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Analysis on the Industrial Relevance of Anhui Province's Financial Industry

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Abstract

Objective To analyze the correlation between the financial industry and other industries in Anhui Province and the empirical data analysis, summarize the problems in the development process in recent years, and provide relevant policy recommendations for the better development of the financial industry in Anhui Province. Methods Relevant statistical data of Anhui Province show that the development of the financial industry has slowed down compared with that of other industries in Anhui Province in recent years. Therefore, based on the relevant data of the input-output table of Anhui Province in 2012 and 2017, this paper selects six major industries including the financial industry to establish an input-output model, uses the input-output accounting method to conduct empirical and data analysis, and outlines the industrial chain with the financial industry as the center, The overall development status of the financial industry in Anhui Province and the industries it depends on and mainly serves are statistically analyzed. Results Among the major industries selected in this paper, the correlation between the financial industry and the construction industry in Anhui Province is the highest, the direct distribution coefficient of the financial industry to each industry in this paper ranks first, and the intermediate investment of the financial industry to the construction industry is the highest (compared with other industries listed in this paper), but the number is small, and there is a downward trend over time.

Keywords

Financial Industry; Input Output Table; Data Analysis; Industrial Linkage.

1. Introduction

With the continuous promotion of economic globalization and the continuous improvement of the financial economic system, the financial industry has an increasing impact on China's GDP growth. Therefore, it is necessary to study the law of development and change of the financial industry. The research idea of this paper is to select six major industries, including the financial industry, according to the 42 sector input-output tables of Anhui Province in 2012 and 2017. By calculating the data of relevant economic indicators, using various formulas in Excel tables, and analyzing the direct consumption coefficient matrix and indirect consumption matrix, the overall and local specific analysis methods are adopted, First of all, grasp the position of the financial industry in each industry of Anhui Province as a whole. Then, among the six selected industries in this paper, analyze the financial industry of Anhui Province from the perspective of the main services of the financial industry, and reveal the quantitative dependence between the financial industry and other industrial sectors of the national economy.

2. Theoretical Basis of Calculation

The calculation and analysis of this paper is based on the input-output table. The input-output table is a method to study and analyze the economic links of various sectors in the process of social reproduction. It clearly explains the relationship between social total supply and total

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demand, intermediate products and final demand, and the distribution and accounting of national income. It consists of three parts, namely three quadrants. It reflects the supply and demand among industries in a certain period in the form of a matrix, explains the sources of production input and the use of output of each department in a certain period, and refines the gross national product by combining production, income, expenditure and other methods.

This paper conducts input-output accounting through the input-output table. The basic purpose of input-output accounting is to use the basic information of product flow to analyze the interdependence between industries in the economy. The basic information is included in an inter industry transaction table. The rows in the table represent the distribution of producers' output in the overall economy, The column represents the proportion distribution of various inputs required by a research industry to produce its output. The input-output model studied in this paper is based on the observed data of the financial industry economic region in 2012 and 2017. The economic activities in this region can be divided into several production sectors. These basic data are the product flows between each of these production sectors as a producer (seller) and each of the sectors as a buyer (buyer). These flows or transactions are measured in monetary terms in 2012 and 2017, The input-output model studied in this paper is obtained.

In the input-output table, there are correlations between the data, which is of economic significance. For any department, its total input and output are equal. Its related logic is similar to the GDP value-added method and income method. Consider the intermediate use matrix. The horizontal direction represents the distribution of production products, and the vertical direction represents the consumption of the production process. The direct consumption coefficient matrix is obtained. Thirdly, the Leontief inverse matrix is calculated based on the above to reflect the interaction between industries. Consider the final use matrix (total demand matrix), which can be used to analyze the impact of economic structure and policies on a whole system or a sector. Considering the initial input matrix (value-added matrix), in the actual analysis, the third quadrant is a necessary element for calculating the added value driven by exports or other final demand changes, which can be used to analyze the domestic added value and foreign added value contained in industry exports, plays an important role in the accounting of trade added value, and is the research object of global value chain research.

In the process of input-output accounting, we will use the influence coefficient, sensitivity coefficient, direct consumption coefficient, etc. They are calculated by Excel table and shown in the form of column vector, row vector, coefficient table and matrix.

