

World Maritime University

# The Maritime Commons: Digital Repository of the World Maritime University

---

International Transport and Logistics

International Transportation & Logistics

---

2020

## Research on integration and optimization of COSCO industrial chain

Xiang Yan

Follow this and additional works at: [https://commons.wmu.se/itl\\_dissertations](https://commons.wmu.se/itl_dissertations)



Part of the [Industrial Engineering Commons](#), [Industrial Organization Commons](#), and the [Operational Research Commons](#)

---

This Dissertation is brought to you courtesy of Maritime Commons. Open Access items may be downloaded for non-commercial, fair use academic purposes. No items may be hosted on another server or web site without express written permission from the World Maritime University. For more information, please contact [library@wmu.se](mailto:library@wmu.se).

**WORLD MARITIME UNIVERSITY**

Malmö, Sweden

**Research on Integration and Optimization of  
COSCO Industrial Chain**

by

**Yan Xiang**

A dissertation submitted to the World Maritime University in partial Fulfilment of the  
requirements for the award of the degree of

**MASTER OF SCIENCE  
In  
MARITIME AFFAIRS  
(INTERNATIONAL TRANSPORTATION AND LOGISTICS)**

**2020**

## DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature):.....

(Date): .....

Supervised by

Professor Wang Xuefeng

Shanghai Maritime University

## **ACKNOWLEDGEMENT**

The few months from selecting a topic to writing a thesis is a journey full of hard work for me, which brings me unlimited passion and gain in my student career. Countless difficulties and obstacles were encountered during the writing of the thesis, all of which were spent with the help of classmates and teachers.

When searching for materials in the school library, the library teachers provided me with support and help in many aspects. In particular, I would like to strongly thank my thesis instructor, professor Wang Xuefeng, without him for his tireless guidance and help, selfless in order to modify and improve the paper for me, there is no final completion of my paper. Here, I would like to express my most heartfelt thanks to the teachers who have guided and helped me!

At the same time, I also want to thank the scholars cited in this paper for their monographs. Without the inspiration and help of these scholars' research results, I will not be able to complete the final writing of this paper. At this point, I also want to thank my friends and classmates, who gave me a lot of useful materials in the process of writing the paper, and also provide enthusiastic help in the typesetting and writing of the paper!

No one is perfect. Due to my limited academic level, the papers inevitably have deficiencies, I hope all teachers and students will criticize and correct!

## **ABSTRACT**

Title of Dissertation:     **Research on Integration and Optimization of  
COSCO Industrial Chain**

Degree:                   **Master of Science**

This research mainly describes the operation of the industry chain between shipping companies. What are the main links of the entire industry chain during the operation? What role do these links play in the enterprise? Through the analysis of the operation of the industrial chain, the shortage of the shipping company's industrial chain is found, and feasible suggestions for the development of the shipping company are put forward.

This article studies the background of the industrial chain first, combined with the research results of the shipping industry chain in recent years, to understand the shortcomings of the current shipping industry chain and the development direction of the shipping industry chain. Subsequently, through case analysis, the integration of COSCO Group and China Shipping Group's industrial chain was analyzed using a systematic analysis method. From the perspective of connection, everything must be related to other things, both horizontally and vertically. Therefore, this study takes the shipping industry chain as a system, systematically analyzes the various links in the shipping industry chain from both vertical and horizontal angles, and proposes scientific development ideas. Afterwards, the excess return rate and the cumulative excess return rate are used to obtain the performance of the enterprise after the integration of the industrial chain. If the performance is positive, it will conduct an investigation and analysis from their industrial chain integration measures and propose accurate and feasible solutions to achieve the industrial chain business improve.

**KEYWORDS:** Shipping industry chain, Horizontal integration, Vertical integration, Cumulative Abnormal Return

## TABLE OF CONTENTS

DECLARATION .....	ii
ACKNOWLEDGEMENT .....	iii
ABSTRACT.....	iv
TABLE OF CONTENTS .....	v
LIST OF FIGURES .....	vii
LIST OF TABLES .....	vii
1 Introduction.....	1
1.1 Background.....	1
1.2 Purpose of the paper .....	4
2 Literature review.....	4
2.1 Research on Industry Chain of Shipping Enterprises .....	4
2.2 Literature review conclusion .....	7
3 Research methods .....	8
4 Composition of shipping industry chain.....	9
4.1 Definition of Industry Chain.....	9
4.2 Definition of shipping industry chain .....	11
4.3 Components of the shipping industry chain .....	12
4.4 Structural model of shipping industry chain.....	15
5 Case Introduction and Analysis .....	18
5.1 Company Profile .....	18
5.1.1 Introduction to COSCO Group .....	20
5.1.2 Introduction of China Shipping Group .....	21
5.2 Industry chain integration process .....	23

5.2.1	Horizontal integration of the industry chain .....	23
5.2.2	Vertical integration of the industrial chain .....	27
5.3	COSCO Group Merger Performance Results .....	28
5.4	Market reaction to the merger of COSCO Shipping Group .....	29
5.5	Strengthening after business combination .....	34
5.6	Cultural integration between companies.....	40
5.7	Analysis conclusion .....	44
6	Conclusions and recommendations .....	45
6.1	Conclusion .....	45
6.2	Improvement suggestions for shipping companies.....	45
	Reference .....	48

## LIST OF FIGURES

<b>Figure1</b> The structural model of the shipping industry chain.....	16
<b>Figure2</b> Structure chart of COSCO Group .....	20
<b>Figure3</b> Structure of China Shipping Group.....	22
<b>Figure4</b> The structure of the company's industrial chain after the merger .....	28

## LIST OF TABLES

<b>Table1</b> Calculation of excess returns of COSCO SHIPPING (601919).....	30
<b>Table2</b> Calculation of excess return of China Shipping Development (600026) ...	32
<b>Table3</b> Calculation of excess return of China Shipping Container Lines (601866)	33
<b>Table4</b> Ranking of global cargo company capacity control.....	36
<b>Table5</b> The market share of the global cargo companies ranked.....	37
<b>Table6</b> 2014 Global Terminal Operator Ranking.....	39



# **1 Introduction**

## **1.1 Background**

Since the 2008 financial crisis, the shipping industry has been under pressure. It has been more than ten years. During this period, the transportation company's best efforts may be to research customers, develop customers, satisfy customers and seek customer solutions. But the most fundamental issue may be how to improve the shipping industry itself. Among many solutions, the "industry chain management" solution is more inspiring and fundamental. After the economic crisis in 2008, the international economic situation continued to slump. The economic downturn of the world's major trading countries was obvious. The international trade market was shrinking rapidly. The shipping industry relying on the development of international trade suffered a huge impact. The supply and demand of the shipping market was unbalanced. At the same time, the international credit crisis has made it difficult for enterprises to raise funds. The pressure of the capital chain has further squeezed the survival space of shipping companies, and many small and medium-sized shipping companies have difficulty surviving. In order to alleviate financing difficulties and balance the shipping market, major global shipping companies have chosen alliances, mergers and acquisitions and other methods to integrate industrial chains, hoping to solve the problem of excess capacity and improve their competitiveness. Industrial chain integration has become the development trend of the maritime industry, bringing profound changes to the maritime market structure. At present, "state-owned enterprise reform" and "capacity reduction" have become hot topics in the economy. Traditional industries in the country have overcapacity. How to solve the problem of overcapacity

has become an important factor restricting the national economic development. The reform of state-owned enterprises, the “Belt and Road” initiative, and the conversion of old and new kinetic energy are actually major measures for the country to create demand, build a new driving force for long-term development, and resolve excess capacity. In this context, COSCO SHIPPING Group strengthens the deepening and complementarity of industrial chain ties through industrial chain integration, improves the maritime resource allocation capability, and improves the industrial cluster competitiveness of the maritime industry. Maritime enterprises will further integrate into the world economy and further strengthen maritime enterprises in the international market. The right to speak and comprehensive strength of the market.

On November 6, 2019, Xu Lirong, chairman of COSCO SHIPPING Group, said at the "2019 International Shipping Annual Conference" sub-forum that the operation of the industrial chain is an important force leading the development of shipping. On the one hand, the degree of global economic integration continues to deepen, industrial development has entered a stage of deep integration, industrial boundaries, enterprise boundaries and technology boundaries are increasingly blurred, and globalization of the industrial chain has become a general trend. On the other hand, the international trade structure is undergoing fundamental changes. Over the past 30 years, the proportion of intermediate commodities in commodity trade has risen from 30% to over 70%, which shows that the world's major trading commodities can no longer be produced and traded by a single company in a country. Or regional, and must get the cooperation of various nodes in the industrial chain. On the other hand, the uncertainty of the world pattern needs to be resolved together. Since the second half of 2018, the IMF has lowered its forecast for world economic growth for five consecutive quarters. In terms of shipping, the trend of "increased maritime transport" brought by the same "economic growth" is declining, and the growth of marine demand and global GDP

has also increased. This ratio increased from 1.8 in 2010 to 0.7 in 2018, and involves the entire industry chain and needs to be resolved together.

Container transportation is the main mode of transportation for most countries in the world to achieve economic and trade. More than 90% of the world's goods are relied on container transportation. Therefore, the demand for container transportation is closely related to the development situation of the global economy and trade. The development trend of the global economy and trade controls the volume of goods. In 2008, the financial crisis that broke out in the US subprime mortgage crisis quickly spread to the world and spread to the real economy through the virtual economy, causing the global economy to fall into the worst recession since World War II. The global economic recession triggered by the global financial crisis has led to a rapid decline in international trade, which has affected the shipping industry. During the second half of 2008, the Baltic Dry Bulk Freight Index, or BDI index, reflecting the quality of the international shipping market, plunged from more than 10,000 points to more than 600 points in the shortest half year. Since then, the international shipping market has been in a downturn, freight rates have continued to fall, and the operating costs of shipping companies have remained high, leading to the closure of many small companies. In June 2018, the Baltic Dry Bulk Freight Index (BDI Index) still hovered around 1300 points, although there has been a substantial increase from less than 600 points during the trough period, however, according to the forecast of the Drewry Shipping Report In 2016, global shipping companies lost more than US \$ 4 billion in total.

Therefore, cooperation and alliances among shipping companies will become a major mainstream trend in the shipping industry in the future. Because the shipping industry serves the needs of international economic and trade businesses, the transportation

needs of goods are closely linked to the development of global economic and trade. The situation of global economic and trade dominates the market prosperity of the shipping industry. The activity relationship between enterprises has horizontal and vertical interrelationships and criss-cross connections. These activities affect and restrain each other. Cooperation, it will produce very huge economic benefits.

