



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

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Hanjin Shipping: Slow-Steamming into Bankruptcy
Causes and Effects

Jonna Pauli and Mathias Wolf

Supervisor: Kevin Cullinane
Graduate School

Abstract

Container shipping is vital to and a driving force behind global economic growth. One of the industry's largest carriers collapsed in August 2016, an event of unprecedented magnitude and predicted to cause major disruptions for world trade. Hanjin Shipping was Korea's main container shipping line and played an essential role for the country that is exceedingly dependent on seaborne trade. The carrier collapsed at a time when market conditions had gotten progressively worse and market participants believed that a bankruptcy would be imminent. The causes and effects of Hanjin Shipping's demise were not only exceedingly complex but also highly debated. Thus, the purpose of this paper was to investigate the contributing factors to Hanjin Shipping's insolvency and its effects. A qualitative case study was conducted by means of in-depth interviews with seven respondents with extensive knowledge of the container shipping industry. The findings suggest that Hanjin Shipping's demise was a combination of a number of interdependent factors. The carrier's managerial decisions played a decisive role in its collapse and can be traced back to its operational, investment and financial strategies. These decisions were implemented over the course of several years and were based on developments of the changing, external market conditions the carrier operated under. The actors closest to Hanjin Shipping, in particular its fellow alliance members and customers, as well as the international shipping industry did not suffer too severe consequences from the carrier's bankruptcy, but the Korean economy at large has been affected more profoundly.

Keywords: Hanjin Shipping, Container shipping industry, Maritime, Container liner shipping bankruptcy, Shipping management, Shipping finance, Korea, CKYHE

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Abbreviations

General

BAF	Bunker Adjustment Factor
BBC/PO	Bareboat Charter with Purchasing Option
BBCHP	Bareboat Charterhire Purchase
CAF	Currency Adjustment Factor
CCFI	China Containerised Freight Index
CSL	Container Shipping Line
CTO	Container Terminal Operators
DWT	Deadweight Tonnage
HPH	Hutchison Port Holdings
KDB	Korea Development Bank
LSCI	Liner Shipping Connectivity Index
M&A	Mergers and Acquisitions
MOF	Ministry of Oceans and Fisheries
OECD	Organisation for Economic Co-operation and Development
PA	Port Authority
PSA	Port of Singapore Authority
SPV	Special Purpose Vehicle
TEU	Twenty-foot Equivalent Unit
THC	Terminal Handling Charges
TOC	Terminal Operating Company
UNCTAD	United Nations Conference on Trade and Development
VLCS	Very Large Container Ship
WMU	World Maritime University

Carriers, alliances and agents

APL	American President Lines
CKYH(E)	Alliance of COSCO, K-Line, Yangming, HJS (and Evergreen)
CMA CGM	Compagnie Maritime D'affrètement - Compagnie Générale Maritime
COSCO	China Ocean Shipping Company
CSCL	China Shipping Container Lines
DSR	Deutsche Seereederei
HJS	Hanjin Shipping
HMM	Hyundai Merchant Marine
K Line	Kawasaki Kisen Kaisha
KSC	Korea Shipping Corporation
MOL	Mitsui O.S.K. Lines
MSC	Mediterranean Shipping Company
NOL	Neptune Orient Lines
NYK	Nippon Yusen Kabushiki Kaisha
OLA	Overseas Liner Agencies
OOCL	Orient Overseas Container Line
P&O	Peninsular and Oriental Steam Navigation Company
UASC	United Arab Shipping Company

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1. INTRODUCTION

This chapter presents a brief overview over the Hanjin Shipping bankruptcy and the events linked thereto, in order to enable a better understanding of this thesis and the material that follows, before a more detailed explanation for the container shipping line's (CSL) collapse is presented. This chapter also provides the motivation for the chosen research questions and lastly explain the overall structure of this paper.

1.1 Background

Until 2016, Hanjin Shipping Co., Ltd. (hereafter HJS) was the dominating national carrier of the Republic of Korea (henceforth Korea) and one of the top ten players in the global shipping industry (UNCTAD, 2016) with revenues in excess of USD 6.8 billion in 2015 (Hanjin Shipping, 2016). Yet, despite whatever positive impression these numbers might convey of the CSL, HJS filed for corporate rehabilitation¹ in August 2016 and was officially declared bankrupt only six months later. The ripple effect that followed the collapse is claimed to have significantly impacted and continues to affect the entire container shipping industry (AlixPartners, 2017; Cashen, 2016; Kuo, Lin, & Lu, 2017; Ryan, 2016), which pressures other carriers to carefully re-examine their own strategies but how should they react to the sudden collapse and what kind of decisions should be made? These decisions depend on what caused the failure of HJS (e.g. internal and/or external criteria) and how its demise will affect the industry.

Since the 20th century, the shipping industry has become more complex and capricious due to its competitive environment and augmented customer demands (Sys, 2009) and the container shipping industry has developed increasingly more oligopolistic characteristics (Álvarez-SanJaime, Cantos-Sánchez, Moner-Colonques, & Sempere-Monerris, 2013; Sys, 2009), where 50% of the market was expected to be controlled by the top five carriers in 2016, compared to only 23% just twenty years earlier (BRS Group, 2016). Carriers appear to have been relentlessly pursuing a strategy where 'bigger is better' which has led to accelerated growth in vessel size that too comes at a price. Moreover, the shipping industry which is commonly financed by significant amounts of short-term debt is extremely vulnerable to sudden external shocks. While some carriers have been stable for years, others have performed less desirably (Slack & Frémont, 2009).

The shipping industry is facing major challenges since the industry is generally slow to adapt to changing economic realities as it orders its assets years in advance and plans to use them for decades at a time (Rau & Spinler, 2016). Declining demand for maritime shipping on the Eastern Asia–Europe trade route, an economic slowdown in China (UNCTAD, 2016) and especially the effects of the financial crisis in 2007-08 (Rau & Spinler, 2016) have led to

¹A process under which a financially distressed business is evaluated as either economically viable or not. If a court determines the former of the two possible outcomes, the firm is allowed to continue to operate while submitting to a process of supervised debt restructuring while the latter leads to a declaration of insolvency.

substantial levels of overcapacity and historically low freight rates (DSF, 2016). The whole maritime industry was affected by the financial crisis but container liner shipping in particular should turn out to be the single most distressed segment (UNCTAD, 2010). Shipping demand shrank by 9.0% while supply grew by 5.1% in 2009, making it the first time ever that container shipping experienced a decline in demand. Initially, larger carriers disregarded financial losses and made new capital expenditures in order to enhance their market share, forcing other carriers to follow the same strategy or to be gradually crowded out of the market which exacerbated an already precarious situation (AlixPartners, 2012; Notteboom & Rodrigue, 2009). What is more, a prevailing trend towards the introduction of ever larger ships among carriers has additionally amplified the problem of overcapacity (OECD-ITF, 2015). However, the hitherto progressive increase of the shipping fleet has stagnated considerably since 2013, with the lowest growth rate in a decade due to the introduction of a considerable number of new-build vessels to the market in 2012 (UNCTAD, 2014).

As a result of the compounded effect of all these factors, the container shipping industry eventually faced one of the worst slowdowns in its history during 2015 (UNCTAD, 2016) and overall revenues plummeted by 16% in the third quarter, compared to the same period the previous year (AlixPartners, 2016). By 2016, Maersk (15.1% market share), MSC (13.4%), CMA CGM (9.2%), COSCO (7.8%) and Hapag-Lloyd (4.8%) were the five largest container carriers² (UNCTAD, 2016), which highlights the fact that the industry continues to be comparatively fragmented and without any market-controlling actors. In order to become and maintain the status of being one of the top players in the industry, substantial financial commitments are required. For that reason, in particular those carriers with high liabilities are fighting for their survival (AlixPartners, 2014) and it could be argued that “[s]hipping in all its forms has lost its lustre” (BRS Group, 2016, p. 3). There have been several initiatives to address the challenging aftermath of the financial crisis, such as curbing the available capacity in order to stabilise the market (UNCTAD, 2016), yet the question remains: “is it too little, too late?” (AlixPartners, 2016, p. 4).

1.2 Problem Discussion

The Korean shipping industry found itself clearly affected by the challenging post-crisis environment after the 2007-08 financial meltdown (Ha & Seo, 2013), as Korea is highly dependent on its maritime shipping industry (Ha, Chung, & Seo, 2016; Song & Lee, 2016) and had the 7th largest container fleet in the world in 2012³ (UNCTAD, 2012). The Korean shipping industry has a lot of potential, yet its carriers are considered less competitive than other global key players and the “industry faces a constant threat of market entry” from foreign carriers (Ha & Seo, 2013, p. 252). What is more, the country’s poor track record of shipping line bankruptcies in the past appears to elucidate other intrinsic flaws of the Korean maritime shipping industry, thereby, giving HJS’ own collapse a new perspective (Porter, 2016).

² In terms of operated container ship capacity in TEU.

³ After Germany, Denmark, Japan, Greece, China, Taiwan and Singapore by dwt, based on ownership.

HJS survived both the effects of a governmentally administered rationalisation program in the 1980s and the Asian finance crisis at the end of the 1990s⁴ but has been struggling since the last financial crisis. However, its importance for the Korean economy cannot be denied, as the Asian nation is exceedingly dependent on maritime shipping for its international trade. For instance, the Korean carrier shipped 40% and 20% of the nation's electronic giants Samsung's and LG's exports, respectively (Dodwell, 2016).

HJS also engaged in a variety of other activities such as the operation of a network of dedicated terminals around the globe (Hanjin Shipping, 2016). The carrier controlled a considerable number of subsidiaries in the 3PL sector that would ensure a valuable degree of vertical integration as well as an own bulk and LNG shipping division. However, about 70% of the operating income was generated by the container segment, making it clearly the main source of income for the CSL. In fact, bulk and LNG shipping in particular generated only 4.49% of HJS' operating income in 2015 (Hanjin Shipping, 2016) and starting in 2014, the segment was stepwise divested as activities and assets were transferred to former competitor H-Line, rendering bulk shipping essentially non-existent for HJS by April 2016 (Zeng, 2016a).

Apart from the submission to corporate rehabilitation in Korea, the carrier also received bankruptcy protection in 15 countries as time passed (Voynichenko, 2017), e.g. Canada, Germany, Japan, Singapore, the UK and the US (Zeng, 2016g). The company left nearly half a billion containers, filled with merchandise worth over USD 14 billion, stranded at sea (The Guardian, 2016b) as terminal operators around the globe refused to discharge HJS' cargo for fear of non-payment of handling fees (Little, 2016). In other instances, HJS vessels remained at sea for weeks in order to prevent the ships' seizure by creditors, thereby leaving unnumbered supply chains disrupted as cargo was not delivered as contracted (Waters, 2017). These ships only started to call at ports once assurance had been given by local authorities that all assets and the transported cargo would be protected from third party claimants (van Marle, 2017). HJS' collapse happened in the midst of the annual peak season as many American retailers waited for merchandise to arrive to fill their shelves for the holiday season (Szakonyi, 2016) and it is claimed that the companies in question and others made losses worth several millions in form of lost business deals (Waters, 2017). By February 2017, about 200,000 HJS containers had still not been recovered (Hutchins, 2017b), creating problems for container yards and ports (Morley, 2017). The collapse also created worldwide interest (e.g. Fitzgerald, 2016; Lee & Lee, 2016a; The Guardian, 2016a) and major headlines such as "Hanjin Bankruptcy Causes Global Shipping Chaos" (Jablon, 2016) and "Hanjin bankruptcy: Are South Korea's 'chaebols' in crisis?" (Evans, 2016).

