recreational services	-0.636	-0.683	-0.666	-0.443	-0.485
Government services, n.i.e.	-0.025	0.016	-0.316	-0.414	-0.449

TableVII depicts the RCA index for various industries of service trade in China. The research shows that the RCA index of construction service is always more than 1.25 during the research period, and has a strong export comparative advantage. Travel RCA index 2012-2014 are more than 0.8, with a certain export comparative advantage. The export comparative advantage of communications services, insurance services, financial services and proprietary royalties and royalties is weaker and continues to decline over the years. The comparative advantage of personal, cultural and recreational services and government services exports not mentioned elsewhere is weaker, but the index is gradually rising.

TABLE VII. 2012-2016 RCA INDEX OF VARIOUS INDUSTRIES OF CHINA'S SERVICE TRADE

	2012	2013	2014	2015	2016
Transportation	0.858	0.907	0.790	0.428	0.465
Travel	0.949	0.994	0.965	0.936	0.452
Communications services	0.368	0.609	0.638	0.378	0.543
Construction services	2.651	2.462	2.929	1.714	1.647
Insurance services	0.500	0.615	0.593	0.386	0.331
Financial services	0.154	0.254	0.288	0.054	0.063
Computer and information services	0.956	1.147	1.014	0.527	0.784
Royalties and license fees	0.081	0.068	0.042	0.030	0.034
Other business services	1.241	1.100	1.104	0.484	0.563
Personal, cultural, and recreational services	0.062	0.073	0.073	0.160	0.178
Government services, n.i.e.	0.276	0.386	0.303	0.155	0.217

III. CONCLUSIONS AND RECOMMENDATIONS

This paper analyzes the development status of China's service trade by using the international market share Index, TC Index and RCA index, and makes the relevant international comparison. The research shows that: first, the growth rate of China's goods trade and the growth rate of service trade do not match, compared with the trade in goods, the scale of trade in services is relatively small; second, the development of China's service trade and developed countries exist a certain gap; third, China's Construction services export comparative advantage is strong, the development potential is huge.

Generally speaking, China's service trade should be used rationally to optimize the factors of service production, actively explore domestic and foreign markets, strengthen the coordination and support role of related industries in the Department of Service trade, adjust the management structure of service enterprises, implement scientific management strategy, adjust the flow of foreign capital, improve the utilization rate of foreign capital, and actively play the role of government.

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