## **1.2 Purpose of the paper**

This research mainly describes the operation of the industry chain between shipping companies. What are the main links of the entire industry chain during the operation? What role do these links play in the enterprise? Under the general environment of industrial chain integration, each link of the industrial chain is to improve the production collaboration relationship among enterprises, and to share, coordinate, and integrate the related resources of upstream and downstream enterprises in the industrial chain to achieve the effect of "1 + 1 > 2", thereby The increase in the value of access to services generates additional benefits. Through analysis of the operation of the industrial chain, it is found that the shipping company's industrial chain is inadequate, and it provides feasible suggestions for the development of shipping companies.

## **2 Literature review**

### **2.1 Research on Industry Chain of Shipping Enterprises**

On November 6, 2019, Xu Lirong (Yao yapping et al., 2019), Chairman of COSCO SHIPPING Group, stated that since the 2008 financial crisis, the shipping industry has been under constant pressure for more than a decade. During this period, shipping companies work hardest, perhaps to research customers and develop customers, satisfy

customers, and seek customer solutions, but the shipping industry's own solutions should be more fundamental. He believes that among the many solutions, the industrial chain management solution may be more inspiring and fundamental, which is an important choice for the shipping industry to seek development and survive the cold winter.

However, in recent years, scholars from various countries have intensively debated the definition of the shipping industry chain:

From the perspective of the industrial chain, Chen Yang and Wang Xuefeng (2014) formed a physical cargo transportation, ship design and manufacturing upstream of the industrial chain, and downstream shipping services (including relational and structural services) The broad industrial analysis framework formed on this basis has considered some hot topics in the shipping industry, including the evolution of the shipping industry and the restatement of the concept of the international shipping center.

Chen Xiangyan (2006) studied the definition and composition system of the maritime industry chain, and believed that the maritime industry chain enterprises are mainly composed of four main parts: traders, maritime enterprises, terminal companies and auxiliary service companies. Its trade position in the industry chain is described in detail.

Jin Jiachen and Zhenhong (2013) proposed the concept of the shipping industry chain, and analyzed the composition of the shipping industry chain. It is believed that the composition of the shipping industry chain includes: a main chain and two auxiliary chains. The main chain is composed of three key enterprises in the industrial chain, namely trading companies, shipping companies and port companies. The two auxiliary chains are the auxiliary chain of the ship agent and the auxiliary chain of service, which

have the function of supporting and driving the main chain.

Gao Zhijun and Liu Wei (2013) studied the shipping service industry chain and proposed the definition of the shipping service industry chain. Based on this, the structure of the industry chain was analyzed in detail, and it was believed that it mainly included services that occupy a fundamental position Industry, assisting the basic position of the service industry and supporting service industry. In addition, a comprehensive analysis framework has been established. In the adaptive selection system, the formation process of the service industry chain and the source of its formation motivation are analyzed from both internal and external factors.

Zhao Beibei, Zhang Hongwei (2015) expounded the relevant meaning of the digital publishing industry chain, studied the digital publishing industry chain 's profit distribution model and its existing problems, believed that there was an uneven distribution of benefits in the industrial chain, and improved regulations and exploration The multi-channel authorization model and the cooperation of all parties in the society have put forward some suggestions and measures to optimize the distribution of reasonable benefits.

Chen Shuang, Zhu Lifang, Wang Weiwei (2018) under the current "Internet + Agriculture" new background, studied the economic development of the agricultural industry chain, using the cooperative game theory to distribute the benefits of the agricultural industry chain, avoiding the benefits The distribution of benefits has resulted in a reasonable distribution of benefits, which has promoted a more stable growth of the agricultural industry chain.

The Harvard School, represented by Mason and Bain, created the theory of industrial organization, proposed the SCP paradigm analysis model (structure, behavior,

performance), and took several representative industries as samples to integrate industrial integration behaviors such as merger and integration. Market concentration, monopoly motives, barriers to entry and exit, business diversification, and profitability are linked. Empirical research is used to study the impact of mergers and integration on market structure and corporate performance. It is considered monopolistic competition and oligopoly. The structure of the market determines the industry's integration behavior, which in turn determines that companies can obtain more profits. Michael E. Porter (1985) believes that the horizontal integration of the industrial chain enables companies to expand market share, increase market concentration, and enhance their bargaining power, so that companies can further squeeze the profits of upstream suppliers and downstream consumers in the industry chain, thereby improving the profitability and performance level. The vertical integration of the industrial chain allows enterprises to effectively integrate upstream and downstream resources, save costs, and form long-term and stable strategic alliances with upstream and downstream enterprises, reduce supply and demand uncertainty, and reduce the cyclical fluctuation of enterprise product prices. J. F. Weston (2001) put forward the theory of the synergy effect of industrial chain integration, thinking that horizontal integration of the industrial chain can enable enterprises to obtain synergy effects, including operating synergy effects and management synergy effects. Operational synergies enable companies to obtain the cost and cost savings and increased performance brought about by economies of scale or scope. Management synergies allow the management capabilities of enterprises to be penetrated and released.

## **2.2 Literature review conclusion**

In recent years, as the pace of global industrial restructuring has accelerated, "industrial chain integration" has become a hotspot in the global economy, and major

companies have hoped that through industrial chain integration, enterprises will become bigger and stronger and improve their market competitiveness. In this context, more and more scholars began to pay attention to and study the industry chain integration model and its impact on corporate performance.

From the previous literature review, we can see that domestic and foreign scholars have comprehensive research on industrial chain integration, and have conducted in-depth research on the concept, motivation, model of industrial chain integration and the impact of industrial chain integration on corporate performance, whether it is empirical. Both research and case analysis have achieved fruitful results. In this paper, the current domestic research on industrial chain integration is mainly carried out from the perspective of horizontal integration or vertical integration, and finds the method of enterprise industrial chain link optimization to provide a reference for enterprise development.

### **3 Research methods**

#### (1) Combination of qualitative analysis and quantitative analysis

Qualitative analysis is an abstract theoretical thinking of the nature, characteristics, and forms of things, while quantitative analysis is a concrete quantitative analysis of things. This study uses a qualitative method to analyze the current status and trends of the development of the shipping industry chain, and uses the cointegration test and error correction model to judge the degree of integration of the shipping market.

#### (2) Case analysis method



The case analysis method is one of the commonly used methods in economics, and is widely used in foreign industrial organization theoretical research. This study takes the merger of COSCO Group and China Shipping Group as an example to conduct case analysis, realize the integration of case studies and common research, and achieve the unification of theoretical research and practical operation.

### (3) System analysis method

From the perspective of connection, everything must be related to other things, both horizontally and vertically. Therefore, this study takes the shipping industry chain as a system, systematically analyzes the various links in the shipping industry chain from both vertical and horizontal angles, and proposes scientific development ideas.

## **4 Composition of shipping industry chain**

### **4.1 Definition of Industry Chain**

Industry refers to products or services that have a high degree of substitution in production management (ie, products or services of the same type). Companies in the industry usually have similar management concepts, production skills and basic functions, such as sequential processes. Enterprises are the main constituent organizations of the industry. The industrial chain refers to the process by which an industry manufactures goods or provides services based on its inherent technical connections. A chain organization that links related production processes and economic activities in a certain order. The industrial chain is established on the basis of cooperation. Every enterprise takes business activities as a link and has certain

economic significance. Industrial organization structure. The classification of the industrial chain is based on vertical correlation, that is, based on products or services, from product development and design to other business modules in the industry, the entire activity chain is composed of raw material production materials, product production and flow to the market until Sales. Therefore, the industrial chain is a collection of enterprises as units, is intertwined horizontally, and is related to the main body in the connection system. The main body of the industrial chain is the enterprise.

The concept of the industrial chain originated from Adam. Smith's description of the phenomenon and results of the social division of labor. Later, as the market economy gradually deepened, product value-added activities became increasingly complex, the market division of labor continued to be refined, and the industrial chain structure became more and more complicated. Domestic and foreign scholars have also continued to deepen their research on the industrial chain, defining the concept of the industrial chain from the micro and macro levels, enriching the concept of the industrial chain. Combining the relevant literature review and the specific case analysis of this article, this article believes that the industrial chain described in this article is a macro-level industrial chain from the perspective of strategic alliances, that is, within a certain geographical area, companies with international competitiveness are based on core business and The product or service is a link, integrating related business in the industry chain and upstream and downstream business according to a certain logic or space-time relationship to form a long-term stable strategic alliance relationship chain. The market will select and link the best links in the original industrial chain to jointly obtain new value and realize industrial chain integration. Under the combined influence of industry integration and domestic and international environmental backgrounds, enterprises have integrated the integration of the industrial chain. First, the leading companies horizontally integrate the same industry companies, concentrate

on advantageous business, and expand market share; second, the leading companies vertically integrate upstream and downstream companies, Allied enterprises into a fate community of shared risk and shared benefits, and rationally allocate enterprise resources; finally, inject information technology and financial services into traditional industries, create a new development engine for traditional industries, and break through the original development constraints of enterprises.

#### **4.2 Definition of shipping industry chain**

For the shipping industry chain, the original factor of its formation is the supply and demand relationship of shipping transportation trade. The production of the shipping industry chain is for the overall coordination and allocation of various resources in the industry chain, making full use of these resources to maximize their value, and ultimately realize the increase in the value of the industry chain as a whole. Therefore, the important significance of the shipping industry chain is that the value obtained by enterprises after participating in the industry chain is higher than the value obtained when they do not participate in the industry chain, and the total value of the industry chain is greater than the sum of the values of each link. The essence of the shipping industry chain is the industrial union of enterprises in all links in the shipping industry chain. The member companies in the shipping industry chain are in the upstream and downstream relationship, which is based on the cooperation of strategic alliances and belongs to the common interest. Their behavior not only determines the company's own interests, but also affects the interests of other companies in the industry chain. Since the process of the shipping industry chain mainly involves the production of raw materials, the production and processing of products, the introduction to the market, and the sales and after-sales service of products, it may involve multiple industries. For example, the production of raw materials belongs to the category of the primary industry, and the shipping companies and port companies responsible for product

delivery and loading and unloading services belong to the category of the secondary industry. In addition, the provision of financial leasing services, document services, freight forwarding and other supporting businesses corresponds to the tertiary industry. Therefore, the shipping industry chain is a cross-industry, cross-industry, and cross-sectoral industry chain. Studying the shipping industry chain is a systematic and hierarchical issue. Based on the above analysis, this article defines the shipping industry chain as a cooperative chain based on the supply and demand relationship of the relevant upstream and downstream entities, with the core value created by the development of the shipping industry. No matter what kind of transportation mode is adopted, enterprises in the shipping industry chain can be divided into three main bodies: cargo owner enterprise (owner of transportation business), shipping enterprise, and shipping service enterprise. This article will be analyzed according to this division.