The Korean carrier was "widely considered "too big to fail" and expected to be rescued by a combination of group, creditor and counterparty support" (Deloitte, 2016, p. 8). However, the Korean government did not provide financial support for its largest carrier (Lee J., 2016a) and some even blamed Korea's political leaders for the collapse of HJS (Fernholz, 2016).

⁴ See section 2.2.4 for further information.

Moreover, Yang-ho Cho, chairman of HJS' parent company Hanjin Group, went so far as to claim that the subsidiary was not able to compete efficiently against rival carriers as many of them had governmental support (Lee J., 2016a).

In February 2017, HJS was officially declared bankrupt by a Korean court (Illmer, 2017; Lloyd's List, 2017) and it is argued to be "by far the largest container shipping bankruptcy in history" (JOC, 2017, §2). Not to mention that it is assumed that its collapse will have immense effects on the Korean economy (Cashen, 2016), the entire container shipping industry and the global economy (Ryan, 2016; Kuo et al., 2017). Similar to the role of Lehman Brothers in the global financial crisis, the withdrawal of HJS has even been referred to as a trigger for a global shipping crisis (Salamat & Park, 2016).

1.3 Purpose of the Study

Given the anticipated magnitude of the effects of HJS' collapse, the purpose of this study is twofold:

1. to identify the underlying causes for the liquidation of HJS and
2. to investigate anticipated impact of the liquidation from different perspectives (actors in HJS' immediate proximity, the Korean economy and the international container shipping industry).

The findings can provide useful insights for existing individual shipping lines, to avoid making the same mistakes that lead to HJS' collapse. The research objective is thus to establish suitable criteria that affect shipping lines' performance and competitiveness and to provide an assessment for the potential future development of the industry in relation to the withdrawal of HJS. The consequences of the bankruptcy for the actors closest to HJS can provide valuable insights for alliance members and customers' strategies of risk management. Moreover, as liner shipping can have a direct impact on developments of entire economic regions and therefore, also on international trade (Lam, Yap, & Cullinane, 2007), this research could be useful both from a national (i.e. Korean) and a global perspective.

1.4 Research Questions

In line with the purpose of this study, the following research questions have been established to guide the investigation in meaningful direction:

What were the reasons behind the bankruptcy of Hanjin Shipping (RQ)?

- I. How were the CKYHE members and customers affected (SQ1)?
- II. What is the potential impact on the Korean economy (SQ2)?
- III. How is the international container shipping industry affected in the immediate short term (SQ3)?

The main research question (referred to as RQ) relates to identifying the causal explanations of why HJS went bankrupt. This will be answered by analysing HJS' situation before its collapse in relation to trends in the overall container shipping industry.

The sub-questions will assess the consequences of HJS' demise, from three different perspectives. The first sub-question (SQ1) is related to the actors that were closest to HJS, its fellow alliance members and its customers. At the time this paper is written only the short-term consequences can be readily observed, leaving the effects of HJS' demise for the long run open to speculation. For that reason, the answering of SQ1 will largely be limited to the immediate effects of the bankruptcy and provide assumptions about future developments only when they can be established with a sufficient amount of certainty.

The effects on the economy of Korea, and in particular the maritime industry will be investigated by the second sub-question (SQ2). As this sub-question concerns the economy of an entire nation, both immediate and long-term effects will be addressed since it might take a long time until any changes will become pronounced enough to be perceptible.

The last sub-question (SQ3) deals with the effects on the container shipping industry and will be answered by conducting a thorough market analysis. Due to the industry's inherent complexity, it would require extensive resources to analyse long-term effects which is the reason why only immediate consequences will be covered.

All questions, both main and sub-questions, will be answered by data collected from interviews and complementary secondary data.

1.5 Delimitations

HJS belonged to the Hanjin Group but a distinction will be made between them, as HJS was (allegedly) operating independently from its parent company. Moreover, the main emphasis will lie on HJS' ocean shipping services and not their additional services such as terminal operations due to lack of information on how these activities were performed. It can be assumed that there is relevant information about HJS and the Korean shipping industry written in Korean. However, any data in Korean will be omitted due to the authors' lack of proficiency of the language in question.

HJS' bankruptcy did not only affect other carriers but also other parties such as ship-owners, container lessors, freight forwarders and employees, among others. However, they will not be addressed in detail. The definition of the shipping industry in the research question is consequently mainly limited to container carriers and port operations, with one exception. Financial data from e.g. income statements and balance sheets is likely to incorporate all of HJS' activities and aggregate them into single values. This makes it impossible to discern their exact composition, i.e. to differentiate between sole container-related and other business activities.

1.6 Disposition

Figure 1 visualises the disposition of this paper. The first chapter introduces the chosen field of studies and addresses the relevance of the conducted research. How the research is conducted is explained in chapter two while an overview over relevant literature, starting from a macro perspective that narrows down to the micro level, will be presented in chapter three. The findings of the data collection are summarised in chapter four. The analysis, which combines the results and literature review, is presented in chapter five. The last chapter provides the answers to the chosen research question but also addresses the weaknesses of the research.

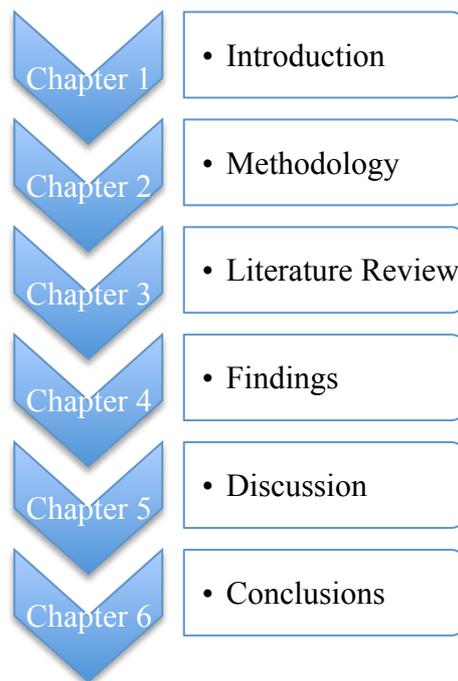


Figure 1. Chapter Overview

2. METHODOLOGY

This chapter addresses how the research for this thesis is conducted in order to answer the research questions. How the authors address the topic is presented first, followed by a motivation of the structure of the whole thesis. The process of the data collection is explained next and focuses on the interviews. Then an explanation of how the data is analysed is provided. Lastly, this chapter ends with a summarised overview of the whole methodology process.

2.1 Research Approach

Analytical (or explanatory) research, which interprets causal relationships in order to explain phenomena (Collis & Hussey, 2014), is conducted as result of the descriptive and analytical nature of the research questions: *What were the reasons behind the bankruptcy of Hanjin Shipping (RQ)? How were the CKHYE members and its customers affected (SQ1); what is the potential impact on the Korean economy (SQ2); and how is the container shipping industry affected in the immediate short term (SQ3)?* The chosen analytical research approach is highly sophisticated and thus requires a comprehensive literature and data collection due to the complexity of the research question (Collis & Hussey, 2014). Hence, qualitative data forms the foundation for the research process, as it enables a deeper understanding of the phenomenon in its real environment (Miles, Huberman, & Saldaña, 2013, p. 11). However, quantitative data is utilised as well, e.g. the usage of financial data such as the calculations of debt-to-equity ratio, as it is often useful for qualitative research (Saunders & Lewis, 2012).

There are two purposes for conducting research, an applied and a basic one (Sekaran & Bougie, 2013), and both purposes are relevant as a result of the duality of this study. The former is connected to the main research question (causes for the bankruptcy i.e. more specific) and even if the roots of HJS' failure are not an existing problem (as the carrier had already gone bankrupt) that applied research attempts to solve, the identified factors can be utilised by other carriers in order to enhance their performance, i.e. the findings for the first research question also supply recommendations for a current problem. Meanwhile, the latter purpose is related to the sub-questions (the consequences of the bankruptcy i.e. generalisation), where the authors' predictions about the future of the container shipping industry are contributing to general knowledge and the theoretical understanding of the industry.

The research question is highly tailored towards HJS, which underlines the validity of the design of a case study. The strategy of employing a case study approach is appropriate as it aims to "gain a rich understanding of the context of the research and processes being enacted" (Saunders, Lewis, & Thornhill, 2007, p. 139). Although the emphasise is put on HJS, the findings will hopefully be beneficial to other CSLs as well and provide a deeper understanding of the whole container shipping industry. Hence, an instrumental case study is

implemented. The authors argue that since the container shipping industry is relatively uniform (Slack, Comtois, & McCalla, 2002) where all market players make use of similar strategies (Lee & Song, 2013), the findings about HJS' can be generalised to other carriers to a certain extent. An instrumental case study is therefore the most suitable case study approach, as it allows "the researcher to generate knowledge that extends beyond the case itself" (Eriksson & Kovalainen, 2010, p. 124).

The nature of the research questions requires a deductive approach, as the research assembles and tests various existing theories and then applies them to HJS. On the other hand, a qualitative case study suggests an inductive approach (Bryman & Bell, 2015). According to Bryman and Bell (2015), no clear distinction between deductive or inductive is needed because the chosen logic of the research should rather act as a guideline. The main focus of the research lies on deductive research due to the importance of the theories but still incorporates characteristics of inductive research.

2.2 Research Design

The structural setup of this thesis, where the methodology chapter precedes the literature review, is chosen deliberately for the following reasons. Like for most other thesis projects, the literature review chapter fundamentally serves to establish a framework that is later used in the analysis but for this thesis the introduced theories and principles are also an integral part in explaining the collapse of HJS.

The literature review and the findings utilise the same funnel approach. The literature review (chapter 3) and the findings (chapter 4) start from a macro perspective which is successively narrowed down to a micro perspective, in order to provide an overview of the industry which is required to understand HJS' operations and decisions. However, the findings move back from company level to national and industry level when evaluating the short-term effects on the industry.

Various sources for HJS' insolvency are initially reviewed in order to determine the key themes that are needed to be addressed in the literature review. The literature review employs a funnel approach, where theories about the shipping industry on an international level are presented in order to provide a deeper understanding of the inherent risks and challenges of the container-shipping sector. This information about the container shipping industry is vital to determine the causes of HJS' collapse and to enable the drawing of any conclusions for the near future. CSLs do not only have to consider their own and other carriers' strategies but also the changing nature of other aspects of the overall shipping industry, such as international trade (Drobetz, Gounopoulos, Merikas, & Schröder, 2013; Merika, Theodoropoulou, Triantafyllou, & Laios, 2015), ports (Jung, 2011; Stopford, 2009; Yeo, Roe, & Dinwoodie, 2008), shipbuilding (Lee J.-S., 2013; Shin & Lim, 2014) etc. Various other elements also play a vital role in shaping and influencing the shipping industry and, therefore, need to be addressed as well. For instance, national characteristics also affect CSLs (Lee,

1999; Lee, Lin, & Shin, 2012; Thanopoulou, Ryoo, & Lee, 1999) and consequently, the Korean maritime industry needs to be studied as well. In order to enhance the validity and reliability, it is considered a necessity to review academic literature on HJS. Adding an individual chapter for HJS aids the approach of progressively narrowing down the research approach from a macro to a micro level. Moreover, this section is essential for the case study strategy as a profounder knowledge of the studied company, in this case HJS, provides a better foundation for a deeper analysis (Collis & Hussey, 2014). During the literature collection, specific factors that can be useful in answering the research questions, both from a macro and a micro perspective, are continuously analysed and then compiled in order to form the foundation for the interviews and the analysis.

