An Empirical Analysis of the Factors Affecting the Profit of Port Shipping Industry-The trend of "One Belt, One Road" and breakthrough

Huang Ling, Yao Jun

Fuzhou University International Studies and Trade Fuzhou, Fujian Province, China

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Abstract: As a pillar industry for the development of modern international economy and trade, the port shipping industry has important strategic significance for broadening the hinterland of port cities, accelerating the pace of port industry transformation, strengthening international trade and optimizing port city functions. Therefore, this paper takes the port shipping enterprises in the "One Belt and One Road" concept section of the Flush Flower as the research object, collects the industry layout data from the implementation of the "Belt and Road" strategy, and extracts and sorts out the profit indicators of the port shipping industry. In the end, the research analysis shows that the first principal component of the operational capability has the greatest impact on the profit of the port shipping industry, followed by the profitability indicator. The port operation business needs to rely on the benefits brought by the "One Belt, One Road" strategy, accelerate the pace of de-capacity, increase efforts to integrate resources, and avoid the phenomenon of homogenous competition in the industry to the greatest extent; actively promote the traditional port industry to diversify The development of the port industry, the transformation and upgrading of the port shipping industry; the greater interoperability between ports and ports.

1. Analysis of the development status of port shipping industry under the "Belt and Road" situation

Since the "Belt and Road" strategy was mentioned in 2013, the construction of 15 ports on the eastern coast of China has been put on the agenda, and the coastal ports have begun to formulate and implement development strategies, and have begun to take effect. For example, in the Yangtze River Delta port, the New Century Maritime Silk Road has brought rare opportunities for trade development between Shanghai Port and the ports along the route, and promoted good communication and friendly exchanges with each other. In the Bohai Bay port, it successfully made in Hong Kong. The listed Qingdao Port does not dare to take it lightly. Facing the good opportunities at present, Qingdao Port proposes to unswervingly promote the transformation of the port and strive to transform into a new seaport integrating "financial, international, and Internet". In the Pearl River Delta port, the Guangdong Free Trade Zone is approved and plans for 2017. Throughout the year, the port cargo throughput will reach 550 million tons, and the container throughput will reach 20 million TEUs. At the same time, the development of sea-rail combined transport will be promoted. Open up the road and the sea to the two hinterlands to promote full opening to the outside world.

The average net profit of the port shipping industry between 2015 and 2017 was 681 million yuan, 594 million yuan and 709 million yuan. From the industry data in 2017, the average growth rate of the port shipping industry in 2017 was 17.29%; the average net profit of the industry increased by 3.74%. Although the BDI index for 2015-2016 is not satisfactory, the BDI index has recovered slightly since 2017. At the same time, affected by the global economic recovery, the domestic bulk dry bulk cargo volume increased sharply and the domestic steel and coal demand increased. The BDI index rose in the second half of 2017 [1].

2. The empirical analysis of the factors affecting the profit of the port shipping industry

2.1 Data source and processing

First of all, this paper selects the listed companies in the port shipping industry in the "One Belt,

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One Road” concept section of the Flushing 2015-2017 as the research object, collects and sorts out the data related to cargo throughput and container throughput, and counts the companies for nearly three years. Net profit and other financial indicators. Next, the principal component analysis model is used to measure the variance contribution rate of each principal component, and the number of extracted components is clearly determined. Using SPSS software for dimensionality reduction, five main components, namely five principal components, can be extracted, the rotation factor load matrix is calculated and the components are named. Next, a component score coefficient matrix and a score function are generated. Finally, the score values of the components are calculated. Based on the above studies, the calculation results are analyzed.

2.2 Selection of samples

Due to the large number of enterprises in the port shipping industry, in order to facilitate the extraction and research of data, companies with small (non-listed) impact on the research results are now excluded. According to the data released by the China Securities Regulatory Commission, as of December 31, 2017, there were 28 ports and shipping companies listed on the Shanghai and Shenzhen stock exchanges, 20 of which were listed on the Shanghai Stock Exchange. 8 homes. To ensure the integrity and timeliness of the research data, the time period for this article is from January 1, 2015 to December 31, 2017. The 15 port shipping listed companies selected in this paper were listed on the Shanghai and Shenzhen stock exchanges before January 1, 2015.

