

MARKET POWER, MERGERS AND CONCENTRATION OF LOGISTICS CHAINS: A REVISIT OF THE IMPACT OF ECONOMIC RECESSION ON MARITIME TRANSPORT

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ABSTRACT

In recent years, many maritime companies have been actively engaged in vertical and horizontal integrations to survive the economic recession and gain an edge on their competition. As a result, the merged companies hold greater market shares, gain control over logistic chains and become more cost effective and potentially profitable. The paper examines the unique features of vertical and horizontal integrations of upstream and downstream maritime companies, and looks into the consequences of the more concentrated maritime industry affecting cost efficiency, market shares, profitability, further reorganization and scale changes in industry structures. The findings indicate that with vertical and horizontal integrations of shipping and port companies, the maritime industry tends to be more concentrated, more cost effective and ascertain of rents. However, the excess supply, derived from the decreased demand for vessel shipping and overcapacity in TEU throughput, continues to hinder the recovery and expansion of maritime companies and their motivations to seek higher profit margins.

Keywords: *horizontal integration, vertical integration, industry concentration, market power, maritime transport.*

1. INTRODUCTION

Globalization and borderless operations in manufacturing and services industries are creating greater demand for international transport and logistics. Maritime shipping is one of the key components in this business pattern with up to 80% of global trading freights being moved by maritime mode. Therefore, the worldwide economic downturn since 2008 caused by an unprecedented financial crisis has made a monumental impact on the maritime industry. Shipping and port companies have experienced harsher competition and lower profitability primarily due to the decreased demand for international trade and transportation. To survive the economic recession and gain an edge on their competition, many maritime companies in recent years have become increasingly engaged in vertical and horizontal integration. Big players, like shipping and terminal operating companies, would acquire smaller, but strategically selected organizations. Hinterland transport companies and other maritime services such as storage and the transport of goods would become instrumental assets. As a result, the merging companies hold greater shares within the logistics chains and operate more efficiently. This will change not only the market structure of maritime industry by becoming more consolidated, but also the nature of competition. Maritime companies are selected not for their individual profits, but on the basis of whether they are part of successful logistics chains.

By examining the vertical and horizontal integrations in the new wave of mergers and acquisitions that date back to the mid-1990s, it reveals the rationality behind such strategic business manoeuvre of the maritime companies. The consequences of a more concentrated maritime industry are the effects on cost efficiency, market shares, profitability, further reorganization, and scale changes. Some companies successfully gain control over the logistics chains from

production site to final destination through the acquisition of hinterlands, storage space and docks. Findings indicate that with the vertical and horizontal integrations of shipping and port companies, scale and scope effects could bring merged companies higher business rent, cost efficiency, optimization of input sources, and an advantageous position against their rivals. A few colossal companies like Maersk hold such a large amount of market shares that it raises the concern over the risk for the monopolistic or oligopolistic power in the maritime industry. However, the excess supply, derived from the decreased demand for vessel shipping and overcapacity in TEU throughput, continues to hinder the recovery and expansion of maritime companies and their motivations to seek higher profit margins.

The paper is structured as follows: Section 2 explains the features of horizontal and vertical integration in the maritime industry and reasons for the mergers and acquisitions. Section 3 presents consequences of the strategic move of maritime companies and identifies challenges in front of maritime companies under the current economic and financial situations, and Section 4 concludes.

2. HORIZONTAL AND VERTICAL INTEGRATIONS AND REASONS FOR MERGERS AND ACQUISITIONS

Every merger and acquisition is designed to make the players a higher profit and the companies engaged such action would achieve economy of scale, increased management efficiencies, full utilization of the financial market, and be able to exploit synergies between rival operations and markets. Maritime mergers and acquisitions can be further categorized into two groups: horizontal integration, the mergers between shipping companies, or vertical integration, the mergers between a shipping and terminal operation company (TOC). Horizontal integrations emphasize the motivation for a

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scale and scope of economy, while vertical integration intends to gain control over logistics chains.

2.1 Analysis of recent merger cases

Since the second half of 1990s, there has been a noticeably increased trend of both horizontal and vertical integrations in the maritime industry. An unprecedented 30 merger cases indicate the new wave of business practices in regards to shipping and port companies. Table 1 lists the most important cases of mergers and acquisitions (M and A) for that period:

Table 1. Important M and A Cases 1995-2006

Year	Maritime M and A
1999	Hanjin acquiring DSR-Senator
1999	Maersk acquiring Safmarine
1999	Maersk acquiring Sea-Land
2005	Hapag Lloyd acquiring Canada Pacific Ships
2006	Maersk acquiring MSC

Source: Containerization International, See D. and V. 2009

Let's take A.P. Moller – Maersk Group for a case study and see how the company's engagements in a series of mergers and acquisitions between mid-1990s and mid-2000s have placed Maersk in the position of being the largest container ship operator and supply vessel operator in the world.