A contextual background of HJS is first provided in the findings to aid the reader's comprehension. Then, a compilation of data (both primary and secondary) is processed in order to provide a foundation for the analysis. Both microeconomic factors and macroeconomic conditions are necessary to address: the causes behind the collapse of HJS are determined from both perspectives, while the short-term effects on the industry are mainly be analysed from the latter. The discussion is utilising all the gained knowledge in order to answer the research question and finally, the conclusions are drawn based on the findings and the analysis.

2.2.1 Literature Collection

The data used in this paper originates from two distinct sets of sources. The information on HJS that is used in the introduction (chapter 1) is based on widely available trade and financial journals and magazines, as well other sources that are easily accessible via the Internet. These sources have not been submitted to a strict review process comparable to academic journals and periodicals and therefore, could be considered less reliable. These accounts are meant to provide only a general picture of the course of events of the Hanjin bankruptcy but are not accredited with academic credibility.

Information for the literature review (chapter 3), on the other hand, is mainly found in journals such as Maritime Policy & Management, Transportation Research Part A, B, C & E, Research in Transportation Economic, The Asian Journal of Shipping and Logistics, Transport Policy, among others. However, the literature review is complemented with information from reports from e.g. United Nations Conference on Trade and Development (UNCTAD), the Organisation for Economic Co-operation and Development (OECD), Danish Shipping Finance (DSF) and AlixPartners⁵. The most utilised keywords are: *maritime, container, shipping, alliances, performance, Asian shipping, Korean shipping, Hanjin Shipping and CKYH(E)*. During the literature collection, articles are organised and presented based on their themes

⁵ An American consulting firm.

The scope of the research has to be outlined to find relevant data for the literature review (Sekaran & Bougie, 2013). This research analyses the causes and effects of the bankruptcy of HJS. Likewise, in explanatory research it is vital to identify variables, i.e. measurable and/or observed characteristics of the problem, in order to understand the phenomena (Collis & Hussey, 2014), which in this case are factors that can explain the collapse of HJS and its short-term effects on the industry. These factors are identified from the literature review (see Table 3), which further stresses the importance of an in-depth literature collection.

Two opposite problems are expected to arise during the search for literature. The first problem is an abundance of potentially relevant information on the shipping industry at large, whereas, it is significantly more difficult to find previous studies on both national (in a contemporary context) and company level. The former issue is solved by thoroughly assessing the relevance (both time and content) and quality (e.g. peer-review articles are preferred over non-reviewed), while the impact of the latter is diminished by extending the keywords during the search, for example, ‘Korean shipping’ is extended to ‘Asian shipping’. In addition, no single source is able to provide a comprehensive picture of the events of the last years let alone current developments. The small pieces of available information on HJS in academia have to be combined from a multitude of different sources which are either outdated or give only a very fragmented account of the events of the last decades. This is where a research gap is discovered for the chosen topic, and the findings and the analysis chapters are continuing where the literature review ends. Consequently, the aim of this thesis is to provide a comprehensive account of the reasons for the collapse of HJS and its effects on the CSL’s closest actors.

2.2.2 Data Collection

The data for the findings (chapter 4) is mainly collected from primary sources in the forms of interviews in order to attain relevant, in-depth opinions and proficient conjectures. Interviews are preferred over e.g. surveys due to the need for more in-depth information. The interviews are complemented by secondary data, such as official business reports published by HJS⁶ and various professional journal articles and news articles that form loose pieces. Although a large share of the findings is based on secondary sources, it only consisted of raw data which then is converted into compiled data. Secondary data has the disadvantage of being potentially biased (Saunders & Lewis, 2012) and the authors address this problem by critically evaluating the quality of the available information. In line with this rationale, HJS’ own reports receive special attention as investor relation reports can be manipulated to paint a picture of their choice instead of presenting the whole truth (Saunders, Lewis, & Thornhill, 2012).

⁶ Presumably linked to HJS’ insolvency, many online sources regarding official company information are unavailable to the authors of this thesis.

2.2.2.1 Interviews

Six interviews, of which one has two respondents from the same company, are conducted in March 2017. The interviews are semi-structured, recorded, conducted face to face, except for one Skype interview⁷, and around 60 minutes long each. The chosen carriers have offices all around the world, however, their Swedish offices or agents are contacted in order to enable interviews in person. The respondents from the interviewed carriers and agents all know each other, which has to be taken into consideration during the analysis. The semi-structured approach is chosen due to the respondents' differing relation to HJS, hence, some questions vary from interview to interview. In addition, Saunders et al. (2012) state that it is the most suitable interview structure in order to understand relationships in an explanatory study. All questions are based on identified themes from the literature review (see Table 3), i.e. priori themes (Brooks & King, 2014), and are sent to the respondents in advance to ensure well-prepared answers and a high degree of relevant information. An overview of the topics that are discussed during the interviews is presented in Table 1. The interview recordings are supplemented with hand-written notes in case of any technical problems of the recording equipment and to remember non-verbal cues that might affect the situation. In the days after each interview, all respondents receive a comprehensive written summary of their interview and have the chance to correct any factual mistakes or misinterpretations before the therein contained information is used any further.

Personal background
HJS' reputation in the industry
HJS' position in Korea
Factors related to HJS' collapse
Effects of HJS' bankruptcy
Developments of alliances and market concentration
Development towards larger vessels
Opportunities and challenges in the container shipping industry
Developments of the maritime shipping industry in Korea, both carriers and ports
Future outlook of the container shipping industry

Table 1. Interview Topics.

The chosen topic is expected to occasionally lead to sensitive questions (i.e. political) and while one of the respondents prefers to stay completely anonymous for that very reason, another respondent wishes not to be directly linked to potentially incriminating statements. Therefore, these two respondents are referred to as Mr A and Mr B. All interviews could be

⁷ Since Mr A is located on another continent.

presented in an anonymous manner, however, it is expected that some findings will benefit if the information can be traced back to its original source. Hence, only two respondents are presented anonymously in the ensuing chapters.

2.2.2.2 Selection of Respondents

In order to answer the research questions, interviews with respondents with insights of HJS' operations, and the Korean and international container shipping industry need to be interviewed. All the contacted respondents possess knowledge in at least one of these areas, i.e. a random sampling process is not implemented. The five respondents from the carrier (HMM) or the agents for the carriers (Evergreen, HJS and Yang Ming) have good insights of the carriers that they represent and the container shipping industry. Meanwhile, the two scholars have comprehensive knowledge of the Korean and international container shipping industry, and helpful information about HJS as well. All respondents appear to be very positive towards the interviews as they find the topic very interesting.

Mr A has intimate knowledge of the Korean shipping sector and assumed an advisory function at HJS in the past. A more detailed presentation of *Mr A* would not be possible without risking compromising the respondent's anonymity. *Mr A* is not referenced by his name or title, in order to provide anonymity to *Mr B* as well. Nonetheless, the authors guarantee the credibility of all respondents, including these two.

The establishment of Georg Hansen Shipping can be dated back to 1979. The agency has worked for several decades on behalf of HJS and was the exclusive agent for HJS in Sweden. *Mr B* is affiliated with the agency and can provide valuable insights to HJS' operations since the authors were unable to contact any representative from HJS. *Mr B* is willing to participate in the interview under the condition that nothing specific can be traced back to him. In order to prevent the accidental exposure of *Mr A*, resulting from the possible cross-examination of the statements of both *Mr A* and *B*, it has been decided to provide the latter with full anonymity as well.

HMM was contacted as the carrier became Korea's largest CSL after the bankruptcy of HJS and was HJS' main competitor as they were both Korean carriers. *Mr Håkansson Säll* is the general manager for Sweden and Norway at HMM and has been working in the shipping industry for 25 years.

Overseas Liner Agencies (OLA) has been an agent for Yang Ming, one of the CKYHE members, since 1973. Moreover, some parallels between Yang Ming and HJS are expected to be drawn as both CSLs are from countries in the Far East which experienced similar economic developments (Lu, Cheng, & Lee, 2006; Shibasaki, Ieda, & Watanabe, 2005). *Mr Lund* is the chairman and managing director of the agency and has been working in the company since 1965 and has, therefore, established excellent contacts with the carrier. *Mr. Holmberg* assumes the position of general manager for Sweden and the Baltics within the agency and has worked for the company, with an intermittence of 5 years, since 1989.

Greencarrier is an agent for Evergreen Line, the carrier that joined the CKYH alliance in 2013. The managing director, *Mr Hermansson*, has worked for the company for the last 20 years and additionally has experience from other carriers and forwarding businesses as well.

Professor Song is the Korea Chair and Professor in Maritime Logistics at the World Maritime University (WMU) in Malmö, Sweden. He possesses extensive knowledge of the shipping industry and has had a considerable number of articles published in various academic journals. Amongst other things, he has covered the topics maritime logistics and maritime policy and management (e.g. (Cullinane & Song, 2003; Song & Panayides, 2002; Song & Panayides, 2015) among others). Moreover, professor Song also has extensive knowledge of the Korean maritime industry.

2.2.3 Data analysis

A good analysis strategy has to be developed to enable the drawing of viable conclusions for this case study (Collis & Hussey, 2014). Thus, in order to answer the research questions, Miles, Huberman and Saldaña's (2013) approach of analysing qualitative data is utilised. They argue that there are three main aspects in analysing qualitative data that occur simultaneously: data condensation, data display and drawing/verifying conclusions.

Data condensation refers to data collection and reduction, which “sharpen, sorts, focuses, discards, and organizes data in such a way that “final” conclusions can be drawn and verified” (Miles et al., 2013, p. 12). This first step is performed by categorising data from the interviews into different themes, which are identified by patterns relevant to the research questions. This approach is called template analysis (King, 2012; Waring & Wainwright, 2008) and although it is not as robust as other analysis approaches, it has the advantage of being flexible and structured at the same time (King & Brooks, 2017; Saunders et al., 2012). Traditionally, it is not a very common approach for business and management research but has recently gained popularity because it enables a deeper analysis (Waring & Wainwright, 2008). What is more, template analysis can be utilised by both deductive and inductive research (King & Brooks, 2017) and is very appropriate for analysing data from interviews (King, 2012) as it is a useful tool to process rich data (Waring & Wainwright, 2008). This method accentuates contents of the interviews whereas approaches such as discourse and narrative analysis focus more on language (Brooks & King, 2014).