3. Calculation Results and Analysis

3.1. Analysis on the Position of the Financial Industry in Anhui Province

The added value of the financial industry is high, and the ability to pull other industries is weak. In Table 1, the intermediate input rate of financial industry in Anhui Province in 2017 ranked fifth among the six industries studied in this paper in the same period, ranking lower. At the same time, compared with 2012, the intermediate input rate increased by 0.15 units. After further exploration, it is found that the influence coefficient of Anhui's financial industry in 2017 has increased in numerical terms compared with 2012, but it still ranks fifth among the six industries studied in this paper in the same period. In 2017, the remuneration coefficient of direct workers in the financial industry of Anhui Province ranked first among the six industries studied in this paper in the same period, the depreciation coefficient of direct fixed assets ranked third in the same period, the depreciation coefficient of complete fixed assets ranked sixth in the same period, and the remuneration coefficient of complete workers ranked fourth in the same period. Compared with 2012, most of the above indicators have improved. To sum up, it can be seen that the added value of the financial industry is high, that is, the financial industry has the potential impact of financing, large investment scale and systematic risks, and

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the ability to pull other industries is relatively weak. It should be noted that in recent years, the two indicators mentioned above are on the increase.

Table 1. The position of the financial industry in some industries in Anhui Province

	Calculated value		Position	
	2012	2017	2012	2017
Intermediate input rate of financial industry (%)	25.5	40.5	6	5
Influence coefficient of financial industry	0.443	0.765	5	5
Sensitivity coefficient of financial industry	1.28	0.609	2	2
Compensation coefficient of direct workers in the financial industry	0.13	0.062	5	1
Depreciation coefficient of direct fixed assets in financial industry	0.02	0.162	4	3
Depreciation coefficient of complete fixed assets in financial industry	0.041	0.330	5	6
Remuneration coefficient of complete workers in the financial industry	0.219	0.125	5	4

The financial industry has always been in a relatively important industrial position in the province and even in China, and has a strong ability to promote other industries. In 2012, the sensitivity coefficient of the financial industry in Anhui Province was 1.28, which means that when all industries except the financial industry increased 10000 yuan for final use, the service output value that the financial industry needs to provide is about 12800 yuan, higher than the social average. By comparison, this data ranked second among the industries studied in this paper during the same period. This data clearly shows that the financial industry has a strong ability to promote other industries and is at the core of the economic industry chain in Anhui Province. Compared with 2017, except for the increase of the sensitivity coefficient (0.609 in 2017), other indicators have declined, which can also clearly show the rapid development of the financial industry in Anhui Province in recent years. Then, we compared the influence coefficient and the sensitivity coefficient in 2012 and 2017 respectively, and found that the influence coefficient of Anhui's financial industry in 2012 was far less than the sensitivity coefficient, while the influence coefficient in 2017 was slightly higher than the sensitivity coefficient, which shows that the financial industry's role in promoting the entire national economy in 2017 is greater than its role in pulling the national economy. In 2017 and 2012, the influence coefficient of the financial industry was less than 1, that is, the influence was less than the average level of all industries, indicating that the financial industry was not strong in promoting the development of the national economy. However, the influence coefficient in 2017 was greater than that in 2012, with an increase of 73%, indicating that the financial industry in Anhui Province has been increasingly promoting the development of the national economy with the economic development in recent years. From the perspective of the sensitivity coefficient, the sensitivity coefficient of the financial industry in 2017 is lower than that in 2012, indicating that the role of national economic development in stimulating the financial industry in Anhui Province is declining. It should be pointed out here that the decline of the numerical value does not mean that the financial industry in Anhui Province has not developed with the development of the national economy. It can only mean that the financial industry's position in the development of the national economy is relatively declining, while the country The government and society still attach great importance to the development of the financial industry, and the financial industry in Anhui Province is indeed growing.

Based on the above analysis, it can be seen that the ability of financial industry in Anhui Province to promote the development of agriculture, construction, transportation, commercial catering and other sectors selected in this paper is growing, and the ability to promote the development of the above five sectors is gradually weakening. The strong promotion ability is

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because the financial industry plays an important role in the industrial chain; The driving force may be weakened because the financial industry is a high value-added and high-risk industry.