### **4.3 Components of the shipping industry chain**

#### **① Cargo owner enterprise**

The cargo owner enterprise is the owner of the goods and the trader who carries out the import and export business of goods. In the process of this business, it plays the role of the shipper, conducting trade negotiations and signing the goods transportation contract for the transportation of goods. Nowadays, more and more companies are gradually moving their corporate strategies towards diversification goals, with a view to reducing costs and improving competitiveness. Cargo owner companies entering and participating in the operation of the shipping industry are becoming an increasingly widespread phenomenon, which will have a huge impact on the shipping market. As the owner of the goods and also the last consumer, the cargo owner must inevitably choose to load and unload ports, shipping companies, and shipping plans when conducting trade negotiations. Therefore, the cargo owner must deal with the

carrier, the freight forwarder and the corresponding port, which means that the cargo owner has trade relations with other parties in the entire shipping industry chain.

Several factors influence the transaction status of cargo owners in the shipping industry chain. First, the status of the cargo owner will be affected by its own size. Shippers who occupy a larger market or have a monopoly position have greater advantages in trade negotiations; on the contrary, smaller shippers do not have an advantage in trade negotiations. Second, the status of the cargo owner will be affected by the prosperity of the shipping market. As the shipping market is closely related to global economic and trade development, the shipping market will fluctuate with the fluctuation of the global economy and trade. When the shipping market is more prosperous, the consignor is in a relatively weak position; when the market economy is in recession, the consignor's position is relatively high. In addition, the market scale and strength of other enterprises in the industry chain will also affect the position of the cargo owner. When the market position of shipping companies is high, or the market structure of shipping companies is becoming more and more oligopoly, it will inevitably weaken the position of cargo owners; In the same situation, if the terminal company has better natural conditions and occupies an important geographical location, the terminal company will have a higher right to speak when conducting trade negotiations, and it will also weaken the status of the cargo owner.

## ② Shipping companies

In the shipping industry chain, shipping companies are mainly divided into ship owners and ship operators. Shipping companies, as carriers of goods, provide transportation and other services to cargo owners or freight forwarders. In addition, in the process of providing services to cargo owners, shipping companies will become the target customers of terminal companies and shipping service companies. Therefore,

shipping companies also have links to trade activities with the other two constituent bodies. The status of shipping companies in the industry chain has been changing with the prosperity of global economic and trade development. To summarize the growth process of the shipping industry, after the recent merger and acquisition of global shipping companies, the top ten liner companies in the world currently occupy nearly 85% of the market share. These shipping companies, especially large shipping companies, have greater advantages in negotiating with cargo owners. Generally speaking, in the transaction process between the shipping company and the port company, because the cargo owner has pre-selected the port for loading and unloading the goods when signing the contract, in this case, there are only a few port companies that can be selected. Therefore, in this case, port enterprises have a monopoly position, and shipping companies no longer have the advantage of negotiation when dealing with port enterprises.

### ③ Shipping service companies

Shipping service enterprises refer to port enterprises and all service enterprises related to shipping, mainly including: port enterprises, ship transactions, ship finance leasing, ship agency, freight forwarding, classification society, insurance arbitration, maritime law and other industries. Compared with the other two constituent bodies, shipping service companies, especially agency companies, are different because these companies are not the main body of transactions in the shipping market, but intermediary agency companies, which play a role The role of communication. Port enterprises in China are supported by national policies and funds, and most of them are state-owned holding companies. They play a supporting and supporting role in the industrial chain, mainly including dock companies and customs in various places. As the shipping industry requires more capital investment, the financial leasing industry

has a role in promoting the development of the shipping industry chain. As the construction and upgrading of ships is a key factor in the development of the shipping industry, and the construction of a ship often requires a large amount of capital investment, therefore, the financial leasing industry can provide the necessary financial support for the construction and leasing of ships, which helps promote the operating power of shipping companies, in turn, promotes the continuous growth of the shipping industry chain. When the shipping market is in a booming situation, there will be many agency companies, including freight forwarders, shipping agents and other companies. As a communication bridge between shipping companies, cargo owners and port companies, these agency companies have reduced the time and cost of communication for shipping companies, and improved the efficiency of communication, so they can also benefit from it. At present, various trading entities have also demonstrated the trend of self-supported shipping auxiliary services. Under the trend of the globalized economy, with the growth of supporting industries upstream of the industrial chain such as ship leasing and insurance, it will help to promote the development of the shipping industry chain, resulting in a larger scale of resource aggregation, and ultimately to form a regional or even Global shipping centers provide favorable conditions.

#### **4.4 Structural model of shipping industry chain**

According to the analysis of the main components of the industrial chain in Section 4.3, the shipping industrial chain is mainly composed of cargo owners, shipping companies and shipping service companies. In the shipping industry, products are services, and the research problem of the industrial chain is mainly to improve production between enterprises. The collaborative relationship uses sharing, coordination, and integration of related resources of upstream and downstream enterprises in the industrial chain to achieve the effect of " $1 + 1 > 2$ ", thereby obtaining

the increase in service value and generating additional benefits. In the entire transport chain of goods, it often includes inland road or rail transportation of imports and exports, storage and loading operations during the stay in the port, and sea

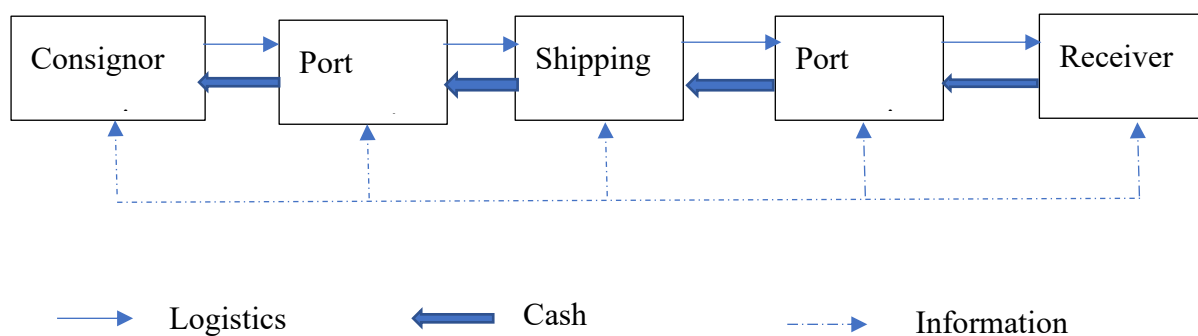


Figure1 The structural model of the shipping industry chain

transportation. The demand for timeliness in these links is very high, there are many types of customer service, and coordination is difficult. Therefore, in order to smoothly and safely realize the entire transportation process of the goods, the cargo owner enterprise often selects different cooperative enterprises with corresponding qualifications and experience according to the transportation characteristics and requirements of each section of the goods. After the process of trade negotiation, the cargo owner enterprise has signed a cargo transportation contract, and the shipping enterprise will complete the entire cargo transportation. In the process of providing cargo transportation services, the shipping enterprise needs to seek a lot of capital support from the financial leasing enterprise. The terminal enterprise and the customs coordinate the customs clearance of the goods, and handle insurance for the transported goods. These can show the specific operation flow among member companies and the flow direction of capital flow, information flow and logistics. Based on the above analysis, the structural model of the shipping industry chain can be obtained as shown in Figure 1.

The cargo owner enterprise is a prerequisite for the development of the shipping



industry chain. Because the shipping industry is derived from the needs of economic trade for sea cargo transportation, it is a derivative industry of international trade. Therefore, with the development of international trade, the development of the shipping industry also fluctuates, and the situation of global economic trade dominates shipping. The prosperity of the industrial market. Port enterprises are the key factors driving the development of the shipping industry chain. The main work of the terminal company is to improve the efficiency of ships entering and leaving the port and cargo loading and unloading through effective operational activities. The increase in efficiency helps to improve the operational efficiency of the entire shipping industry chain, thereby promoting the continuous growth of the shipping industry chain. Shipping companies are the key factors driving the development of the shipping industry chain. As customers have higher and higher requirements for the transportation of goods, and customers seek higher convenience and cargo safety guarantee, shipping companies need to provide full transportation services for cargo transportation contracts. In this process, shipping companies will inevitably form business relationships with cargo owners, port companies, and various service companies. The development of these business relationships plays a very important role in the efficiency and effectiveness of the entire industrial chain. Therefore, shipping companies occupy an extremely important position in the development of the shipping industry chain. The shipping industry chain can show the flow of logistics, capital flow and information flow among various enterprises. Logistics represents the departure of goods from the place of departure, through inland transportation and sea transportation, and finally arrives at the place of receipt. As for the capital flow, because the funds need to be obtained from the consignee, the capital flow needs to go through a reverse flow from the consignee to the shipping company and the terminal company, and finally back to the cargo owner. For the information flow, the cargo owner enterprise will provide the relevant information of the cargo to the shipping

enterprise, including the model and category, quantity, bill of lading (including the consignor, consignee, notifier, cargo name, mark, bill of lading type, etc. ), Shipping schedule, delivery date and other information. In addition, shipping companies also need to provide this information to terminal companies during the process of transporting goods for smooth customs clearance. Therefore, the information flow exists among the various enterprises in the shipping industry chain, which also realizes the sharing of information. We can see that in the shipping industry chain, shipping companies mainly implement the main link of the goods in the industrial chain from the cargo owner to the consignee, so the shipping company is in the middle of the core position. Therefore, how to establish a stable shipping industry chain to maximize the efficiency of the industry chain, shipping companies are in a dominant position.