The chosen themes have a strong correlation to the literature review, i.e. deductive approach (King & Brooks, 2017), and cover a broader focus (e.g. future outlook) which encompasses narrower and more specific topics (e.g. development of freight rates, consolidation, trade, etc.) i.e. hierarchical coding. The findings are presented by this template approach, where illustrated examples from the respondents are provided. This emphasise on themes continues in the discussion by a theorising structure, enabling that “[c]asual links or patterns can be hypothesised and ‘tested’ with selected informants who may refute or verify them” (Collis & Hussey, 2014, p. 155).

Data display stresses the importance of presenting information in a structured and clear way in order to prevent hastily made and potentially wrong conclusions (Miles et al., 2013). To facilitate the data analysis, the data is constantly processed and divided by themes. In addition, to avoid any misunderstanding, the chosen themes from the literature collection are summarised in a table to provide an overview of the different themes; a commonly used method in template analysis (Bryman & Bell, 2015). As previously mentioned, these chosen themes constitute the basis for the interviews. This emphasise on themes continues in the discussion, where they are synthesised into new patterns, giving incentive for an adapted conceptualisation from the literature review. This illustration is continuously amended until all the data has been carefully analysed and is then presented in the beginning of the discussion (chapter 5).

Drawing and verifying conclusions refers to the interpretations and then the testing of these understandings. Although the authors have produced some interpretations in the beginning of the research process due to the creation of priori themes, the final conclusions are not made until all data has been collected and analysed. The conclusions are also tested as fellow researchers are going to scrutinise them.

2.3 Validity and Reliability

Validity is “in many ways the most important criterion of research” (Bryman & Bell, 2011, p. 42) since it affects the research’s *credibility, transferability, dependability and conformability* (Lincoln & Guba, 1985).

Credibility refers to the trustworthiness of the research (Lincoln & Guba, 1985). The respondents are chosen based on their various areas of expertise in regard to the research questions (see section 2.2.2.2 for a more detailed motivation). The credibility of this paper is further strengthened by ensuring that the respondents confirm the findings from their interviews. All secondary sources are always assessed for their overall relevance to the research questions and evaluated based on their suitability for the analysis needed to answer the research questions. Data, both from primary and secondary sources, that is considered irrelevant to the aforementioned process, is going to be omitted. However, relevant findings are not omitted, regardless of the data support or reject a specific argument that helps answering the research questions.

The degree to which the results can be transferred to other contexts signifies *transferability* (Lincoln & Guba, 1985). Generalisation is not always realistically possible (Shenton, 2004) and as the shipping industry has quite unique characteristics (Stopford, 2009), this research is not aiming for the transferability of the findings to other industries. However, comprehensive information about the container shipping industry is provided to establish the context of the research, allowing the reader to decide for him-/herself if it could be applied to other contexts or settings. The authors believe that the findings behind HJS’ collapse can be useful for other CSLs, i.e. a generalisation to the container shipping industry is anticipated.

Dependability refers to how systematic the research process is conducted (Lincoln & Guba, 1985). All recordings and summaries of the interviews are kept to ensure the data is available during all stages of the research process. The authors' peers discuss and question this paper, which act as an auditing process (Bryman & Bell, 2015).

The research's objectivity is addressed by *conformability* (Lincoln & Guba, 1985). Although it is impossible to be completely neutral in business research (Bryman & Bell, 2015), measures are undertaken to avoid both researcher (Saunders et al., 2012) and interview bias (Collis & Hussey, 2014). Moreover, the discussion is based on the literature review rather than the authors' personal opinions.

Reliability is a critical problem that mainly quantitative studies have to address but qualitative research has to be aware of the issue as well (Bryman & Bell, 2015). For example, both authors participate in all interviews and thus, interpret them together as well (internal reliability). Moreover, the themes of the interview question can be found in Table 1, which would enable the study's replication in the future (external reliability). Specific questions are not presented as they change depending on the respondents' affiliation with HJS. Yet, the (external) reliability of this study can depend on other's access to HJS' business reports since a lot of data used for the findings are from this source. The authors are fortunate to have been able to retrieve the reports before HJS' website was discontinued after its official declaration of bankruptcy in February 2017.

2.4 Summary of Methodology

A *qualitative* research approach is required as in-depth data is needed to answer the research questions. As the literature review is central for the research, a *deductive logic* is applied although some *inductive characteristics* are featured as well. By approaching the topic from a multitude of thematic angles already in the literature review, the complexities and various potential sources of risk in the shipping industry are identified. This approach is chosen on the assumption that there was no single reason that could explain the events that led up to HJS' bankruptcy rather than a myriad of events whose combined effects eventually led to the CSL's collapse. An *instrumental case study* based on HJS' business reports and interviews from six different foundations with seven respondents is conducted. To process the findings, the method of *template analysis* is utilised in order to enable a deeper discussion. Although the methodology for this research is important, the literature review plays an even more essential role as it lays the foundation for the consecutive chapters.

3. LITERATURE REVIEW

The shipping industry is influenced by a variety of factors such as ship supply and freight rates as well as economic growth and shipbuilding prices, to name the most important ones (Brauner & Illingworth, 2006). It is vital to understand the interplay of these and other drivers and how they connect to HJS in order to find the most probable causes and effects for the carrier's collapse. Therefore, this chapter comprehensively covers these key forces, first on the level of the international shipping industry before delving into the sphere of the Korean maritime shipping sector. After having covered the carrier's home market and relevant characteristics of the sector, the literature review is focusing on HJS itself before the chapter is concluded.

3.1 The International Shipping Industry

"Maritime transport is the backbone of globalisation" (UNCTAD, 2016, p. 5) and is vital for the international economy as the industry was responsible for approximately 80% of world trade by volume, exceeding ten billion tons, and 55% in terms of value in 2015 (UNCTAD, 2016). Thus, it can be argued that "[w]ithout shipping, it would be impossible to conduct international trade" (Drobetz, Schilling, & Tegtmeier, 2010, p. 94). The dependency, however, is mutual, meaning that the shipping industry is affected by the global macroeconomic environment (Drobetz et al., 2013; Merika et al., 2015), whereas local influences only have a limited effect (Drobetz et al., 2013). Nonetheless, government policies and interventions have the potential to change maritime trade (UNCTAD, 2016).

Seaborne trade is often divided into three categories: the bulk, the container and the tanker trade segment. In 2015, these segments accounted by volume for 53.88%, 16.79% and 29.3% respectively (UNCTAD, 2016). Although, container shipping does not carry a very large share of the volume, it is still essential for world trade (Tran & Haasis, 2015) and is responsible for a major share of the total seaborne trade by value (Stopford, 2009). Hence, this large share of the value makes the container shipping segment more competitive than the bulk segment, as it entails the possibility of higher revenues. The container volume has grown from around 30 million twenty-foot equivalent units (TEUs) in 1990 (Cariou, 2008) to 175 million TEUs in 2015 (UNCTAD, 2016). Consequently, the container shipping industry has been studied extensively due to its importance to international trade (Drobetz et al., 2010; Slack & Frémont, 2009; Panayides & Wiedmer, 2011; Woo, Bang, Martin, & Li, 2013).

The container shipping industry has grown rapidly due to an increase in international trade and technological advances, e.g. refrigerated containers, also called reefers, and increased vessel capacity. For over two decades, the average annual growth rate has been much higher than other sectors in the maritime industry with around 10% (UNCTAD, 2010). The containerisation system was pioneered in America in the mid-1960s and drastically increased the cargo handling speed at ports and enabled container shipping lines (CSLs) to offer door-to-door services (Stopford, 2009). Over the years, container ships have also continued to

develop and have increased in size in order to benefit from economies of scale. For example, the average ship size in 2014 had more than doubled from the average of 2,000 TEUs in 2004 to approximately 4,500 TEUs (UNCTAD, 2014). Moreover, the average size for newly built ships in 2015 was around 8,000 TEUs and the largest deployed vessels are expected to carry over 21,000 TEUs by 2017 (OECD-ITF, 2015).

Containerisation started with the adoption of the ‘box’ by American carriers, such as Sea-Land and APL, and was then continued in Europe by liners such as Maersk and Hapag-Lloyd (Slack & Frémont, 2009). However, as a result of the rapid economic growth in East Asia during the 1960s and 1970s, the focus of growth in the container shipping industry shifted around the same time to the economically expanding region (Shibasaki et al., 2005). Developing countries saw a need of national liner carriers (Poulsen, 2010), giving rise to carriers such as Evergreen (Taiwan), HJS (Korea) and OOCL (Hong Kong). It was argued that “Asian carriers will play a more important role in the advanced liner shipping industry” (Lu et al., 2006, p. 209) and just before the financial crisis, 13 of the top 20 container carriers were from East Asia (Slack & Frémont, 2009).

Maritime container shipping has shown a remarkable development over the last several decades and closely follows periods of economic growth and decline. This connection and the ensuing cyclicity are fundamental elements of the industry and have shaped the sector consistently during this time.

3.1.1 Shipping Cycles and Uncertainty

The shipping industry is characterised by cyclicity which means that it follows a general trend of growth and decline only to grow again (Stopford, 2009). Stopford (2009) further notes that each cycle consists of multiple components, i.e. long-term trends that can last for decades at a time, as well as considerably shorter boom and bust periods that generally prevail only for a number of years. This introduces the element of volatility to shipping which is based on uncertainty as when a cycle starts, ends and how long it will to last (Albertijn, Bessler, & Drobetz, 2011; Kalouptsidi, 2014; Mitroussi, Abouarghoub, Haider, Pettit, & Tigka, 2016). Economic business cycles and seasonality are usually the drivers behind these short-term periods (Stopford, 2009) and determine both freight rates and the value of vessels (Albertijn et al., 2011). In fact, a close relationship between GDP growth and the changes of the volume in seaborne trade can be observed as both develop conjointly (Brauner & Illingworth, 2006; Notteboom & Rodrigue, 2009; Stopford, 2009). Ship owners for example aim to take advantage of these cycles, i.e. buy assets at low prices during a trough and sell them at a premium during a peak. Playing the cycles correctly is one thing, yet predicting them correctly can lead to riches, while failing to do so may result in immense losses when assets devalue and carriers are forced to sell them at a loss (Stopford, 2009).

According to Stopford (2009) the ‘typical’ shipping cycle has four phases: *trough*, *recovery*, *peak/plateau* and *collapse*. As the term indicates, the shipping industry passes through these four phases and the cycle is closed and starts anew, once the trough phase is reached again

after a collapse. During a *trough* there are clear signs of overcapacity. As a result, freight rates fall to operating costs and less efficient vessels are laid up. Financial difficulties arise in the shipping sector as credit lines tighten and cash-flows begin to turn negative. Vessel scrapping and asset sales at distress prices might follow as well as foreclosures of either banks and/or carriers (Stopford, 2009).

A *recovery* starts when supply and demand become more balanced once more and freight rates begin to rise again above operating costs (Stopford, 2009). Market sentiment plays an important role in facilitating the recovery as it could produce improved access to financial means (Brauner & Illingworth, 2006).

The third stage, *peak/plateau*, is reached once demands begins to tighten and the surplus capacity is absorbed (Stopford, 2009). Freight rates still rise and asset values improve significantly while liquidity levels increase (Stopford, 2009) and bank lending becomes less conservative (Brauner & Illingworth, 2006). This leads in turn to an increased number of new ship orders as it unclear when this phase might end (Stopford, 2009).