2.3 Principal component analysis and model construction

This paper is based on Principal Component Analysis (PCA). In the process of model construction, SPSS 21.0 is used for KMO test, clustering and dimensionality reduction. The basic calculation of financial indicators is carried out by EXCEL. The purpose of the profit factors of the port shipping industry under the “Belt and Road” situation [2].

To confirm the adequacy of the test samples, the data study used the KMO & Bartlett sphericity test. The data in the table shows that KMO=0.732, the index is greater than 0.5, so the original variables selected in this paper are suitable for principal component analysis.

Table 1 KMO & Bartlett sphericity test

Sampling enough Kaiser-Meyer-Olkin metrics.		.732
Bartlett's sphericity test	Approximate chi square	348.561
	df	55
	Sig.	.000

After SPSS screening, except for the main business income growth rate, basic earnings per share, accounts receivable turnover rate, operating cash flow and net profit ratio factors, the ability to interpret the total variance of the original variables is poor, most factors The contribution values are all above 0.8, and the top five factors are: total asset turnover, current ratio, container throughput, net cash flow to debt ratio and inventory turnover rate; The higher the importance of the factor.

In the component matrix, the five main components extracted by the SPSS software after dimension reduction can be obtained, that is, five common factors. After the rotation, the factor has a significant gap in the load of the variable. In the table, we can clearly see that the first principal component has a higher load on the net cash flow to the debt ratio and the return on the operating cash flow of the asset, reflecting The operational capabilities of the port industry. The second principal component has a higher load on container throughput and investment income, reflecting the overall profitability of the port industry. The third principal component and the fourth principal component have higher loads on the current ratio and the interest payment multiple, respectively, reflecting the industry's overall ability to repay debt. The fifth principal component has a higher load on the receivables turnover rate and the growth rate of the main business income, each reflecting the operational capability and growth capacity of the port industry.

Taking the contribution rate (commonness) of each of the five principal components as the weight, the weighted average function of the total score of the profit factors of the port shipping industry

under the concept of “Belt and Road” is:

$$Y= (0.876465F1+0.775705F2+0.388399F3+0.266464F4+0.772151F5)/ 3.079184$$

2.4 Comparison of data analysis conclusions and “hypothesis” premise

The results of the above model analysis reflect that the effect of the first principal component on net profit is the largest of the five principal components. This shows that if the port industry's operational capacity is strong, then the empirical results tend to summarize the highest level of operating cash flow to debt ratio. Then, if you want to create more profits for the industry, you can achieve it by increasing the net cash flow of business activities. This conclusion is consistent with the “hypothesis four”; the second principal component reflects the profitability of enterprises above designated size in the industry. If the company’s profitability is strong, it can make profits for the enterprise by developing business projects, implementing innovation mechanisms and foreign investment. The industry profit has also been improved, and this conclusion is consistent with “hypothesis one”; the third principal component and the fourth principal component reflect the solvency of the enterprise, and the company can reduce its capital occupancy rate and optimize its capital structure by strengthening daily inventory management. In order to reduce financial risks, it is in line with “hypothesis 2”; the fifth principal component focuses on the industry to maintain vitality, and to improve the quality of industry operations while strengthening growth capacity. The conclusions include “hypothesis 3” and “hypothesis 4” respectively. premise.