## **5 Case Introduction and Analysis**

### **5.1 Company Profile**

COSCO Group and China Shipping Group are the two largest shipping companies in China. Their main businesses are both container transportation services, and there is serious overlap in business operations and fleet routes. Taking the container fleet as an example, in 2015, COSCO Group and China Shipping Group ranked the 6th in the world (4.2% of the global market share) and 7th (3.5% of the global market share) in terms of enterprise capacity. The capacity scale is the same. In addition, the fleet routes of the two major groups are similar. They are domestic trade routes, east-west routes and offshore routes centering on the Chinese shipping market. The two major groups have serious competition for homogenization. Compared with the top three shipping companies in the world, they do not have cost competitive advantages and

international market competitiveness. On August 10, 2015, the eight listed companies involved in the two major groups of COSCO Group and China Shipping Group announced the suspension of trading, which opened the curtain for the reform and reorganization of China's shipping companies. In early December, the State Council formally approved the reorganization of the two major groups. On February 18, 2016, the reorganization and merger of COSCO Group and COSCO Group announced the establishment of COSCO Shipping Group in Shanghai. The reorganization transaction involved a total of 74 asset transactions. After the merger, the new group's total assets will reach 610 billion yuan, with 118,000 employees, and it has become the world's largest shipping group. After the reorganization, the new group's fleet comprehensive capacity, dry bulk capacity, tanker capacity and general cargo fleet all rank first in the world. Container throughput, container leasing scale, and number of container terminal berths are among the highest in the world, and the competitiveness of the international market has been greatly improved. China's shipping companies have greatly strengthened their voice and bidding power in the international shipping market, especially in the container shipping market. In addition, COSCO Group carried out business collaboration with CSSC and WISCO Group through cross-shareholding, broke through the constraints of the original industrial chain, re-integrated the layout based on the upstream and downstream relations of the industry, and established a more stable corporate strategic alliance in the form of holdings. After the integration of the industrial chain, COSCO SHIPPING Group will build four professional sectors of container transportation, terminal operations, oil and gas transportation, and shipping finance, and determine the four strategic dimensions of economies of scale, profitability, anti-cyclical, and global layout. On the basis of the formation of a "6 + 1" industrial cluster with innovative business models for shipping, logistics, finance, equipment manufacturing, shipping services, socialized industries, and "Internet + related business", we strive to become an internationally leading

integrated logistics supply chain service provider. This resists the cyclical risks of shipping and realizes "multiple flowering".

### 5.1.1 Introduction to COSCO Group

Founded on April 27, 1961, COSCO SHIPPING Transportation Group has developed into a large shipping group with container shipping and port terminals as its main business. Its total assets exceed RMB 330 billion, and it has 135,000 employees. Reaching 170 billion yuan, the fleet size is more than 700 ships, and the tonnage exceeds 50 million. The fleet size ranks first in China and second in the world, the container leasing business ranks second in the world, and the port terminal throughput ranks fifth in the world. Bit. COSCO Group mainly controls 5 listed companies of

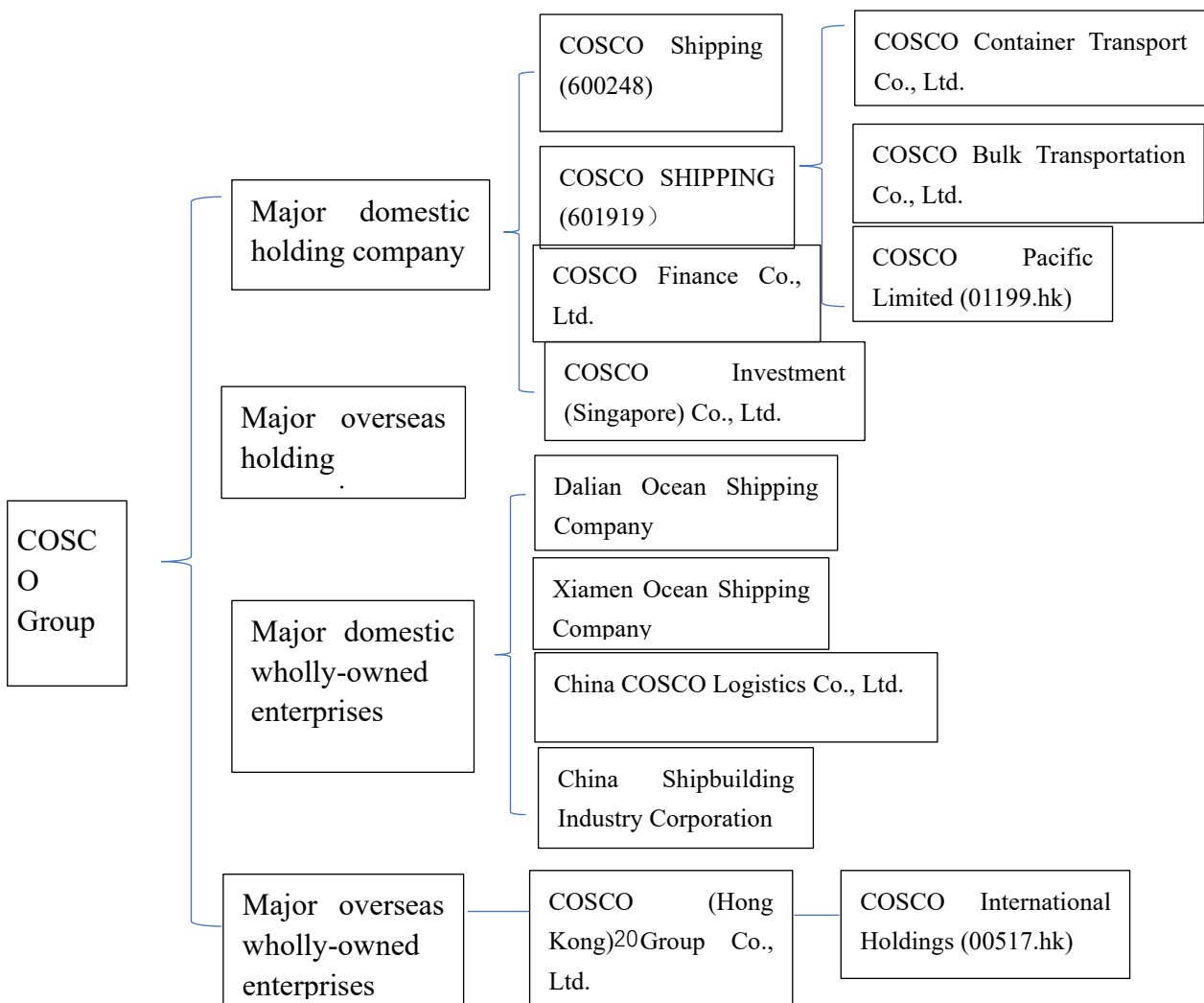


Figure2 Structure chart of COSCO Group

COSCO SHIPPING, COSCO Pacific, COSCO Shipping, COSCO Investment and COSCO International. The main business of COSCO SHIPPING Holdings Co., Ltd. (hereinafter referred to as "COSCO SHIPPING") is container transportation business, dry bulk transportation business and port terminal business, of which container transportation business accounts for 77.8% of all business, dry bulk transportation Business accounted for 15.67% of all business. Its main holding companies are COSCO Container Lines Co., Ltd. (hereinafter referred to as "COSCO Container Lines"), COSCO Bulk Transport Co., Ltd. (hereinafter referred to as "COSCO Bulk") and COSCO Pacific Co., Ltd. (hereinafter referred to as "COSCO Pacific"). Among them, COSCO Pacific is a listed company of COSCO SHIPPING Holdings. Its main business is container manufacturing, container leasing and terminal operations. It is the world's largest container manufacturer, third largest container leasing company, and fifth largest terminal operator. The main business of COSCO Shipping Co., Ltd. is specialty ocean shipping. The main business of COSCO International Holdings Limited is shipping service business. COSCO Investment (Singapore) Co., Ltd. is the first overseas listed company of COSCO Group. Its main business is ship repair and construction and offshore engineering.

### **5.1.2 Introduction of China Shipping Group**

Founded in July 1997, China Shipping Group is a large-scale comprehensive multinational operating shipping group with container transportation, port operations, and oil transportation as its main business. Its total assets exceed 200 billion yuan, and it has 47,000 employees. 80 billion yuan, with more than 500 ships, and the number of deadweight tonnage exceeds 28 million. China Shipping Group mainly controls 3 listed companies of China Shipping Container Lines, China Shipping Development and China Shipping Network. The main business of China Shipping Container Lines

is the container liner shipping business, as well as container shipping supporting services and port operations. China Shipping Development is the largest domestic crude oil and coal transportation company, and has long-term cooperation with major domestic power companies, oil refining chemical companies and steel companies. CNOOC's core business is shipping information service business, mainly providing customers with shipping-related application software, solutions and integration services.