Going the full cycle, a *collapse* is the last stage (Stopford, 2009). As more and more capacity enters the market, a gap between supply and actual demand begins to form which leads inevitably to falling freight rates. A general economic downturn or random shocks like the financial crisis of 2008 additionally reinforce this trend (Stopford, 2009). It is not uncommon that a considerable number of previously ordered vessels enters the market in this phase too, thereby accelerating the decline (Brauner & Illingworth, 2006). Efforts are made to reduce capacity by slow-steaming and ship owners are initially unwilling to sell their ships at a discount (Stopford, 2009). “The high barriers to exit give ship-owners reasons to delay capacity reduction; ..., there is a tendency to hope that a redeployment opportunity will materialise or be created. This results in an industry with an almost perpetual state of capacity oversupply” (Brooks, 2000, p. 62). As the trend continues, the trough phase starts anew. Since the beginning of the 2000s, the shipping cycle can be classified as *expansion* in 2003, *peak* in 2007, *trough* in 2008 and *sideways*⁸ movement since 2010 (Merika et al., 2015).

It becomes clear that shipping cycles have a perceptible influence on the available capacity of maritime shipping but it is necessary to discern more particular drivers for both demand and supply, to get a more detailed picture of the workings of the industry.

3.1.2 Supply and Demand

The shipping market establishes freight rates by a competitive process in which ship supply and demand interact (Stopford, 2009). While a shortage of capacity in times of increased demand for example is likely to result in rising freight rates, overcapacity in times of shrinking demand will produce the opposite (OECD-ITF, 2015; Stopford, 2009). The factors that are attributed with influencing both demand and supply are exogenous as well as

⁸ Presumably the trough phase as described by Stopford (2009).

endogenous to the shipping market and trigger or accentuate the shipping cycle phases. Stopford (2009) mentions ten major factors⁹ (see Table 2) but points out that there are many more.

Demand	Supply
1. The world economy	6. World fleet
2. Seaborne commodity trades	7. Fleet productivity
3. Average haul	8. Shipbuilding production
4. Random shocks	9. Scrapping and losses
5. Transport costs	10. Freight revenue

Table 2. Main Criteria for Demand and Supply.
Source: Adapted from Stopford (2009, p. 136).

3.1.2.1 Demand

The world economy (1) with its changing growth patterns in different regions and even countries determines which volumes of which commodities (2) are traded by sea as well as where from and to (Sohl & Bella, 2014; Stopford, 2009). In the short run cyclicity in container shipping arises from the seasonality in trade that coincides with national holidays or their preparation, i.e. for example Chinese New Year or Christmas (Stopford, 2009). The rise of China as the ‘factory of the world’ and other emerging economies in Asia has led to a move of manufacturing facilities to the Far East and thus a geographical shift of demand (Albertijn et al., 2011; OECD-ITF, 2015). Additionally, unprecedented economic growth in the first decade of the new millennium (Panayides & Wiedmer, 2011) also manifested itself in the increased demand for shipping, amounting to 7.4% in the period 2004-2008 (DSF, 2016). More than halved, due to the economic crisis in 2008, recent demand levels, however, continue to perform even lower¹⁰ than during the crisis years.

The average haul (3) addresses the distance that needs to be bridged in order to deliver or retrieve a good to/from its destination and is measured in ton kilometres (Stopford, 2009). Depending on the frequency of a liner service the demand for shipping can increase once for example routes are getting significantly longer as it happened when the Suez Canal closed. Natural catastrophes, political events (including wars), or the numerous financial crises (4) throughout the last decades are not only hard to predict but have also led to a sudden increase or decrease in shipping demand (Stopford, 2009).

Stopford (2009) suggest that goods are only transported if the associated costs (5) of shipping can be reduced sufficiently to allow businesses to benefit from trading on the global market. The growth of global trade can in fact largely be attributed to the relative cheapness of ocean

⁹ For more detailed explanation, see Stopford, 2009, pp. 135-174

¹⁰ 3.2% for 2008-2012 compared to 2.5% for 2012-2016 (DSF, 2016)

shipping. Costs should generally not only cover the sea-leg of transport, but also terminal charges and inland transport at both ends of the container's journey (Stopford, 2009). As such transport costs also have the potential to disrupt trade flows, given they rise sufficiently enough to permanently curb demand (Lemper & Tasto, 2015). Lastly, the increased focus on economies of scale, and thus efforts to reduce transport costs per unit, has led to vessels that have grown considerably in size over the last two decades alone (UNCTAD, 2016). However, the benefits and savings of larger vessels diminish disproportionately as ships increase in size, i.e. that any gains from bigger ships get smaller and smaller the larger the vessels get (Stopford, 2009).

3.1.2.2 Supply

The supply for shipping is governed by ship owners, charterers/shippers as well as (shipping) banks and regulatory bodies that keep track of the industry's compliance to environmental standards and safety restrictions (Stopford, 2009). These entities can either facilitate the expansion or reduction of capacity. Important to note is that the decisions made assume a more behavioural rather than rational character which means that it will not necessarily follow economic theory (Stopford, 2009).

In the short term the capacity of the world fleet (6) is considered to be fixed (Stopford, 2009). There is some flexibility however, depending on how efficiently the fleet (7) is utilised. Different speeds, time spent in ports, the degree of loading and days spent at sea are all used to adjust the operating performance of the fleet according to market conditions (Stopford, 2009). Initially slow-steaming was used by carriers in the aftermath of the financial crisis in 2008 in order to absorb surplus capacity and reduce transport costs while keeping up port call frequencies (Notteboom & Rodrigue, 2009), yet has become common practice by nearly all container shipping companies today (Lee & Song, 2017).

Shipbuilding (8) actively influences the fleet adjustment process but at a comparatively slower pace than for example economic cycles (Stopford, 2009). Ship orders are commonly posted during a shipping cycle's expansion/peak period when freight rates are increasing (Brauner & Illingworth, 2006; Stopford, 2009). The existing fleet becomes more profitable and ship owners decide to expand their fleet with the available influx of cash in order to continue reaping the financial benefits of the high rate environment (Stopford, 2009). Vessel deliveries on the other hand, depending on the size of order books, can take several years and can easily occur after freight rates have already plummeted again due to overcapacity on the market (Stopford, 2009). Ship owners can only base their orders on estimates of future demand as shipping cycles remain largely unpredictable (Mason & Nair, 2013; Stopford, 2009). Given the long economic life of shipping capacity it is vital that particular attention is not only paid to the technical but also to the financial fitness of an investment (Mørch, Fagerholt, Pantuso, & Rakke, 2017) as it can take considerable time before returns from revenues materialise (Mason & Nair, 2013). Shipbuilding capacity should decrease in some correspondence with reduced demand for new vessels under free market conditions (Eich-Born & Hassink, 2005). However, state interventions, in particular in Korea and China have

produced the opposite (DSF, 2016; Eich-Born & Hassink, 2005) due to the strategic importance of the sector to their respective nation's economy (Jon, 2010; Stopford, 2009).

In recent years, the container shipping industry has faced enormous overcapacity (DSF, 2016; Lee & Song, 2017; UNCTAD, 2016) that is predicted to become fatal for some carriers (OECD-ITF, 2015). Despite an annual growth of seaborne container demand of 3% since 2010, shipyards have supplied tonnage at twice that rate, thereby creating a significant supply-demand gap (DSF, 2016). Furthermore, the growth rate at which container ships have increased in size has accelerated noticeably which has consequences for the associated transport chains as it calls for greater financial investments to handle these vessels in the future (OECD-ITF, 2015). Shipbuilding reached its most recent peak during the years 2011/2012 (OECD-ITF, 2015; SAJ, 2015) with capacities of approximately 1.2 million TEUs delivered in both years respectively while only a negligible amount of mostly smaller vessels was permanently removed from the fleet (DSF, 2012; DSF, 2013). In 2015, only 211¹¹ new container vessels were delivered to the market (UNCTAD, 2016). However, the added supply set a new record at 1.69 million TEUs in shipyards' history due to increases in overall vessel size (UNCTAD, 2016). Furthermore, capacity was forecasted to grow by 4.6% in 2016 and is expected to continue to increase by 4.7% in 2017 (AlixPartners, 2016). Liner companies are undoubtedly aware of the financial issues arising from overcapacity and are trying to take counteractions (AlixPartners, 2016), yet it is unlikely to be enough to counterbalance these problems (UNCTAD, 2016).

Scrapping and losses (9) are the opposite of shipbuilding as they reduce fleet capacity (Lemper & Tasto, 2015). The age of a vessel is commonly the driving force behind the extent of demolition efforts ship owners undertake, yet other factors such as the market outlook, the financial condition of the owner's business in addition to scrap prices play definitely an important role as well, when owners have to decide if they ought to scrap a vessel or not (Stopford, 2009). Scrapping should assume a balancing function to shipbuilding but the undertaken efforts have not been sufficient to effectively curb overcapacity in recent years (DSF, 2016; OECD-ITF, 2015). The expected deliveries of container ships for 2017, as well as the new networks among carriers that will become operational during the same year, are believed to assert further pressure on ship owners to scrap their vessels prematurely (DSF, 2016). A reduction of time charter rates is yet another anticipated outcome of this course of events.

Freight revenue (10) is perhaps the most essential factor driving the supply side (Stopford, 2009). In the long term, there appears to be a correlation between fleet earnings and fleet investment. In reaction to higher freight rates, ship operators and carriers generally provide more capacity by speeding up their operations or taking vessels out of lay-up (Stopford, 2009). "[F]reight earnings are the main source of revenues for shipping firms" (Drobetz, Haller, & Meier, 2016, p. 4) "and therefore the variability in earnings due to changes in freight rates constitutes the most important operating exposure, volatility has a direct impact

¹¹ For comparison, 436 ships were delivered in 2008 (UNCTAD, 2016).

on profitability” (Albertijn et al., 2011, p. 71).

3.1.3 Freight Rates

There is typically a very low product and price differentiation in container shipping (Lee & Song, 2017; Meersman, van de Voorde, & Vanelslander, 2009; OECD-ITF, 2015) and only a small fraction of the market is actually sensitive to other factors than price (Meersman et al., 2009). CSLs are subjected to large overhead costs, stemming from ships’ operating costs, administration, container costs, etc. (Premti, 2016; Stopford, 2009); and the need to operate regular services, differentiation has to happen at cost level instead (Meersman et al., 2009; Notteboom & Rodrigue, 2009). This is done by deploying ever larger vessels (Meersman et al., 2009) in the pursuit of economies of scale (Brooks, 2000; Lee & Song, 2017). CSLs were intended to be the main beneficiaries of these new mega-ships, yet the increased vessel size has actually fuelled overcapacity which has exerted a downward pressure on both freight rates and profit margins (OECD-ITF, 2015). In order to not stay behind and miss out on the potential economies of scale, many competing CSLs began to invest in greater capacity as well which eventually led to a deviation of fleet capacity growth from actual increases in shipping demand (OECD-ITF, 2015).