In January 1999, A.P. Moller – Maersk Group acquired Safmarine Container Lines, a South African shipping company, for \$240 million. At the time of acquisition, Safmarine operated approximately 50 liner vessels and a fleet of about 80,000 containers. It covered a total of ten trades and fully complemented Maersk Line's existing network. Since the acquisition, Maersk Line and Safmarine Container Lines have coordinated their respective liner network to offer customers optimal geographic coverage.

On 10 December 1999, Maersk acquired the international container business of Sea-Land Service Inc. for \$800 million. Maersk Line changed its name to Maersk Sealand. The acquisition comprised of 70 vessels, almost 200,000 containers, as well as terminals, offices, and agencies around the world. It was a prime example of horizontal as well as vertical integration. After the merger, Maersk - Sealand had 250 container vessels, more than 550,000 TEU in shipping capacity, and became the largest container shipping company in the world.

Between 1990 and 1996, Maersk Line cooperated with P&O Nedlloyd regarding the use of vessels in several services, calling at ports in Europe, Asia, the Middle East, and the USA. On 11 August 2005, the A.P. Moller - Maersk Group took over all activities in Royal P&O Nedlloyd N.V. At the time of acquisition, Royal P&O Nedlloyd N.V. had 13,000 employees in 146 countries, and operated a total of 156 container vessels with regular calls at 219 ports in 99 countries. As part of the integration with Royal P&O Nedlloyd N.V., Maersk Sealand changed its name to Maersk Line in February 2006.

With the completion of the series of mergers and acquisitions, Maersk's market share in container shipping rose from 10% to almost 15%, and the company was put in a far more advantageous position against its competitors.

While there have been cases of large horizontal integrations leading to a more concentrated maritime industry, vertical integrations have also showed an unprecedented popularity in recent years. Vertical integration is now utilized as a measure by upstream shipping companies to gain control over downstream port companies to subsequently control logistic chains. For instance, in 1998, Maersk acquired Terminal Rotterdam from the APM Terminals, a terminal operating company, and in 2003, Cosco acquired terminal Singapore from PSA. It is reported that eight of the top fifteen terminal operating companies are subsidiaries of shipping companies.

2.2 Rationality behind mergers and acquisitions

The rapid globalization process and worldwide economic growth in the last quarter of 20th century has resulted in a rapid increase of international trade. Since up to 80% of international trade utilizes maritime transportation, maritime industry boomed in 1990s which was particularly prevalent in container shipping companies. To seek higher profits, maritime companies were driven to engagement in fleet expansions. However, due to the fact that there had always been excess throughput in liner shipping and the so called "seller's market" for the shipbuilding industry, developing organically was perceived not as quite promising. That is to say, to expand the business by purchasing additional vessels was more or less impeded. To tackle the high operation costs due to rising fuel oil, and labour prices, and to take advantage of the slight relaxation of government antitrust policies, maritime companies pursued the cooperation instead of competition. Mergers and acquisitions were the resolutions sought after to fully realize the potential of cooperation among maritime firms. The trend was accelerated further when Maersk instigated a series of mergers and acquisitions in the late 1990s and early 2000s. By then, Maersk had gained substantial market power and prominent industry shares as its profits surged in comparison to other maritime companies.

The biggest advantage for cooperated companies was the ability to conduct strategic adjustments and fleet reorganization. Through mergers and acquisitions, all related companies could obtain more corporate information, identify new developments in the market trend and strategies of their rivals, lower cost of operation, and expand the allocation of available sources thus optimizing competitiveness and productivity. Mergers and acquisitions would also ensure the possibility to raise the capital necessary for business expansion. On one hand, joint ventures could have relatively easier time raising money from capital market because of their combined capacity. However, on the other hand, they could stem the internal capital flow by letting the company with sufficient funds lend to the

other which would greatly decrease the cost of borrowing money from capital market.

In each form of company integrations, horizontal and vertical, it is intended to increase the profitability of the company with scale economy, diversified business operations, and increased market shares and cost efficiency. Yet horizontal mergers focus more on the scale and scope effects and get an easier access to financial market for money-raising.

For horizontally integrated companies, they have the advantage of controlling fixed costs and reducing the overlap of business operations, making it possible for further specialization and joint efforts in marketing and R&D investments. The impact of scale economy and more diversified business strategies will increase productivity of variable inputs and mitigate the risk of adverse competition from rivals.

Table 2 shows that in the terminal operating business, merging groups have been more successful in increasing market share and obtaining positive financial results. The top company in 2007, HPH, had a market share of 14% with a worldwide throughput of more than 66 million TEU. The top four companies together represent 41% of the worldwide market.

Table 2. Top 4 international terminal operators

	Turnover In mil. dollars	Throughput In mil. TEU	Throughput shares
HPH	4,864	66.3	14%
PSA	3,009	58.9	12%
DP World	2,731	43.3	9%
APM	2,519	37.4	6%

Source: Containerisation International, See D. and V. 2009

The vertical mergers intend to diversify the business operation with wider span over the upstream and downstream sectors in the maritime industry, and gain control over the logistics chains, which range from production, hinterland transport, storage, vessel loading and unloading, maritime shipping, and ports. The pressing question is how the vertical chain can be organized more efficiently. It was clearly demonstrated that the maritime and port industry has successfully established vertical cooperation. In 2001, Ningbo Port Authority and Hutchison Port Holdings (HPH) were formed into a partnership to jointly operate and develop Ningbo Beilun Port Phase II, with HPH holding 49% shares and NPA 51% of their new joint venture. This is an expert example of a successful vertical integration.