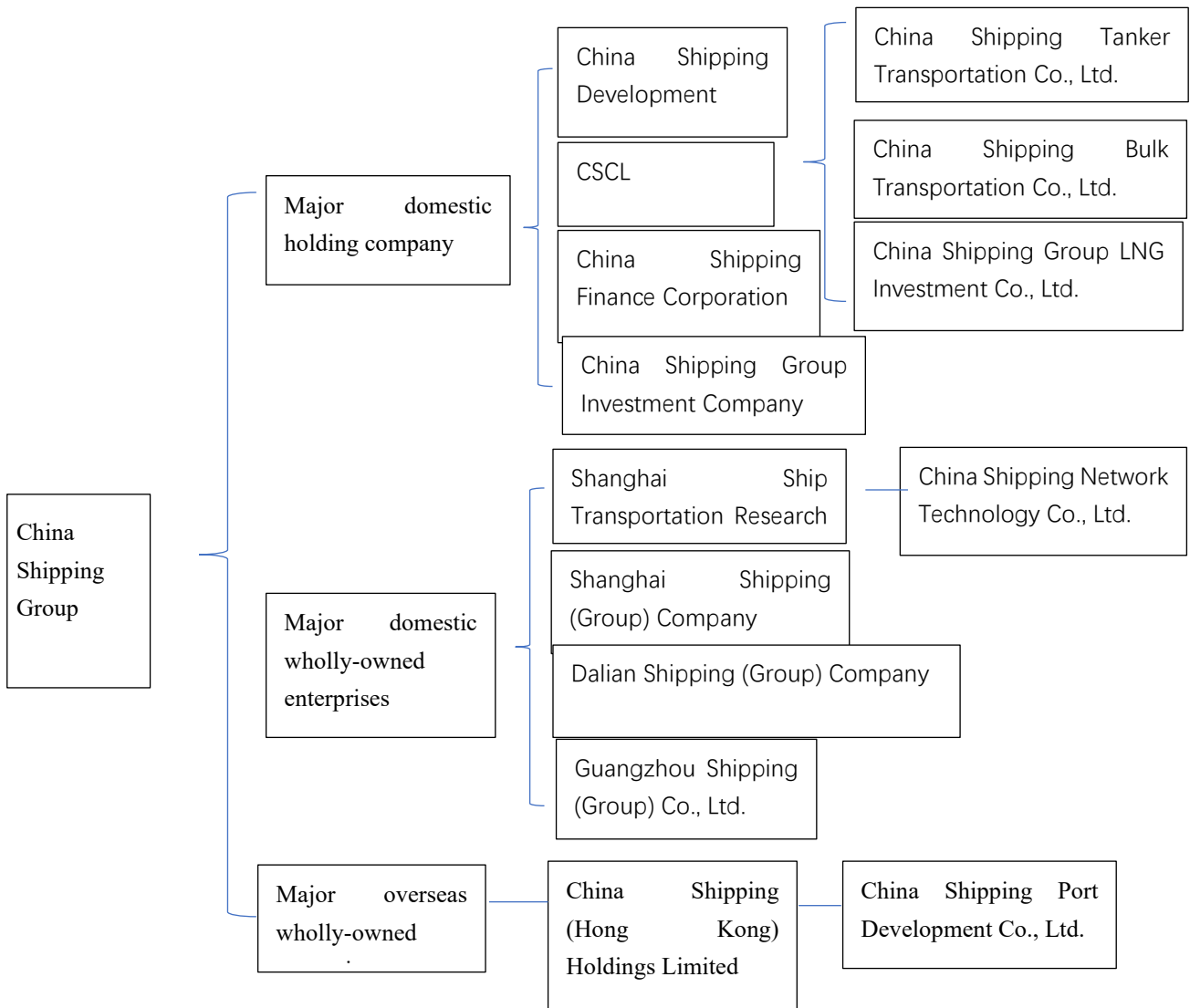


Figure3 Structure of China Shipping Group

## **5.2 Industry chain integration process**

In order to cope with the adverse environment caused by the shrinking international trade market and the sharp decline in market demand caused by the depression of the maritime industry, to solve the problems of overcapacity and serious internal consumption of enterprises, and to respond to the National Belt and Road Initiative and the conversion of old and new kinetic energy policies, under the leadership of the SASAC, COSCO Group and China Shipping Decided to mix and integrate the industrial chain. On the one hand, COSCO Group and China Shipping Group horizontally integrated the industrial chain, and formed a new shipping enterprise group through merger and reorganization. COSCO Shipping Group, through the integration of the same type of enterprises, reduced the homogenous competition between enterprises and improved The company's market share and concentration have given the company's main business a monopoly advantage, significantly reduced the gap with the world's top shipping companies, and strengthened the company's right to speak and bid in the international shipping market; on the other hand, COSCO The Group cross-shares with CSSC Group, Wuhan Iron and Steel Group and other companies, through mutual shareholding, vertical integration of the industrial chain, and strives to integrate the upstream and downstream enterprises of the industrial chain on the basis of the original business, to achieve vertical extension of the business, Strengthen the transmission of resources and information, improve the efficiency of resource allocation, and jointly resist market risks.

### **5.2.1 Horizontal integration of the industry chain**

The horizontal integration of the industrial chain is mainly to re-integrate the five major businesses involved in the two major groups, strengthen the professional sub-engineering of each enterprise within the group, and make the enterprises perform their

duties. The specific reorganization content is as follows:

(1) Consolidation and leasing service business

Before the reorganization, COSCO Group's company engaged in shipping business was COSCO Shipping, a wholly-owned subsidiary of COSCO, with a total of 161 ships under control and 22 orders, accounting for 4.2% of the global shipping market, ranking sixth in the world . The company engaged in container shipping business is China Shipping Container Lines, which has a total of 132 ships under control and 14 orders, accounting for 3.5% of the global shipping market, ranking seventh in the world. In this reorganization, COSCO SHIPPING purchased the equity of 33 container companies controlled by CSCL, leased and operated the containers and container ships of CSCL, and acquired the assets of CSCL for 1.14 billion yuan. After the integration of the two, the container transportation business of the former COSCO Group and COSCO Group will be fully operated by COSCO Group, a listed company of COSCO Group, with a total control capacity of 293 ships and 36 orders, accounting for 7.8% of the global shipping market share, ranking Leaping into the fourth place in the world, the gap with the world's top three shipping companies has been greatly reduced. China Shipping Group will achieve business transformation, transforming its main business from container shipping business to financial leasing. In addition, the companies involved in this business restructuring transaction are located all over the world. Through the integration of overseas shipping networks, the Group 's internal resource allocation has been further optimized, and the overseas market has been re-arranged. For shipping routes, the scale advantages of fleets and shipping routes will be better utilized, and the synergy effect of "1 + 1 > 2" will be achieved, which will enhance the Group 's competitiveness in the international market and accelerate the global strategic layout.



## (2) Leasing business

China Shipping Container Lines, a listed company of China Shipping Group, purchased 100% of China Shipping Investment held by China Shipping Group, Guangzhou Shipping and Shanghai Shipping and 40% of China Shipping Finance, and purchased 100% of China Shipping Leasing . At the same time, China Shipping Container Lines Co., Ltd. purchased 13.67% equity of Bohai Bank held by COSCO Group, and subscribed for 17.53% equity of COSCO Finance. In addition, China Shipping Container Lines purchased 100% equity of China Shipping Oasis, Orient International and Haining Insurance through its wholly-owned subsidiary China Shipping Container Lines (Hong Kong), and acquired COSCO Pacific Holdings, a listed company of COSCO Group, for RMB 7.78 billion 100% equity of Floren Container Service Co., Ltd. China Shipping Container Lines fully integrated the financial leasing services business of COSCO Group and China Shipping Group, creating a brand new financial leasing service business platform focusing on container leasing and ship leasing. service provider.

## (3) Dry bulk transportation business

Before the reorganization, COSCO Bulk had a total of 213 ships under control and 38 orders, accounting for 2.8% of the global maritime market share, ranking first in the world. China Shipping Bulk has a total of 106 ships under control and 5 orders, accounting for 1.2% of the global shipping market share, ranking fifth in the world. In this merger and reorganization, COSCO SHIPPING sold its 100% stake in COSCO Bulk to the parent company COSCO Group at a price of RMB 6.76 billion. COSCO Group sold its 100% stake in COSCO Bulk to COSCO Group. After the integration, the dry bulk transportation business will be divested from the listed company and controlled by COSCO Group. COSCO Group will no longer operate the dry bulk

transportation business.

#### (4) Terminal business

Before the reorganization, the terminal business of COSCO Group was mainly operated by COSCO Pacific, which controlled a total of 121 terminal berths. The terminal business of China Shipping Group is operated by China Shipping Container Lines and China Shipping Port Development Co., Ltd., and controls a total of 65 terminal berths. In this merger and reorganization, COSCO Pacific acquired the terminal business of China Shipping Group for RMB 7.63 billion. After the integration, COSCO Group will no longer operate the terminal business. The core business of COSCO Pacific is the terminal operation business. The terminal network comprehensively covers China's coastal provinces, China's five major port groups and overseas hub ports, which enhances the international market competition of COSCO Pacific's terminal business. To become the second largest terminal operator in the world.

#### (5) Oil transportation business

COSCO Group's oil transportation business is mainly operated by Dalian Ocean Shipping Co., Ltd. (hereinafter referred to as "Dalian Ocean"), and COSCO Group's oil transportation business is mainly operated by COSCO Development Holdings' COSCO Oil Tanker Transportation Co., Ltd. (hereinafter referred to as "COSCO Oil Transportation"). In this reorganization, COSCO Group sold 100% of its shareholding in Dalian COSCO to COSCO Development. Dalian COSCO injected all of its assets into COSCO Development and will be completely stripped from COSCO Group. After the integration, China Shipping Development will become a professional listed company in oil and gas transportation, and it will become the No. 1 in the world in

terms of control of transportation capacity and order volume. It will have the conditions and ability to carry out global layout and competition.

### **5.2.2 Vertical integration of the industrial chain**

On December 28, 2015, COSCO SHIPPING announced that its controlling shareholder, COSCO Group, will hold 300 million shares, 250 million shares and 200 million shares of the company (respectively accounting for 3,000% of the company's total share capital, (2.45% and 2.00%) transferred to Beijing Chengtong, Wuhan Iron and Steel Group and China Shipbuilding Corporation, a subsidiary of China Chengtong, free of charge. On February 2, 2016, WISCO announced that its controlling shareholder, WISCO Group, had transferred 500 million shares of the company (approximately 4.95% of the company's total share capital) to COSCO Group for free. On February 2, 2016, China Shipping issued an announcement saying that its controlling shareholder, CSSC, transferred 43.92 million shares of the company (approximately 3.19% of the company's total share capital) to COSCO Group for free.

COSCO Group is promoting business coordination in the form of cross-shareholding. Through cross-shareholding, COSCO Group, CSSC Group, and Wuhan Iron and Steel Group will break the previously closed industrial chain, reorganize and integrate the industrial chain according to the relationship between the upstream and downstream of the industry, and adjust The Group 's business segment strengthens business collaboration between companies to effectively allocate production factor resources and resolve overcapacity issues. In the future, COSCO Group and Wuhan Iron and Steel Group will have more and more cooperation points in the transportation of iron ore and China Shipping Group in the shipping and shipbuilding business.

The structure of the company's industrial chain after the merger is shown in the figure.