There are at least two different kinds of freight rates: spot rates and flat rates for long-term contracts (Lee & Song, 2017; Slack & Gouvelal, 2011). They are established by market forces, i.e. in a process that aims to establish a balance between available capacity and shipping demand (Notteboom & Rodrigue, 2009; OECD-ITF, 2015; Stopford, 2009; Yip, Lun, & Lau, 2012). Given the aforementioned flexibility of supply, future prospects as well as market sentiment, this process can lead to fluctuating rates on a daily basis (Stopford, 2009). Moreover, the cyclical nature of the shipping sector, in conjunction with the delayed output of the shipbuilding sector, causes regularly periods of over- or under-capacity which tend to amplify these fluctuations (OECD-ITF, 2015).

As carriers have fixed costs, fixed rates would be highly appreciated in order to cover them (Stopford, 2009), yet alliances in ocean shipping do not partake in such practices (Panayides & Wiedmer, 2011). Shippers that commission the transport of large volumes such as freight forwarders or manufacturers generally benefit from flat rates that are fixed for typically 12 months at a time (Lee & Song, 2017; Slack & Gouvelal, 2011). Spot rates on the other hand are quoted by carriers on a daily basis (Lee & Song, 2017; Wang & Meng, 2017) as the price per box and can differ between customers that plan to ship to the same destination (Slack & Gouvelal, 2011). In fact, freight rates are to a large degree confidential and carriers often reserve the right to include a range of separate elements (Wang & Meng, 2017). Commonly they are various surcharges, such as terminal handling costs (THC), bunker adjustment factors (BAF), currency adjustment factors (CAF) or other features which create a severe lack of transparency in the freight rate generation process (Slack & Gouvelal, 2011). In fact, CSLs have been accused of keeping BAFs artificially high, after box rates and fuel prices dropped and it became harder to fill capacities in the aftermath of 2008, in order to continue to generate revenue for their businesses (Notteboom & Rodrigue, 2009).

Freight rates have also been used to drive smaller competitors into niche markets as bigger carriers used their comparatively longer financial breath to survive in a low-rate environment (Notteboom & Rodrigue, 2009). The premature addition of capacity by MSC e.g. effectively stalled a potential rate restoration in 2008/2009. Lastly, the low rates of the past years have intensified competition between port/terminal operators as well which virtually cannot reduce capacity (Notteboom & Rodrigue, 2009) while carriers continue to streamline their cost structure by entering so-called ‘mega’-alliances (DSF, 2016).

As has been pointed out, revenue from freight rates constitutes a central source of income for CSLs. However, it is perhaps just as important how effectively costs are kept under control in this capital-intensive industry. The structure of ownership and the kind of contractual obligations shipping companies commit themselves to can be considered essential tools to successfully manage expenses in the maritime industry.

3.1.4 Owner Structure and Contracts

Among the top 20 carriers, the majority is privately held and those, that are publicly traded, generally have few large investors (Slack & Frémont, 2009). Slack and Frémont argue (2009) that these private entities can react more quickly to the frequently changing shipping environment; are more innovative than publicly traded carriers and owners can un-bureaucratically transform their business strategy. For example, the top 20 carriers in 2010 chartered between 32% to more than 90% of their fleet, suggesting “that there are significant differences between the companies in terms of their owned versus chartered strategies” (Panayides & Wiedmer, 2011, p. 29).

The shipping industry remains exceedingly capital-intensive where increasingly few assets are owned but chartered instead (Brooks, 2000; Mason & Nair, 2013; Panayides & Wiedmer, 2011; Slack & Frémont, 2009). In 2012, about 72% of the world container fleet in terms of dead weight tonnage was owned by just six countries but vessel ownership does not necessarily imply that the entities from these countries are actually involved in the operation of the ships (UNCTAD, 2012; 2016). Container ships, in particular, are the most frequently chosen vessel type to be operated by other entities than their owners (UNCTAD, 2016). A key reason for the increased use of this practice is that CSLs aim to increase their flexibility in order to deal with demand uncertainty and the associated unstable revenue streams (Mason & Nair, 2013) as the investment in either new or second-hand vessels is still considered a significant risk by carriers (Merikas, Sigalas, & Drobetz, 2011). A common strategy to mitigate the (financial) risks stemming from vessel ownership is to defer them to third parties, especially since financial institutions have developed a more conservative approach towards lending in recent years (Mason & Nair, 2013). The utilisation of long-term charter contracts is one way to avoid many of the shipping risks; however, it can be a very problematic strategy in times of crisis when more equity capital is needed (Albertijn et al., 2011).

Chartering a vessel is done via freight contracts, mainly in the form of spot (voyage) or time charter agreements (Albertijn et al., 2011). There are several other forms that can differ in specific details from the first two and from each other, such as bareboat chartering or contracts of affreightment (Stopford, 2009). However, under a time charter the owner takes care of payments regarding the vessel's operation and capital costs while the charterer balances voyage expenses, including fuel charges, and cargo-related costs. The duration of a time charter contract can differ substantially from a few weeks or months up to the lifetime of the ship (Stopford, 2009). Bareboat charter, on the other hand, is always a long-term contract (e.g. 10-20 years) where the charterer is responsible for operational and voyage costs, whereas the owner only pays the capital costs, i.e. the owner does not need to have any knowledge of the operational practices in the shipping industry (Stopford, 2009). "Usually legal issues regarding title over the ship, mortgages and encumbrances are governed by the underlying registry, while the vessel itself falls under the jurisdiction of the bareboat charter registry" (Stopford, 2009, p. 779).

Charter rates follow the development of capacity supply on the world market (DSF, 2016) which means that spot rates are more volatile than long-term rates; and rates for larger ships more volatile than feeder vessel rates as it is more difficult to find employment for the former in a depressed market (Albertijn et al., 2011; DSF, 2016). Depending on the anticipated development of the freight rate market, charter agreements can both be a source of profits, in form of reduced costs, and losses for CSLs but have the welcome side-effect of stabilising expenses for them (Albertijn et al., 2011). Freight rates, capacity demand and supply as well as charter agreements are all interdependent, i.e. changing one variable in this equation will evoke the change of another, if basic economic theory is followed. However, other developments in the highly complex shipping market have the potential to fundamentally change the playing field as well. More specifically: a) alliance between CSLs, b) mergers and acquisitions as well as shifts in c) geographical concentration for individual or multiple carriers.

3.1.5 Market Developments

In the early days of containerisation, APL (US), CGM (France), K-Line (Japan), Maersk (Denmark), MOL (Japan), P&O (UK), OOCL (Hong Kong) and Sea-Land (US) dominated the industry but later faced competition from East and South Asian carriers such as COSCO (China), Evergreen (Taiwan), HJS (Korea) and Yang Ming (Taiwan) (Slack, Comtois, & Sletmo, 1996). Slack et al. (1996) found it interesting that despite higher competition, few container carriers became insolvent (with the exception of the United State Lines in 1985) at the end of the 20th century. However, many larger CSLs (e.g. Ben Line, Singapore and Nippon Liner Service, Japan) decided to discontinue their container operations to focus on other shipping operations instead which were more profitable and less capital intensive.

There are three different directions for a shipping company to expand: organic growth (which requires high expenditures), the cooperation with other shipping lines or the acquisition of other carriers (Frémont, 2009). Cooperation among container carriers has a long tradition in

liner shipping as it has been a strategy of coping with the industry's inherent risks but containerisation also increased the capital intensity of the liner industry, creating a need for further cooperation among carriers (Midoro & Pitto, 2000). Shipping conferences were the first approach to cooperation between shipping lines and can be traced back to 1875 (Rimmer, 1998). Conferences were established to fix freight rates and to limit capacity on specific routes (Slack et al., 2002). Consortia are another form of collaboration that replaced conferences (Song & Panayides, 2002) in the 1960s (Midoro & Pitto, 2000) but as opposed to their predecessor they did not set any freight rates and created a more competitive environment (Premti, 2016). However, consortia were not able to handle the changing market conditions at the end of the 21st century (Midoro & Pitto, 2000) and were later abolished within the European Union in 2008 when the EU stipulated that they were no longer exempted from the regulations on cartelisation (Panayides, Lambertides, & Savva, 2011). Shipping consortia are significantly less regulated in other regions (Song & Panayides, 2002), however, as CSLs with a global scope also serve the European market, these regulations apply to all studied carriers.

3.1.5.1 Alliances

In the middle of the 1990s, the leading liner firms started to change the industry by forming global strategic alliances which were pushed by Asian carriers (Frémont, 2009; Lu et al., 2006), as a result of increased international trade from globalisation (Chen & Yahalom, 2013) and the overall poor profitability (Bergantino & Veenstra, 2002; Midoro & Pitto, 2000; Slack et al., 1996). The main benefits of forming an alliance are: increased service frequency, reduced cost and increased geographical coverage (Caschili, Medda, Parola, & Ferrari, 2014; Frémont, 2009; Slack et al., 1996). Controlling the number of partners, having differentiated roles and contributions, and to coordinate sales and marketing activities are three key aspects to create a competitive alliance (Midoro & Pitto, 2000). However, Bergantino and Veenstra (2002) do not agree that alliances should be regarded as a measure to reduce costs and Brooks and Frasier (2001) claim that an alliance's coordination costs offset any potential cost savings.

The Global Alliance, established in 1994, was the first strategic alliance and consisted of APL, OOCL, MOL and Royal Nedlloyd Lines (Song & Panayides, 2002). Two years later, two other alliances were formed: the HJS/Tricon Alliance consisting of HJS, DSR Senator and Cho Yang, and Hapag-Lloyd, NYK, NOL and P&O formed the Grand Alliance (Song & Panayides, 2002). These new alliances started to differentiate themselves by moving away from the prevailing focus on the cooperation along a single trade lane, towards an extension of global geographical coverage (Midoro & Pitto, 2000) and flexible freight rates (Panayides & Wiedmer, 2011). Furthermore, alliances also cover a broader scope of activities, e.g. procurement, terminal operations and inland transport (Lu et al., 2006; Midoro & Pitto, 2000; Tran & Haasis, 2015) and can be "seen as facilitators of service integration and deepening, and of service conformity" (Slack et al., 2002, p. 75). To be able to compete against the market leaders, small and medium sized (in terms of total fleet capacity) liner companies collaborate with carriers that have similar attributes, e.g. routes and capacity (Caschili et al.,

2014) and cooperation is in particular important for firms with high geographical concentration (Ferrari, Parola, & Benacchio, 2008), whereas larger shipping companies mainly partner with other carriers to gain access to their local markets (Caschili et al., 2014). Commonly, alliances have more cooperative agreements between Europe and Asia and in the trans-Pacific region, with more deployed vessels, higher average capacity and connect more ports (Panayides & Wiedmer, 2011).