3. CHALLENGES FOR MARITIME INDUSTRY

As a result of the numerous mergers and acquisitions over the course of last two decades, market structure of maritime industry has changed immensely. It began as the least concentrated transport industry in comparison to airline and motor carrier industries in 1980s, to distinctly concentrated by the 2000s. The top 20 liner companies held approximately 48% of market shares for container shipping in 80s, while that

percentage soared to 75% in 1995 and 82% in 2000. At the same time, the 20 companies occupy only 4% of the total number of the liner companies. That is to say, by 2000, 4% of the liner shipping companies held up to 82% of the market shares. Maersk alone took almost 15% of the market shares in the container shipping market.

The rapidly increasing concentration in the industry has raised considerable concerns over the potential abuse of monopolistic or oligopolistic power in the maritime market. The colossal companies would be motivated to lower the output, increase price, reap super rents, and threaten smaller rivalries with either price or quantity competitions. These would impose higher prices for the demanders of maritime services—the output producers and goods consumers. With the recent economic decline, any increase in additional cost, regardless of how marginal, would be particularly fatal for the producers, who had already experienced more or less rent loss in the recent economic downturns.

However, there are two factors in the maritime industry which might help mitigate the abuse of monopoly power: overcapacity of the industry and organic growth of the merged companies.

For quite some time, overcapacity has been a bottleneck issue for maritime companies. In addition, the economic downturn since 2008 and stagnation of international trade force many shipping companies constantly face the problem of declining demand. The gap between insufficient demand and excess supply in maritime transport resulted in some companies being driven out of market because of rent loss while others taking low profit margins just to survive. Therefore, big companies could be restricted from exercising their monopolistic power, even if they do hold large market shares in the industry. In fact, some companies like Maersk suffer from quite a profit loss in 2009, when the recession just struck the world economy and caused a spirally decreased demand for maritime services.

The organic growth of maritime companies refers to a situation where companies seek to expand their business with additional newly-built transport vessels. In February 2011, CEO of Maersk Eivind Kolding announced that the company would focus on organic growth instead of further mergers and acquisitions for the foreseeable future. To carry out this strategy, the company would place an order for ten of the largest container vessels in the world with 18,000 TEU in throughput from Daewoo Shipbuilding and Marine Engineering (DSME) of South Korea. The advanced container vessels would be built with the latest technological innovations, including the ship design and the energy recycling system. It was estimated that new vessels would reduce carbon emission by 20%, increase energy-saving by 35%, and lower the operating cost by 26%.

Though overcapacity in maritime industry could curb the growing monopolies, it will certainly cause an unintended negative impact on the performance of shipping and port companies. It was estimated that for bulk freight, the throughput of shipping companies grew by 9%, 16.47% and 14.88% in the years 2009, 2010 and 2011 respectively. However, during the same period, the

demand for bulk freight only increased by 4.8%. The excess supply of bulk freight by shipping companies was still as large as 6.1%. Based on the Baltic Dry Index (BDI), the index reading was at 920 in 2012, dropping 40.6% from the year before. Since January 2013, the BDI has been lingering around 900, which indicates not only that the world economy and international trade are still in an unstable position, but also that maritime companies still face difficulty surviving and expanding.

The growth of maritime industries is always closely associated with the current international trade and economy situation. The economic and financial crisis in 2008 brought a worldwide recession marked with declining demand for production, low corporate rent, and high unemployment, which in turn, negatively induced low freight rates and declining demand for services within the maritime industry. Though in the past couple of years, there have been positive signs of global recovery in the economy and international trade, recovery tended to be slow or even stagnant. Newly emerging economies, including the Chinese economy, had a reduced demand for output production, and a rising cost of transport due to higher prices for fuel, oil, and labour. It is reported that from January to November of 2012, the average price for "180 fuel oil" was \$677.49 per ton, which was the highest average price in the past 10 years. All these factors will further decrease the industry rent.

4. CONCLUSIONS

To seek higher rent, fleet expansion, or even simply to survive the economic and financial crisis, some maritime companies have been actively pursuing reorganization and partnership. Since the mid-1990s, a commonly adopted form of cooperation in maritime trade was mergers and acquisitions, including horizontal and vertical integrations. As a result, the maritime industry tends to be more concentrated as a few large companies hold the majority of market shares and gain control over the logistic chains. The scale and scope effects due to the concentration bring merged companies

higher business rent, cost efficiency, optimization of input sources, and an advantageous position against their rivals. It is expected that with economic recovery, international trade will eventually pick up the corresponding momentum and the maritime industry will have a higher demand for vessel services and higher profitability. However, at this point, there is no strong indication of huge increases of profit margins in maritime transport because the excess supply, derived from the declined demand for vessel shipping and overcapacity in TEU throughput, continues to hinder the recovery and expansion for maritime companies.

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