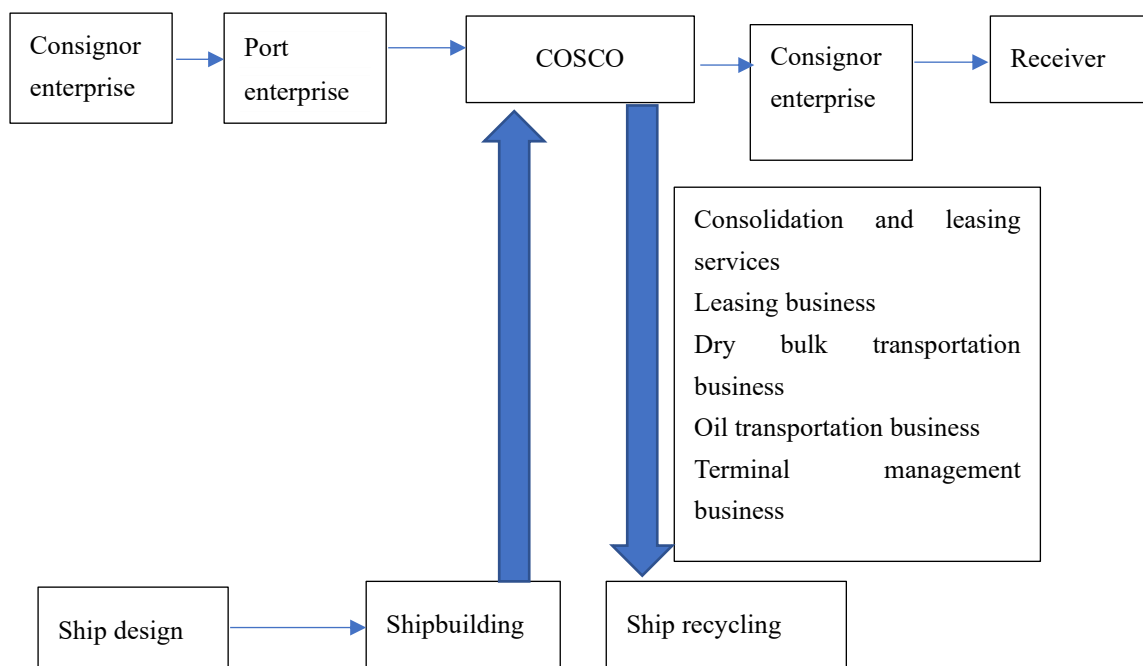


Figure4 The structure of the company's industrial chain after the merger

### 5.3 COSCO Group Merger Performance Results

As the two leading companies in China's shipping industry, are COSCO Group and China Shipping Group's industry chain integration effects optimistic about the capital market? Can the integration of the industrial chain change the operating difficulties of the two major groups? This article first selects the event research method to observe the capital market's response to COSCO SHIPPING Group's industrial chain integration through stock price changes, and profoundly analyzes the company's short-term performance after the merger and cross-shareholding. The event research method believes that the market is effective, and the stock price can reflect all public information. By analyzing the cumulative or average excess return of stock price changes before and after the event, the capital market response is judged, and the impact of the event on the company in the short term is analyzed. Among them, the excess return rate (Abnormal Return, AR) is the difference between the actual rate of

return and the normal rate of return, and its calculation formula is:

$$AR_t = R_t - E(R_t)$$

$AR_t$  represents the excess return rate of the company's stocks on day  $t$ ,  $R_t$  represents the actual return rate of the company's stocks on day  $t$ , and  $E(R_t)$  represents the normal return rate of the company's stocks on day  $t$ . Among them, the calculation formula is:

$$E(R_t) = \alpha + \beta * R_{mt}$$

Among them,  $\alpha$  and  $\beta$  are constants, which are estimated according to the stock return rate about one hundred days before the event. After the values of  $\alpha$  and  $\beta$  are estimated, the cumulative excess rate of return of the event can be calculated (Community Abnormal Return, CAR). The calculation formula of CAR is:

$$CAR_{t_1-t_2} = \sum_{j=t_1}^{t_2} AR_j$$

#### **5.4 Market reaction to the merger of COSCO Shipping Group**

On August 10, 2015, the four major listed companies involved in the integration of the industrial chain of the two major groups all made major asset restructuring suspension announcements, and on December 14, 2015, they made a resumption announcement. However, on April 16, 2015, there have been media reports on the Internet that the two major groups are very likely to merge, and the news has attracted the attention of the capital market. Therefore, the four listed companies have issued clarifications on April 18. announcement. This article accordingly selects five days around April 18, 2015 as the event window period to study the reaction of investors in the capital market to the

news of the merger of the two major groups. The original data used in the event research method in this paper comes from the Wind database.

1) Calculation of excess return of stock price of COSCO SHIPPING (601919) In this article, April 18, 2015 is selected as the event occurrence date, and from October 8, 2014 to April 17, 2015, a total of 123 trading days are used as the estimation window. Through regression analysis, it is estimated that the value of  $\alpha$  is 0.0015, and the value of  $\beta$  is 1.956, and on this basis, the window period is calculated, that is, April 13, 2015 to April 24, 2015, 10 Within a trading day, COSCO SHIPPING 's stock price excess returns and accumulated excess returns are as follows:

Table1 Calculation of excess returns of COSCO SHIPPING (601919)

From the date of the incident	E(Rt)	AR	CAR
-5	2.83%	-3.07%	-3.07%
-4	0.57%	-0.08%	2.99%
-3	-1.08%	4.27%	7.26%
-2	3.54%	1.10%	8.36%
-1	2.90%	7.11%	15.47%
1	-1.74%	11.77%	27.24%
2	2.11%	2.31%	29.55%

3	3.02%	4.81%	34.36%
4	0.54%	-2.54%	31.82%
5	-0.45%	10.42%	42.24%

Data source: wind database

From the point of view of the excess return rate of COSCO SHIPPING's stock within five days before and after the incident, the day before the media speculated that the two major groups had the intention to merge, the excess return rate of COSCO SHIPPING's stock price began to rise sharply, and the growth trend remained until the announcement The third day after publication. The excess return rate of stock prices reached 11.77%, and the cumulative excess return rate reached 42.24%. The results show that the capital market remains optimistic about the news of the merger of the two major groups and believes that the merger of the two major groups will be beneficial to the enterprise. The impact may reverse the decline of corporate development and promote the subsequent development of COSCO SHIPPING.

(2) China Shipping Development (600026) Calculation of excess return of stock price  
 In this paper, we choose the same window period as China Shipping Development for COSCO Development. Through regression analysis, it is estimated that the value of  $\alpha$  is 0.00100 and the value of  $\beta$  1.0681 is equal The method calculates the excess return of stock price of China Shipping Development before and after the clarification announcement. The specific data are as follows:

Table2 Calculation of excess return of China Shipping Development (600026)

From the date of the incident	E(Rt)	AR	CAR
-5	2.56%	-2.07%	-2.07%
-4	0.49%	0.99%	1.08%
-3	-1.03%	1.32%	2.40%
-2	3.22%	-1.39%	1.01%
-1	2.63%	7.33%	8.34%
1	-1.64%	5.18%	13.52%
2	1.91%	-5.99%	7.53%
3	2.74%	-1.61%	5.92%
4	0.46%	-2.61%	3.31%
5	-0.45%	3.88%	7.19%

Data source: wind database

According to calculations, on April 16, 2015, the media claimed that the two big groups were about to merge. On the second day of the news, China Shipping Development's stock price rose sharply, and the excess return rate of the stock price reached 7.33%. It was accumulated on the first trading day after the clarification announcement was issued. The excess return rate of the stock price reached the highest



point of 13.52%, after which the stock price began to decline. The results showed that when the relevant media issued news that the two major groups were about to merge, the capital market was clearly optimistic about this move and the stock price rose. It was not until the announcement of the clarification that investors returned to rationality.

(3) Calculation of excess return of stock price of China Shipping Container Line (601866) In this paper, we choose the same window period of China Shipping Container Line Co., Ltd. and COSCO SHIPPING. Through regression analysis, it is estimated that the value of  $\alpha$  is 0.0018, and the value of  $\beta$  is 1.1446. The method calculated the excess return of China Shipping Container Lines before and after the clarification announcement. The specific data are as follows:

Table3 Calculation of excess return of China Shipping Container Lines (601866)

From the date of the incident	E(Rt)	AR	CAR
-5	2.82%	-1.17%	-1.17%
-4	0.60%	-0.43%	-1.60%
-3	-1.03%	7.68%	6.08%
-2	3.53%	4.99%	11.07%
-1	2.90%	7.05%	18.12%
1	-1.68%	11.75%	28.87%
2	2.12%	-0.38%	29.32%
3	3.01%	-0.17%	29.15%
4	0.57%	-2.78%	26.37%
5	-0.41%	7.88%	34.25%

Data source: wind database

Through calculations, it can be seen that the share price changes of China Shipping

Container Lines are basically consistent with COSCO SHIPPING. Three days before the clarification announcement, the excess return rate of China Shipping Container Lines has risen sharply, and the upward trend continued until the first trading day from the date of the clarification announcement. At this time, the excess return rate reached 11.75%, and the cumulative excess return rate It reached 34.25%, and in the next few days, the market gradually stabilized, the stock price rose, and the excess yield fell slightly. The results showed that before the media leaked the news of the merger, the market had discovered signs of the merger of the two major groups in advance through the clues, so the stock price began to rise sharply, and the trend of the rise has continued for four days before the market heat gradually stabilized.

### **5.5 Strengthening after business combination**

The two major state-owned enterprises that are both controlled by the central government. For both parties, the competition situation is constantly changing, and the pattern will fluctuate with changes in the market. The two major groups are similar in terms of product layout. Neither has its own special advantages in terms of business resources and architecture, nor does it make a difference from the perspective of the business model. The areas that focus on and are willing to invest multiple times are ships, routes, etc., target customers and market development Similar, so the asset utilization rate is low, and it is not easy to release the scale effect. China COSCO, which is controlled by COSCO Group, purchased 33 networks of China Shipping Container Lines for 1.14 billion yuan and hired container ships and containers of China Shipping Container Lines; the parent company COSCO Group used a total of 6.77 billion yuan to receive its dry bulk assets. , Formally started to operate container shipping business as a professional listing platform. After the reorganization, the size of its container fleet can reach 288 ships, accounting for 8% of the global capacity. China COSCO will become a very influential operator in the world and is one of the

four largest container liner companies in the industry. Calculated in terms of throughput, it can be called the second largest operator in the world. After the route integration plus the scale of fuel purchase and other advantages, the integration saved 1 billion yuan in cost. China Shipping Development acquired 100% of the shares held by COSCO Group in Dalian Ocean Shipping, and sold 100% of the integrated China Shipping Bulk segment (China Shipping Bulk is China Shipping Development of a company specializing in the operation of thousands of bulk business). By selling all dry bulk transportation business, China Shipping Development has transformed its oil and gas transportation listing platform engaged in oil transportation business and LNG transportation business. Its capacity of oil tanker fleet can reach the world's first, and the capacity of super large tanker fleet is second in the world. A company under the COSCO Group engaged in container leasing-related business, namely the company named Floren Container Service Co., Ltd., was incorporated by China Shipping Container Lines. China Shipping Container Line Co., Ltd. bought the company under COSCO Group for 7.78 billion yuan. The occurrence of this economic behavior also means that China Shipping no longer operates container ship-related businesses and began to transform into a leasing business platform. The leasing business platform refers to a variety of leasing methods as a way to carry out the leasing of ships and containers, as well as other financial leasing businesses that are not related to shipping. Service providers use a unified platform to integrate ship leasing, container leasing, and other financial leasing unrelated to shipping. According to the data released by the shipping research consulting agency Alpiner, as of December 11, 2016, COSCO Group has a total ship capacity of 161; in addition, there are 22 ships in the order; this data is in The world market is relatively large, accounting for 4% of the global share, ranking sixth in the industry's global rankings. China Shipping Container Lines took the second place, occupying the seventh place; as of this day, it had a total ship capacity of 132; in addition, there were 14 ships in the order; it accounted for 3.5% of the global

share. After the integration of these two major consignments, the scale cannot be underestimated, and the total capacity under control has reached the value of 293 ships; in addition, there are 36 ships in the order, accounting for 8% of the global share, ranking fourth. , Followed closely by the German Hapag-Lloyd company, and the gap with the world's top three handling companies has also narrowed significantly. The global shipping company's control capacity ranking and global shipping company's market share ranking are shown in Tables 4 and 5.