One of the main benefits of forming an alliance compared to other expansion options is that it is relatively easy to leave it, making this form of cooperation more flexible (Song & Panayides, 2002). However, alliances are considered instable and it has been reported that 80% of them fail (Song & Panayides, 2002). The instability can be a result of high coordination costs (Bergantino & Veenstra, 2002) and the complexity of the alliance's tasks and its organisational structure (Midoro & Pitto, 2000). The degree of cooperation within an alliance (e.g. slot utilisation, inland transport and/or purchasing), external factors such as increased competition and customer demands, and the partners' core competencies affect the alliance's tasks. Meanwhile, the complexity of the organisational structure depends on several different aspects, e.g. number of partners, the carriers' different roles in the alliance and contribution to the alliance, and mutual trust. For instance, the level of complexity increases with the number of CSLs within an alliance and better communication is required if there is a shared decision-making process, i.e. all carriers contribute equally. Moreover, an alliance has a better dynamic if the partners have past experience of working with each other and increasing the level of mutual trust can reduce the risk of intra-alliance competition (Midoro & Pitto, 2000). The willingness of sharing products, resources and markets increases if the alliance is successful (Midoro & Pitto, 2000). Nevertheless, CSLs are more likely to put their own interest before the alliances' (Song & Panayides, 2002).

Based on Evergreen and MSC's successful operations as independent container carriers at the end of the 20th century, Midoro and Pitto (2000) argue that alliances did not necessarily cause improved performance levels. However, they also pointed out that the two carriers might change their strategies in the future. Bergantino and Veenstra (2002) concur that a liner firm's own network, e.g. Maersk's, is sufficient to survive in the container shipping industry but also indicate that the changing market conditions can force carriers into alliances unless the coordination costs increase too much.

Likewise, the effects of the financial crisis in 2007/2008 have made alliances even more important than before (Caschili et al., 2014). Evergreen, which has been known to be a relatively independent carrier, (Midoro & Pitto, 2000; Slack et al., 2002) joined the CKYH alliance in 2013. Huang and Yoshida (2013) imply that the industry's high uncertainty forced the carrier into the partnership. Nowadays, almost all major container carriers are affiliated with an alliance (Huang & Yoshida, 2013). However, alliances will have to continuously develop in order to adapt to the changing environment and to elude insolvency (Lu et al., 2006). In 2015, there was a strong trend of reinforcing alliances (UNCTAD, 2016) and by

then, all of the world's largest container carriers were part of an alliance¹² (Joeress, Murnane, Saxon, & Widdows, 2015).

3.1.5.2 Mergers and Acquisitions (M&As)

As much as the importance of alliances has grown, the number of M&As has increased as well (Midoro & Pitto, 2000) and was expected to continue to increase before the financial crisis (Van De Voorde & Vanelslander, 2009). The usage of M&As is a strategy, allowing for fast growth (Cariou, 2008; Frémont, 2009) and can be regarded as the outcome of the failures of alliances, making it the preferred choice of growth (Midoro & Pitto, 2000) especially when competition increases (Das, 2011). This point of view is supported by the fact that M&As are mostly implemented between carriers that belong to different alliances (inter-alliances mergers) rather than carriers within the same alliance (intra-alliance mergers) (Bergantino & Veenstra, 2002), which forces alliances to change (Midoro & Pitto, 2000; Panayides & Wiedmer, 2011). Acquiring another carrier, which is more common than mergers (Yeo, 2013), can be a measure to prevent potential cooperation between competitors and the acquired company (Das, 2011).

M&As mostly occur between CSLs from the same country (Yeo, 2013), e.g. the merger between CSCL and COSCO (both Chinese) in 2016 (AlixPartners, 2016), or the same region (Das, 2011). As container carriers often focus on their home markets (Ferrari, et al., 2008; Gadhia, Kotzab, & Prockl, 2011), it is logical that they also want to expand in the region where their main customer base is situated (Das, 2011). Another reason is lower information costs as it is less likely that misunderstandings will emerge between carriers from the same region (Yeo, 2013) since they share similar cultures (Das, 2011). Despite the risks, larger carriers can conduct cross-border M&As (Yeo, 2013), e.g. the recent purchase of CSAV (Chile) by Hapag-Lloyd (Germany) in 2014 and CMA CGM's (France) acquisition of Neptune Orient Lines (Singapore) in 2015 (AlixPartners, 2016). However, this kind of M&A can also be challenging. For instance, Maersk's (Denmark) acquisition of P&O Nedlloyd (the Netherlands) in 2005 generated problems for the acquiring carrier since they both had different organisational cultures and IT systems (AlixPartners, 2016). On the one hand, European carriers account for most of the acquisitions followed by Asian and North American liner firms (Yeo, 2013). On the other hand, European and Asian carriers are also more likely to be acquired.

3.1.5.3 Geographical Concentration

As a result of alliances and M&As, the liner industry has become very concentrated, which has formed certain geographical linkages/network geometry (Frémont, 2009; Slack et al., 1996). The "geography of liner shipping is an essential component of modern logistical systems" (Slack et al., 1996, p. 299), as supply chains currently require a global reach (Bang, Kang, Martin, & Woo, 2012). Empirical evidence of global container port developments indicate a shift of container traffic growth from advanced countries to developing countries

¹² See Appendix 1.

(Guerrero & Rodrigue, 2014) but the most important regions for the shipping industry are still East Asia, Europe and North America (Frémont, 2009; Xu, Li, Shi, Zhang, & Jiang, 2015; Slack et al., 1996), the so-called ‘Container Belt of container shipping’ (Gadhia et al., 2011) or the ‘East-West belt’ (Xu et al., 2015)¹³. However, as a response to the increased competition in these regions, carriers tried to find new and more profitable markets (Slack et al., 1996), e.g. the South-South linkages that connect East Asia to South America and East Asia to West Africa (Xu et al., 2015). In 2015, around 40% of the world’s container flow was on the intra-regional and South-South trade lanes, 29% on the mainline from East to West, 13% of the secondary East-West lane and finally 18% on the North-South lane (UNCTAD, 2016).

The importance of the ‘Container belt’ can be observed in the concentration of distributed capacity along these lanes, leading to an over-deployment in these markets (Caschili et al., 2014). There are many carriers deploying vessels in the Asian and Central American regions while there are fewer niche players in Africa and the Mediterranean (Panayides & Wiedmer, 2011). Few carriers (Parola & Veenstra, 2008) are truly global but the European carriers Maersk, MSC and CMA CGM can be called global service providers (Gadhia et al., 2011). In contrast, Asian carriers generally have a more geographically concentrated network and are therefore also more dependent on alliances (Parola & Veenstra, 2008). Another aspect that can contribute to the makeup of the geographical network is the increase in vessel size, since carriers with a larger average vessel size are often restricted to specific regions as a result to port limitations (Gadhia et al., 2011). Ports that can handle these large ships are predominantly located in Europe and Asia (AlixPartners, 2016). On the other hand, larger vessels are necessary to lower a carrier’s operating costs due to decreased profit margins (AlixPartners, 2016).

A negative externality from geographical concentration are trade imbalances (Slack et al., 1996), where the head haul has a higher utilisation rate compared to the back haul in a round trip in liner shipping (Goh & Chan, 2016) and freight rates for back hauls can be 40-50% lower than for head hauls (Theofanis & Boile, 2009). Inbound flows to East Asia are especially suffering from low capacity utilisation (AlixPartners, 2016; Chen & Yahalom, 2013; Slack et al., 1996) and consequently, there are a lot of empty containers in e.g. Europe and North America (Diaz, Talley, & Tulpule, 2011). The repositioning of empty containers can be costly due to transportation and handling costs (Theofanis & Boile, 2009).

In order to allow CSLs to appropriately react to the changing conditions of the global market, it becomes important to focus on another important feature of the maritime shipping sector, its funding. It is necessary to understand how big capital is ultimately shaping the shipping industry and how the financial markets impacted the sector during and after the credit crunch nearly ten years ago. Merikas et al. (2011) provide a framework that addresses three different pillars of maritime financial management: financing, investment and operations.

¹³ These trade routes were also the most affected by the financial crisis in 2008 (UNCTAD, 2010).

3.1.6 Finance and Investments

The shipping industry is very capital intensive (El-Masry, Olugbode, & Pointon, 2010). The building of a single ship, for example, often costs more than USD 150 million (Albertijn et al., 2011) and typically several ships are necessary to enable an adequate service frequency (Slack et al., 1996). Carriers that do not reach a sufficient scale, risk going bankrupt even if “the means of achieving that scale can itself present a longer-term burden, merely postponing rather than preventing bankruptcy” (AlixPartners, 2016, p. 6). Hence, it is an important point for carriers to consider when they want to expand capacity permanently as the financial commitment is significant.

For smaller companies, it is difficult to acquire sufficient capital (Drobetz et al., 2013; Albertijn et al., 2011; Mitroussi et al., 2016) and financially weak CSLs do not have access to necessary external capital which leads to under-investments and a deteriorating competitiveness in the long term (Drobetz et al., 2016). Additionally, as the industry is highly competitive, it is very difficult to determine an optimal capital structure, i.e. the ratio between debt and equity (Paun & Topan, 2016). The former is mainly composed of bank loans (Kavussanos & Tsouknidis, 2016; Syriopoulos, 2010) which are provided by a small number of banks that lend to shipping companies (Drobetz et al., 2016), while the latter is made up of private equity and past retained earnings (Drobetz et al., 2013).

The shipping industry is mainly financed by debt capital (El-Masry et al., 2010) and in particular focuses on short-term debt that enables shipping companies to use their cash reserves to counteract negative cash flows (Drobetz et al., 2016). The advantage of bank loans over initial public offerings and bond issues is that the shipping company does not need to publicly disclose its business information (Kavussanos & Tsouknidis, 2016). This becomes especially evident considering the shipping industry’s generally low information transparency (Panayides, Lambertides, & Savva, 2011). Shipping companies’ credit risks are assessed based on both macroeconomic conditions, e.g. the situation of the global economy, demand for maritime trade and second hand vessel prices, and microeconomic conditions, e.g. prospective earnings, operating costs and availability of shipping finance (Mitroussi et al., 2016). However, non-financial ratios, such as the reputation of the shipping company, staying power and commitment, together with employability contract and market sentiment are also important drivers of shipping loan performance (Mitroussi et al., 2016). Shipping companies, and in particular privately held ones, often lack financial transparency, making it difficult for financial institutions to accurately conduct a credit assessment (Kavussanos & Tsouknidis, 2016).

As a result of the norm of financing capital by debt, shipping companies have a much higher leverage ratio (i.e. also higher financial risk) compared to companies in other industries (Drobetz et al., 2013), which can partly be explained by their dependency on fixed assets, i.e. vessels (Paun & Topan, 2016; Yeo, 2016). In case of bankruptcy, these fixed assets are considered to be reliable bank collateral (Paun & Topan, 2016), which also means that changes in vessel prices can drastically affect the availability of loans (Albertijn et al., 2011).

Leverage is adjusted counter-cyclically since the shipping industry is dependent on global economic cycles (Drobetz et al., 2013) and a shipping company can gain a competitive advantage if it can find the right balance between debt and equity (Paun & Topan, 2016). Maintaining a large amount of excess liquidity continually provides financial flexibility which is very important in this uncertain industry and gives a competitive edge (Drobetz et al., 2013; Drobetz et al., 2016; Merikas et al., 2011). Shipping companies often prefer to focus on maximising returns instead of utilising a capital-intensive strategy, such as an aggressive expansion of their fleet (Mørch et al., 2017). However, the financial decisions are also affected by the carrier's commercial strategy, where shipping companies have higher liabilities in the time-charter market than in the spot market (Merikas et al., 2011).