3. The countermeasures to improve the profit of the port shipping industry

3.1 Revitalizing the idle resources of the port and speeding up the pace of “de-capacity”

At present, China's ports generally show the characteristics of many subjects, miscellaneous property rights and low performance [3]. The operations of several port areas are basically similar, the functions are similar, and the hinterland areas overlap. Some ports even have advanced construction and excessive investment. When the actual use is not met, the utilization of resources is not up to standard, resulting in serious asset idleness and waste of resources. Under the background of serious homogenous competition, the optimization and integration of port resources is the trend of the times. The integration of port and shipping enterprises can not only improve the resource utilization rate of the port, but also save unnecessary resource maintenance, which is conducive to the benign development of port groups in various regions, and can also achieve the purpose of reducing or avoiding homogenous competition [4]. In addition, port and shipping companies also need to strengthen their own cost management, reduce the capital and capital, and revitalize assets. When organizing the production and operation activities of enterprises within the industry, the company should focus on reducing the debt ratio and cost of the enterprise, calculate the project cost reasonably, reduce the financial expenses and depreciation expenses, reduce the labor, improve the level of port machinery automation, and develop the green port economy. Innovative technologies with independent intellectual property rights, improve port operation capacity and work efficiency; rationally control the location of yard cargo, reduce flat transportation costs; reduce the consumption of rigging and door machine spare parts; reduce the rental of mobile machinery and increase industry profits.

3.2 Opening up a diversified business model of the port to enhance the profitability of the port industry

Under the new normal of historical foundation and policy support, the overall volume of China's port industry has a certain scale [5]. Nowadays, the competent departments of major port and shipping companies should actively establish comprehensive cooperative relations with companies such as logistics, information and insurance industries, provide special service innovation for specific import and export industries, and provide dry bulk, bulk cargo, LCL services and other value-added services. Services to meet the growing demand for customers, improve the market competitiveness of the port industry, and promote the development of the traditional port industry into a modern,

innovative high-end service industry. Specifically, we must explore new profit points for the development of the industry by building a full-service logistics service system and expanding value-added services.

3.3 Adhere to strategic guidance and increase the interconnection between ports and ports

The “Belt and Road” strategy has provided new opportunities for China's economic development and played a pivotal role in the development of the port industry [6]. On the basis of retaining the advantages at this stage, the development of the port industry should increase trade and exchanges with other countries and regions along the Silk Road to continuously improve economic operation efficiency and ensure operational quality. Around the agreements signed by provinces, cities, and other countries, it will promote the three-way transportation cooperation and infrastructure construction assistance between China and other countries in the sea, land and air. At the same time, it is necessary to contact Jianghai to increase the return of the inland river and improve the washing ability of the Yellow River system, the Yangtze River system, the Pearl River system and the Beijing-Hangzhou Grand Canal. Optimize the layout of “dry ports” along the land and along the inland rivers, set up an efficient collection and distribution network, strengthen the intermodal transportation of oceans and highways, oceans and railways, oceans and rivers, and realize the interconnection between the port and the transportation and logistics industry; We will build a multi-headed intermodal transportation system that “crosses the east and the east and the north and the north” to improve the profitability of the industry. In order to achieve the goal of striving for international development, we will integrate ourselves into the center and serve the overall situation to maintain a harmonious and orderly development.

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References

[1] George. E. Halkos, Dimitrios S. Salamouris. Efficiency Measurement of the Greek Commercial Banks with the Use of Financial Ratios: A Data Envelopment Analysis Approach [J]. Management Accountant Research, 2004, 06 (02): 201- 224.

[2] Peter D. Wyskocki. Assessing Earnings and Accruals Quality: U. S. and International Evidence [D]. Cambridge: MIT Sloan School of Management.2005.

[3] Jiang Haiyun. Financial Analysis of Port and Shipping Listed Companies [D]. Dalian: Dalian Maritime University, 2006.

[4] Liu Xiaoqin. Cash flow of listed companies in China's port and shipping in 2010 [D]. Dalian: Dalian Maritime University, 2011.

[5] Yao Yue. Research on the factors affecting the return on net assets of listed companies in Hong Kong and Shanghai [D]. Dalian: Dalian Maritime University, 2010.

[6] Xu Leling. The Interactive Development of “One Belt, One Road” and China's Shipping Industry [J]. Port Economy, 2016 (7): 25-27.

[7] Xu Lixiang, Zhou Zuyu, Sang Xuefeng, etc. “One Belt and One Road” and China Shipping [J]. Pearl River Water Transport, 2017 (10): 77-79.