Table4 Ranking of global cargo company capacity control

Rank	Operator	Total		Owned		Chartered			Orderbook		
		TEU	Ships	TEU	Ships	TEU	Ships	Chart%	TEU	Ships	Existing%
1	APM-Maersk	299683	581	1752367	263	1244464	318	41.5	405910	31	13.5
2	Mediterranean Shipping Co	2704067	493	1054381	192	1649686	301	61	581534	44	21.5
3	CMA CGM	1807275	464	603820	88	1203455	376	66.6	267864	24	14.8
4	Hapag-Lloyd	943746	174	498991	68	444755	106	47.1	52500	5	5.6
5	Evergreen	935699	194	539533	104	396166	90	42.3	395770	41	42.3
6	COSCO Container	847055	161	458966	84	388089	77	45.8	332003	22	39.2

7	CSCL	7063 40	13 2	4915 40	64	2148 00	68	30.4	233 928	14	33.1
---	------	------------	---------	------------	----	------------	----	------	------------	----	------

Data Sources: Alphaliner

Table5 The market share of the global cargo companies ranked

Rank	Operator	TEU	Share%
1	APM-Maersk	2996831	14.7
2	Mediterranean Sho Co	2704067	13.3
3	CMA CGM	1807275	8.9
4	Hapag-Lloyd	943746	4.6
5	Evergreen	935699	4.6
6	COSCO Container	847055	4.2
7	CSCL	206340	3.5

Data Sources: Alphaliner

Under the control of COSCO Group, the focus of the original terminal business began to shift to COSCO Pacific Co., Ltd., a company listed in Hong Kong, China began to undertake the focus of the terminal business; within the COSCO Group, the terminal business is in a more complicated situation , Not only controlled by China Shipping Container Lines, but also controlled by China Shipping Port Development Co., Ltd., which makes the overall situation more complicated. After formulating a certain reorganization strategy, the ownership of this business will be sold to COSCO Pacific at a price of RMB 7.63 billion, under the control of COSCO Pacific. Looking at the mid-2015 data in the internal data report of COSCO Pacific, it can be seen that the total value of China Shipping Group's terminal assets reached 4.64 billion U.S. dollars after conversion, which is 29.93 billion yuan when converted into RMB; It is a wholly-owned subsidiary of China Shipping Container Lines, which has gradually developed

into a two-tier wholly-owned subsidiary with changes in the environment. At the end of 2013, the value evaluation of the China Shipping Terminal at the time of the sale was measured in RMB, with a value of 3.42 billion. As of June 2015, COSCO Pacific operated a total of 108 container terminal berths with a total annual handling capacity of 65,750,000 TEU; in operation, there are 13 bulk cargo terminal berths in operation with a total annual handling capacity of 46,50 million tons. In respect of China Shipping, the website of China Shipping Terminal has been consulted to learn that it has operated and managed 65 berths in 18 ports around the world, of which 62 container berths have an annual processing capacity of more than 40 million TEUs. The investment network spans Dalian, Tianjin, Lianyungang, Shanghai and Ningbo , Guangzhou, Qinzhou and other regions in China 's coastal location, as well as some other container hub ports, have also been deployed in foreign ports. At the same time, the company strategically invested in three comprehensive ports. In the document "Global Container Terminal Operators Annual Report 2014", Dreyry made certain disclosures on the total throughput of Zhonghai Terminal in 2013, etc. In terms of throughput and equity method, etc. The evaluation is ranked eighth in the overall ranking of this business in the world.

As of November 2015, China Shipping Terminal 's total throughput for the year was 29,146,700 TEUs and equity throughput was 8,787,647 TEUs. The data shows that the ranking of global terminal operators in 2014 is shown in Table 6:

Table6 2014 Global Terminal Operator Ranking

Rank	Operator	TEU	2014Volume Growth%
1	Hutchison Port Holdings	82.9	6
2	China Mechants Holdings	80.6	13.1
3	APM Terminals	79.1	5.5
4	Cosco Pacific	67.3	9.9
5	PSA International	65.4	5.8
6	DP World	60	8.9

Data source: Containerisation Internation MAR.2015

As can be seen from the table above, COSCO Pacific's throughput in 2014 ranked fourth in the world, reaching a value of 67.7 million TEU. After the reorganization, the situation has changed. The development of the branch of China Shipping Terminal has brought changes that cannot be underestimated to COSCO Pacific. It has made tremendous progress in the expansion of the terminal network, and the number of container terminals owned by the world has reached By the end of the year, all coastal provinces in China as well as other major hub ports in other regions have been covered.

Floren Container Service Co., Ltd. exists as a wholly-owned subsidiary of COSCO Pacific. Although the economic development of the terminal business is good, and revenue and net profit have achieved certain growth, there is still a lack of coordination in various businesses. The relationship between this business and the container

transportation business and leasing business is handled well. With the further development of these three contracts, the company will go further in economic terms. In the planning for the future, the container business will gradually be separated into separate individuals, with the focus on the terminal operation and cooperation with COSCO Group, supplemented by the expanded fleet and routes, COSCO Pacific has a very promising development prospect. considerable.

In terms of agents and branches, the existing data of COSCO Container Lines and China Shipping Container Lines has already been very advantageous. Related data such as ports, routes, and ships are also very impressive. The arrangements of the two companies in terms of routes are quite different except for the United States. After the integration, they have a very complementary role in terms of routes. In addition, according to the relevant planning of the reorganization, the two companies, Florens Leasing and Oriental International Leasing, will be integrated, which means that the linkage between the two will be further improved and the cooperation will be better. Increase competitive advantage. Until the end of June 2015, China Shipping Container Lines' container vessel assets have reached a value of 43.9 billion yuan in RMB, and container assets have reached a value of 4.2 billion yuan in RMB, totaling 48.1 billion. "COSCO Pacific" containers The total assets of the leasing business and other related businesses reached 2.2 billion in US dollars, which is equivalent to RMB 14.2 billion. The total assets after the reorganization were measured in RMB with 62.3 billion.

## **5.6 Cultural integration between companies**

After the reorganization, the company has undergone tremendous changes in personnel and organizational structure, mainly reflected in four "different". First, the source of employees is different, it can be said to be "five lakes and four seas". There are the original two major groups, the former China Shipping Container Lines, and some from



the fraternal units; the second is the industry background is different, there are traditional shipping industry, but also the financial and investment industries; the third is the different institutional mechanisms, both state-owned enterprise systems There are more and more market-oriented employees within the company; Fourth, the business sector is different. The newly reorganized company is composed of financial investment, shipping leasing, non-air leasing, and equipment manufacturing. These differences, combined with the arduous and arduous tasks of reorganization at the beginning, brought great difficulties to the integration of the team and the unification of cultural consensus.

COSCO Shipping has a clear understanding of this. At the annual work meeting, strengthening corporate culture is an important task in 2017. With the firm support of the company, a leading group of corporate culture construction was quickly established to strengthen the promotion of corporate culture construction. Through layer-by-layer screening, the China Enterprise Culture Research Society was hired as a consulting agency, a project team was established, and the establishment of a corporate culture theory system was carried out. Questionnaire surveys were conducted successively to organize a "corporate culture consensus workshop" to target corporate culture. Conceived and conceived, organized employees at all levels to conduct "salon-style" discussions, and made a more accurate diagnosis of the company's corporate culture status through the "7S" model:

**STRATEGY:** The company undertakes the important mission entrusted by Jiyin. The transformation and development pressure is large, which makes the employees 'strategic self-confidence weak; the lack of communication leads to the confusion of the employees' direction and the lack of development confidence.

**STRUCTURE:** As a financial control platform that is undergoing a market-oriented

transformation, there is a certain difference between the group's traditional organizational management system; new employees continue to join, and the division of labor is becoming more and more professional. There is generally insufficient communication between different teams. This leads to a weak sense of organizational identity and belonging.

**SYSTEMS:** The company's original management system has been unable to meet the development needs of financial business. Urgently need to build a modern financial service company's institutional mechanism.

**STAFF:** There are outstanding structural shortages in the talent team, and there is a shortage of finance, investment, and risk talents; the veteran employees are not market-oriented, and the newly recruited socially recruited employees need to strengthen their identity and loyalty to the company.

**SKILLS:** On the basis of scientific planning and strategic layout, accelerate the acquisition of financial license qualifications and build a complete financial service platform; develop a distinctive product and service system based on the needs of high-quality cornerstone customers as soon as possible. . **Management style (STYLE):** Business transformation emphasizes the transformation from rigorous norms to the emphasis on stability and efficiency; the management model changes from closed to open and shared, from extensive to fine, from slow to fast.

**SHARED VALUES:** Lack of a common mission and vision that all employees recognize, so that employees have a collective sense, identity and sense of belonging; lack of effective cultural carriers, rich cultural activities and means of communication.

Through system diagnosis, we have seen the shortcomings, and also clarified the

direction and goals of the work. The company has gradually unified the core ideas of building a cultural system with shipping finance characteristics including corporate mission, corporate vision, and core values.

In response to the diagnosed problems, the project team carefully planned and invited the authoritative expert Professor Meng Fanchi in the field of corporate culture construction in China to give lectures on corporate culture topics for cadres at all levels of the company to enhance their ideological understanding. The company attaches great importance to the publicity work. The positive role of the image integrates the creation of corporate culture into the publicity work and conveys the company's "good voice". Actively promote the company's unveiling ceremony, professional manager system pilot promotion meeting and other major company events, and establish a new corporate image; at the same time, give full play to the role of first-line correspondents such as ships and workshops in the promotion work, and strive to tap the highlights of corporate work. Through the form of "COSCO Shipping Development Briefing", the company's employees were informed of the company's development in a timely manner, and actively contributed to the Group's "Party Building Essentials" and "China Ocean Shipping News" to expand the influence of the company's influence and corporate culture. A total of 83 reports on corporate cultural activities, party building dynamics, etc. were reported; at the same time, new media applications were strengthened. The company's WeChat public platform was established to form a publicity system that combines online and offline, and combines tradition and innovation.