3.2. Analysis on the Macro Economic Effect of Anhui Province's Financial Industry

It can be seen from Table 2 that the operating surplus coefficient of the financial industry in 2017 ranked first among the six major industrial sectors studied in this paper in the same period. Compared with 2012, the value has increased, indicating that the operating effect of the financial industry in Anhui Province is considerable. The operating condition of the financial industry in Anhui Province is improving, and the investment risk of the financial industry is high, which affects its correlation with other industries.

It can be seen from Table 2 that, except for the commercial catering industry, the consumption coefficient of the financial industry in Anhui Province was high in 2017 and 2012, ranking the second among the six major industries studied in this paper in the same period. It can be seen that vigorously developing the financial industry is conducive to stimulating the consumption demand of Anhui Province.

The export coefficient of the financial industry has always been at a low level. The development of the financial industry in Anhui Province is not very attractive to foreign countries. The development space and market expansion potential of the financial industry in Anhui Province are huge.

Table 2. Calculation Results of Industrial Investment, Consumption and Export Effects

	Operating surplus coefficient		Final consumption coefficient		Export coefficient		Investment coefficient	
	2012	2017	2012	2017	2012	2017	2012	2017
Agriculture	0.059	0.134	0.168	0.148	0.004	0.004	0.02	0.085
finance	0.349	0.537	0.246	0.387	0	0	0	0
construction	0.262	0.433	0.01	0.03	0	0	1.154	0.741
communications and transportation industry	0.174	0.389	0.117	0.112	0.032	0.027	0.039	0.045
Commercial catering industry	0.171	0.318	0.494	0.402	0.023	0.021	0	0
Other departments	1.532	0.38	0.173	0.133	0.043	0.026	0.08	0.089

3.3. Analysis on the Dependence of Financial Industry on Fixed Assets in Anhui Province

Based on the direct consumption coefficient matrix, we can obtain the row vectors such as labor remuneration coefficient, operating surplus coefficient, net production tax coefficient and fixed asset depreciation coefficient. It can be seen from Table 1 that the dependence of the production of various products on fixed assets (depreciation) varies. The depreciation coefficient of direct fixed assets in the financial industry was 0.162 in 2017 (ranking third among the major industries studied in this paper in the same period), up 0.142 (ranking one higher) compared with 2012, which means that the financial industry has a high dependence on fixed assets (depreciation). Further analysis on the coefficient of remuneration of direct workers shows that in 2017, the coefficient of remuneration of direct workers in the financial industry was 0.062 (ranking first among the major industries studied in this paper). It can be seen that among the

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major sectors studied in this paper, the financial industry has a strong dependence on labor force, followed by other sectors.

Comparing the direct consumption coefficient with the complete consumption coefficient, we can see that most of the direct consumption coefficients are smaller than the complete consumption coefficient, and the gap is wide. Therefore, we can conclude that the proportion of direct contact among the economic links among various industrial sectors is low. The coefficient of full labor remuneration can reflect the true labor intensity of the product. Table 1 shows that in 2017, the coefficient of full labor remuneration in the financial industry was 0.125 (ranked fourth in the industry studied in this paper). It can be seen that the degree of labor intensity is average and the driving effect on employment is relatively average. Comparing the data of direct and indirect labor remuneration coefficients in 2017 and 2012, it can be found that, Both the coefficient of remuneration for direct workers and the coefficient of remuneration for indirect workers have declined, indicating that the proportion of labor input in the total investment in the financial industry has decreased.

Table 3. Industries on which the financial and insurance industry mainly depends

	Distribution coefficient of direct materials by industries Ru				Distribution coefficient of direct materials by industries Ry			
	Specific gravity (%)		Position		Specific gravity (%)		Position	
	2012	2017	2012	2017	2012	2017	2012	2017
Agriculture	61.2	80.2	5	3	59.7	35.5	5	5
finance	96.7	145.6	1	1	42.1	41.1	6	4
construction	4.54	12	6	6	118.4	96.4	1	1
communications and transportation industry	90.7	97.8	2	2	90.9	20.5	2	6
Commercial catering industry	61.6	73.8	4	4	66.2	44.2	4	3
Other departments	73.4	70.7	3	5	82.6	52.2	3	2