After more than a year of hard work, the company's team cohesion, centripetal force and combat effectiveness have been significantly improved, and employees' understanding of corporate culture has continued to increase. In 2017, all employees

of the company worked hard to exceed the annual assessment indicators issued by the group, and won a series of honorary titles such as "National Civilized Unit", "Shanghai Civilized Unit", "National Enterprise Cultural Construction Benchmark Enterprise" and so on. At the same time, the theoretical system of corporate culture has also taken shape.

### **5.7 Analysis conclusion**

By analyzing the excess returns of the three listed companies under the two major groups, this article finds that the capital market is optimistic about the news of the merger of the two major groups. After some media on the Internet broke the news that the two major groups were about to merge, COSCO SHIPPING, China Shipping Container Lines, and China Shipping Development all experienced a significant increase in stock price excess returns, indicating that the capital market is confident in the development prospects of the two major groups after the merger. . Since the financial crisis in 2008, the international shipping market has been sluggish. From the public financial data disclosed by the listed companies of COSCO Group and China Shipping Group, the operating performance of the two major groups is relatively poor and both are on the verge of loss. High and serious homogenization competition. The SASAC has previously revealed the willingness of central enterprises to merge, hoping to reduce the homogenous competition of enterprises and strengthen the core competitiveness of enterprises through strong alliances. Therefore, when media on the Internet announced that COSCO Group and China Shipping Group were about to merge, the capital market responded quickly. The share price of related listed companies rose significantly. Investors have reason to believe that the SASAC will merge the two major groups. Through strong alliances and resource re-allocation, the company's capacity will be greatly improved, and the expansion of scale will bring economies of scale, enhance the company's ability to bid, and improve the company's

current operating difficulties. .

## **6 Conclusions and recommendations**

### **6.1 Conclusion**

This article cuts in from the perspective of industrial chain integration, combining enterprise growth theory, social network theory, industrial organization theory and synergy effect theory, to deeply analyze the motivation of China's leading marine shipping company COSCO Shipping Group's industrial chain integration and how to renew its resource business Configuration to achieve industrial chain integration. This article believes that the motives for the integration of the two major groups in the industrial chain are mainly market-oriented operations + government promotion, including: the background of the maritime industry, the state-owned enterprise reform situation and policies, the national strategic globalization layout and the internal factors of enterprises. Through performance evaluation, this paper concludes that by analyzing the three stock companies' excess return rate in the relevant window n period, this paper finds that after the relevant information is disclosed, the three stock company's stock price excess return rates have increased to varying degrees, and investors in the window period A large amount of investment in related listed companies, the market is optimistic about the news of COSCO Shipping Group's industrial chain integration.

### **6.2 Improvement suggestions for shipping companies**

First of all, the integration of an enterprise's industrial chain should strengthen competitiveness on the basis of core business. The integration of the industrial chain

must first enhance the company's own core competitiveness, refine and strengthen the company's core business sector, rationally allocate limited resources of the enterprise, concentrate the core resources on the professional operation of the enterprise, enhance the company's core technical strength, and enhance the company's core Core competitiveness. On the basis of fully guaranteeing its own market advantages, it can appropriately carry out related diversified operations, gradually expand to surrounding markets or emerging markets, and market penetration and market development go hand in hand. Secondly, with the gradual deepening of economic globalization, the mode of competition among enterprises has changed from competition between single enterprises to competition in the industrial chain. It is unsustainable for any enterprise to fight alone. Only by developing in a group can enterprises have more powerful Power, occupy more market share, have more right to speak, industry chain competition will become the main theme of future international market competition. Thirdly, enterprises should have a long-term perspective, review the situation and avoid excessive expansion. Due to the downturn in the shipping industry, excessive asset expansion, and excess capacity, COSCO Group and China Shipping Group have suffered serious losses and operational difficulties. They can only seek new development breakthroughs through industrial chain integration to solve the problem of excess capacity. In contrast, under the same macro environment, the shipping industry giant Maersk Group, the financial performance of the Maersk Group is stable, and the company's development is progressing steadily. Its good performance is mainly due to the orderly expansion of the company. Therefore, enterprises should fully understand the internal and external environmental conditions, and the expansion speed of enterprises should be adapted to their own development speed: avoid blind expansion. Finally, with the continuous optimization of the global economic structure, we must seize the opportunity period of global economic structure adjustment, increase the reform of state-owned enterprises, tap the endogenous driving force for the

development of state-owned enterprises, and realize the bigger and stronger state-owned enterprises. The integration of COSCO Shipping Group's industrial chain provides new ideas for the reform of state-owned enterprises. Reform of state-owned enterprises through the integration of industrial chains can avoid the loss of state-owned capital, break the originally closed industrial chain of state-owned enterprises, strengthen business collaboration, and form a long-term and stable strategic alliance relationship. Improve the ability of state-owned enterprises to resist cyclical risks, thereby inspiring new impetus for economic development and improving the socialist modern economic system.

## Reference

- Bao Zhiming & Gu Jiefei.(2012) Shipowner's postponed payment affects the shipping industry chain [J]. *Zhujiang Water Transport*, (01): 55-57.
- Chen Yang & wang xuefeng.(2014) Re-understanding of international shipping industry based on industrial chain: a new analytical framework [J]. *Modern management science*, (06) : 18-20 + 47.
- Chen Huihuang. (2011) Principal-agent Analyses of Highend Shipping Services Supply Chain.
- Cao Honghong. Research on the operational performance of COSCO SHIPPING under the background of state-owned enterprise reform [D]. Lanzhou University of Finance and Economics.
- Dong Won Cho & Young Hae Lee & Sung Hwa Ahn & Min Kyu Hwang. (2011) A framework for measuring the performance of service supply chain management[J] . *Computers & Industrial Engineering* . (3)
- Guo Yiwei. Performance Research on BYD Industry Chain Integration [D]. Fuyang Teachers College.
- Gao Zhijun & Liu Wei. (2013) Connotation and Formation Mechanism of Shipping Service Industry Chain [J]. *China Navigation*, 2013, 36 (03): 120-125.
- Gan Chen.(2019) Restructuring the new shipping industry format: work together to build a community of shared fate for the industry chain [J]. *China Water Transport*, (12): 18.



- Huang Lili.(2018) Research on the influence mechanism of Wuhan Shipping Settlement Center on the shipping industry chain [D]. Wuhan University of Technology.
- Haluk Demirkan & Hsing Kenneth Cheng. (2006) The risk and information sharing of application services supply chain[J] . European Journal of Operational Research . (3)
- Huang Qifan. Reconstruction of the global industrial chain under the epidemic: an industrial chain cluster combining horizontal division of labor and vertical integration [J]. China Economic Weekly, (07): 24-29.
- Jin Jiachen & Zhen Hong. (2013) The connotation and basic structure of the shipping industry chain [J]. China Navigation, 36 (03): 126-129.
- Lin Y & Shi Y & Zhou L.(2009) Service Supply Chain:Nature,Evolution,and Operational Implications. DET Proceedings AISC .
- Liu Wei-hua & Xu Xue-cai & Ren Zheng-xu & Peng Yan. (2011) An emergency order allocation model based on multi-provider in two-echelon logistics service supply chain[J] . Supply Chain Management: An International Journal . (6)
- Lisa M.Ellram & Wendy L.Tate & CoreyBillington.(2006) Understanding and Managing the Services Supply Chain[J] . Journal of Supply Chain Management . (4)
- Mihalis Giannakis. (2011) Management of service supply chains with a service-oriented reference model: the case of management consulting[J] . Supply Chain Management: An International Journal . (5)

- Mark Johnson & Carlos Mena. (2008) Supply chain management for servitised products: A multi-industry case study[J] . International Journal of Production Economics . (1)
- P. W. de Langen. (2002) Clustering and performance: the case of maritime clustering in The Netherlands[J] . Maritime Policy & Management . (3)
- Petra Pekkanen, Petri Niemi, Tiina Puolakka, Timo Pirttilä, Janne Huiskonen. Building integration skills in supply chain and operations management study programs[J]. Elsevier B.V., 225.
- Quah Hock Soon & Zulkifli Mohamed Udin. (2011) Supply chain management from the perspective of value chain flexibility: an exploratory study[J] . Journal of Manufacturing Technology Management . (4)
- Shi Jingli. (2016) The shipping industry chain needs contract mental healing [J]. China Ship Inspection, (08): 50-53 + 120.
- Song Xuqin. (2011) Research on the Integration Mode of China's Shipping Industry Industry Chain [J]. Journal of Guangzhou Maritime College, 19 (04): 5-7.
- Tang Siyuan & Zang Xiaohui. (2014) Evaluation and Development Suggestions of Shanghai Shipping Service Support Industry [J]. China Water Transport (Second Half), 2014, 14 (07): 61-62 + 65.
- Tuncdan Baltacioglu & Erhan Ada & Melike D Kaplan & Oznur Yurt, Y & Cem Kaplan. (2007) A New Framework for Service Supply Chains. The Service Industries Journal .

- Tang Liang, Guo Yiwei, Wang Qingqing. Research on the performance evaluation of industrial chain integration——Taking BYD Group as an example[J]. Journal of Suzhou University,35(01):34-39.
- Wang Yujia. Efficiency analysis of competitive reform of coal power industry chain from the perspective of vertical relationship[D]. Shandong University.
- Wang Yingji.(2006) Discussion on the role of shipping industry cluster in the construction of Shanghai International Shipping Center [D]. Shanghai Maritime University
- Wei Jiafu. (2000) Global Shipping Integration (Abstract) [J]. Shanghai Shipbuilding. (01)
- Xie Zefeng & Talents. (2020) COSCO SHIPPING Building a New Global Shipping Ecology [J]. (01)
- Yu Zenggang. The key role of key nodes in the industrial chain [J]. China Ocean Shipping, (06): 34-35.
- Yao yapping & Li ying & Lu tongzhou & Wang guanqun & Lin cuikang.(2019) Chairman of cosco shipping group and party secretary xu lirong: "industrial chain management" is the solution for shipping [J]. China ocean shipping, 2019 (11) : 34-39.
- Yuan Xiao.(2019) Study on Profit Distribution among Enterprises in Shipping Industry Chain Based on Game Theory [D]. University of International Business and Economics.

Yu Huicui. Research on the motivation and performance of COSCO SHIPPING Group's industrial chain integration [D]. Shandong University.

Zhang Yuque. Financial Synergy of my country's Construction Industry Chain Integration [J]. China Real Estate, (01): 28-31.