3.4. Analysis on the Main Service Industries of Financial Industry in Anhui Province

(1) Agriculture, finance, construction, transportation and commercial catering industries have always been the service objects of the financial industry from 2012 to 2017. In 2012, 4.45%, 2.33%, 10.49%, 3.69% and 1.40% of intermediate products in the financial industry were provided to agriculture, transportation, construction, finance and commercial catering. Other sectors included the rest of the 42 sectors except agriculture, finance, construction, transportation and commercial catering. They ranked first among the six major industries studied in this paper during the same period, while in 2017, 2.74%, 1.59%, 9.19%, 3.38% 1.30% of intermediate products are provided to agriculture, finance, construction, transportation and commercial catering. Further analysis shows that for the major industries studied in this paper, the financial industry accounted for 4.68%, 8.43%, 3.26% and 1.43% of their intermediate investment respectively in 2017, ranking 2nd, 1st, 3rd and 4th among the industries studied in this paper. It can be seen that compared with the major industries studied by the Institute, the financial industry is the most dependent sector of the construction industry. The conclusion of

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this paper is consistent with the rapid development of Anhui construction industry in recent years.

Table 4. Main industries served by the financial industry

	Proportion and position of each industry in intermediate demand of financial industry				The proportion and position of the financial industry in the intermediate input of the industries listed in the table			
	Specific gravity (%)		Position		Specific gravity (%)		Position	
	2012	2017	2012	2017	2012	2017	2012	2017
Agriculture	4.45	2.74	3	4	7.16	4.68	3	3
finance	2.33	1.59	5	5	2.74	2.76	5	5
construction	10.49	9.19	2	2	9.67	8.43	1	2
communications and transportation industry	3.69	3.38	4	3	3.72	3.26	4	4
Commercial catering industry	1.4	1.3	6	6	1.46	1.43	6	6
Other departments	106	81.8	1	1	9.42	79.44	2	1

(2)The industry with the largest number of financial services needs the support of the financial industry. In 2017, the intermediate investment of the financial industry in agriculture, construction, transportation, and commercial catering was 4.68%, 8.43%, 3.26%, and 1.43% respectively. In 2012, the intermediate investment of the financial industry in transportation, agriculture, construction, and commercial catering was 7.16%, 9.67%, 3.72%, and 1.46% respectively. From the above analysis, it can be seen that when the financial industry accounts for more of an industry's intermediate investment, it indicates that the industry is more dependent on the financial industry, It further indicates that the industries most in need of financial support are also the industries that provide the most services in the financial industry, and vice versa.

4. Conclusion and Suggestions

To sum up the above analysis, we can see that an industrial chain centered on the financial industry is outlined based on the investment output table. Objectively speaking, the construction industry and agriculture are the main components of the industrial chain, which is inseparable from the rapid development of the construction industry and agriculture in Anhui Province in recent years. Of course, the construction industry and agriculture have also made the greatest support and contribution to the development of the financial industry; In terms of analysis, agriculture, transportation, commercial catering, finance, construction and other industries consume, support and develop together; In addition, the development of the financial industry can not be separated from the support of the supply industry, catering industry and other industries. They are above the industrial chain. At the same time, the financial industry drives the development of agriculture, transportation and other industries. They are at the lower end of the industrial chain.

Combined with this article, we can see the following points: 1. The financial industry in Anhui Province has a weak pull on other industries and a strong impetus, which has developed rapidly in recent years; 2. The proportion of financial industry's intermediate investment in various

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industries in Anhui Province is different, especially in the construction industry. Based on the above discussion, we can draw the following conclusions and put forward the following suggestions for the development of financial industry in Anhui Province based on the input-output analysis results.

First, it focuses on accelerating the development of the financial industry itself while actively participating in the production of other industries. In the above analysis, we can see that the financial industry in Anhui Province rarely meets the needs of other industries, has less investment in other industries, and has not fully utilized its important role in the industrial chain. We should attach great importance to our own industrial development, try our best to improve the financial market of Anhui Province, and provide more and better financial products and services for other industries,

Secondly, we should increase the degree of integration and development of various industries. The rapid development of financial industry in Anhui Province needs the assistance and coordination of other industries. In the input-output analysis, we can see that the financial industry in Anhui Province is increasingly promoting economic development. The main reason is that the direct consumption coefficient of financial products is low, that is, the increase in the final use of many industries has little demand for financial products, and the financial industry is less driven by other industries. Therefore, we should increase the degree of integration and development among industries, improve the direct consumption coefficient, and accelerate the construction of the financial industry.

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