Size, tangibility, corporate performance/business development and profitability (Merika et al., 2015; Paun & Topan, 2016) play the most important roles in determining the industry's capital structure. Regarding the latter, the return on assets and the profit margin are more important aspects than the earnings before interest and the return on equity (Paun & Topan, 2016). Even if the average taxation ratio is relatively low in the shipping industry due to tax heavens, it does not impact shipping companies' financial leverage (Drobetz et al., 2013; Paun & Topan, 2016). Concentrated ownership (Tsionas, Merikas, & Merika, 2012) and market sentiment (Merika et al., 2015) can also have great impact on shipping companies' financial performance.

Oil prices (Stopford, 2009), exchange (Akatsuka & Leggate, 2001) and interest rates (Merikas et al., 2011) are the main economic risks in the shipping industry (Albertijn et al., 2011; Kavussanos & Visvikis, 2006) and they need to be satisfactorily managed or "their impact on the business' continued existence can be detrimental" (El-Masry et al., 2010, p. 453). El-Masry et al. (2010) also state that the exposure to exchange rates has a larger impact than fluctuations of interest rates or oil prices on stock returns of shipping companies. Unexpectedly, they found that carriers benefited from an appreciation of the USD. Shipping companies, and especially larger firms, are able to utilise hedging strategies to successfully reduce their exposure to exchange and interest rates. The effect of exchange rates is diminished due to the industry's nature of charging freight rates, labour and interest costs in USD which results in fewer currencies to manage. Moreover, higher oil prices also had a positive correlation with stock returns, which can explain why shipping companies often ensure to have a liquidity buffer to manage the risks of changing oil prices.

3.1.6.1 Impact of the Financial Crisis

The maritime shipping sector did not escape the effects of the financial crisis of 2007-2008 and was hit hard like many other industries (Albertijn et al., 2011; Drobetz et al., 2016; Gong, Ye, & Zheng, 2013; Kalouptsi, 2014; Lee et al., 2012; Mitroussi et al., 2016). The whole industry faced "extreme changes in revenues, operating cash flows and asset values" (Albertijn et al., 2011, p. 70), resulting in the bankruptcy of many shipping companies in the global recession that followed the financial meltdown (Gong et al., 2013), which in turn negatively affected other CSLs in the industry (Drobetz et al., 2016). The available capacity

of the current fleet was already higher than what markets demanded and to make matters worse, shipyards were expected to add another 70% of fleet capacity by 2012 (Kalouptsidi, 2014) thereby exacerbating the prevalent problem of overcapacity (Lee & Song, 2017). As the economic situation deteriorated, capital expenditures were constantly decreasing (Drobetz et al., 2016) and many carriers had to sell off operations not related to their core competencies, e.g. terminal assets (AlixPartners, 2014). Still, the shipping industry had relatively high leverage during the crisis (Paun & Topan, 2016). Before the financial meltdown, some CSLs had a debt-to-equity ratio that exceeded 80% which increased noticeably after the onset of the crisis (Merikas et al., 2011), as shown in Figure 2. What is more, a carrier's deviation from its targeted leverage ratio can become considerably costlier during bad times (Drobetz et al., 2013).

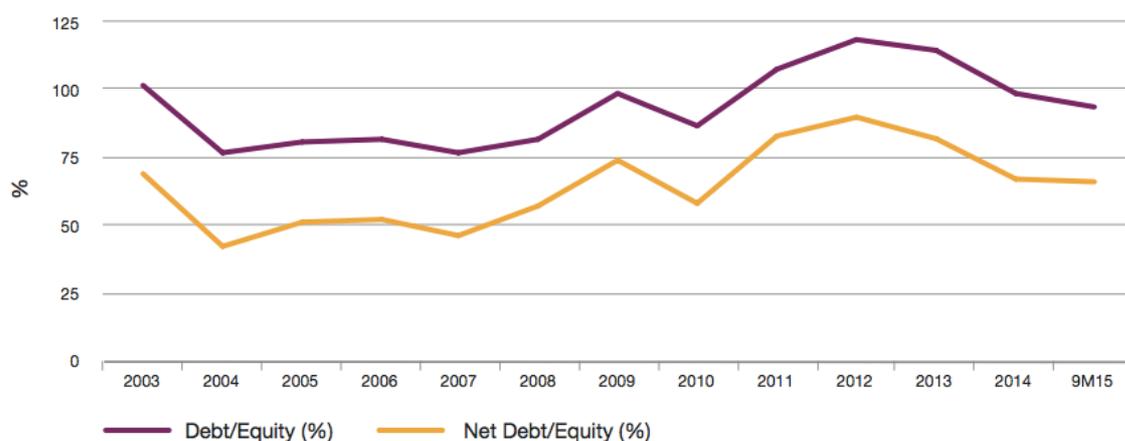


Figure 2. Average Debt-to-Equity Ratio for the Liner Shipping Industry.

Source: Power, Mason & Kapoor, (2016, p. 6).

During the crisis, financially strong companies avoided assets sales as they received new long-term loans (Drobetz et al., 2016). Shipping banks offered these loans as they wanted to avoid liquidating their collateral due to low vessel prices, i.e. reduced values (Albertijn et al., 2011). However, banks reduced their financing in the shipping industry as a whole (Kavussanos & Tsouknidis, 2016) since these specialised shipping banks were also affected by the crisis, e.g. syndicated loans were reduced by 60% in 2009 (Albertijn et al., 2011).

It is predicted that the leverage ratio will decrease, forcing companies to increase their financing by equity (Albertijn et al., 2011), even if it will lead to lower expected equity returns (Drobetz et al., 2013). This can be explained by the difficulty of diverting assets in a crisis (Drobetz et al., 2013) and that it will become more difficult to acquire lending capital from shipping banks because of higher regulatory standards (Albertijn et al., 2011; Gong et al., 2013) as well as longer bank processes, which will come to change the relationship between banks and ship-owners (Mitroussi et al., 2016). The reduction of available debt capital does not only affect ship-owners but also shippers and their supply chains since, for

example, some logistics routes may be disrupted (Mitroussi et al., 2016). If shipping companies cannot obtain bank loans due to the reluctance of shipping banks, governments might have to step in and help during times of crisis (Gong et al., 2013). Mitroussi et al. (2016), on the other hand, argue that instead of debt financing, shipping companies will have to get access to capital and finance by M&As, changing their ownership structure to publicly listed companies and focus more on business units that generate positive results. The financial crisis has probably generated some positive effects as well, for instance, industry consolidation that will increase the industry's profitability and stronger shipping companies, as they will have to learn to gain capital without the help from banks (Gong et al., 2013). Nonetheless, Albertijn et al. (2011) reason that shipping finance will become a main challenge for the industry, as more capital is required in the near future because of an aging world fleet, higher compliance standards and increased international trade. For example, total capital expenditures reached USD 26 billion in 2012 (AlixPartners, 2014). One way to overcome the difficulties from financing capital with bank loans could be to utilise bonds instead (Grammenos, Nomikos, & Papapostolou, 2008).

The limited availability of financial capital necessitates a strong focus on cost optimisation and a greater strive for efficient capacity utilisation which makes the individual performance of CSLs a key variable in this exceedingly competitive market (Bang et al., 2012).

3.1.7 Operations

In order to assess a shipping company's performance, it is important to address both financial and operational efficiency, even though they might not have any clear correlation (Bang et al., 2012). In general, container lines have relatively good operating efficiency (70%), which can be a consequence of the tendency to focus on productivity gains, i.e. maximising vessel utilisation and economies of scale (Panayides, Lambertides, & Savva, 2011). As previously mentioned, the shipping industry has become more concentrated in order to achieve economies of scale, however, a study by Lam et al. (2007) did not find any evidence that increased concentration has any positive effect on financial performance of liner companies.

It is argued that a higher degree of operational efficiency should have a positive effect on the financial performance (Bang et al., 2012). In contrast to previous studies (Stopford, 2009), Bang et al. (2012) found that the age of the ship does not have any relevant impact on shipping lines' financial efficiency. They reason that the fuel-efficiency is offset by the involved higher capital expenses for younger ships¹⁴. In addition, it was discovered that the size of the CSL (total capacity) and the ship sizes have a positive correlation with financial efficiency, which is consistent with the concept of economies of scale. On the other hand, the latter can have a negative effect on operational efficiency, *inter alia*, as larger ships might not be able to make as many port calls due to limitations of port infrastructure (Cullinane & Khanna, 2000; Sys, Blauwens, Omeij, Van De Voorde, & Witlox, 2008) and diseconomies of

¹⁴ It can also be that the sample might have a younger fleet than the general population which would affect the findings.

scale if the carrier has to redeploy existing vessels to other routes (Bang et al., 2012). It is estimated that the adaptation of transport infrastructure, e.g. dredging, expansion of hinterland and new cranes, to enable the operation of mega-ships could cost around USD 400 million annually (OECD-ITF, 2015). Load factor, liner network design, port productivity, handling costs, among others, are other factors that affect the economies of ship size (Notteboom, 2002). Potential cost savings for larger vessels are continuously decreasing and, nowadays, cost savings of container ships rather stem from improved engine efficiencies (OECD-ITF, 2015). The OECD-ITF (2015) also stresses that there is a positive correlation between supply chain risks and ship size, as costs of accidents increase with the ships.

Traditionally, liner companies mostly competed in terms of geographical coverage, frequency and reliability (Slack et al., 1996), as their only concern was the transportation of cargo between two points (Notteboom, 2002). However, because of the increasingly competitive market (Midoro & Pitto, 2000), shipping companies can no longer rely on low freight rates and short-term profits (Lee & Song, 2013) and even if container lines have high operational efficiency, they have quite inefficient market performances (Panayides, Lambertides, & Savva, 2011). The importance of enhanced service offerings is increasing (Bang et al., 2012; Kuo et al., 2017; Yang, 2016) and it is argued that rather than be motivated by individual objectives, shipping lines should focus on finding solutions for their supply chain partners (Lam & van de Voorde, 2011), which requires knowledge of their needs and of the intermodal transport sector (Notteboom & Merckx, 2006). Yang (2016) claims that service capabilities (i.e. value-added services, service reliability, -efficiency and -flexibility) have a positive effect on both market performance and financial performance of liner firms. Kuo et al. (2017), on the other hand, suggest that dynamic capabilities, e.g. the ability to react to a changing business environment, are more important as they are positively related to both service capabilities and competitive advantage, while they did not find that service capabilities had any impact on the competitive advantage.

Addressing container liners' port and terminal operations is important, "[a]s part of a sea-transport chain, the efficiency of shipping firms is equally important to the efficiency of seaports that provide the sea-land interface" (Panayides et al., 2011, p. 683) and the integration of maritime operators, i.e. shipping companies, terminal operators and freight forwarders, has gained mounting importance to generate better performances (Lee & Song, 2010; Soppé, Parola, & Frémont, 2009) despite the associated risks (Frémont, 2009). For that reason, vertical integration is becoming more common in the liner shipping industry (Panayides & Cullinane, 2002), both in main and secondary ports, where Maersk, MSC and CMA CGM are the frontrunners (Franc & Van der Horst, 2010). It should be pointed out that the management of the inland services is mainly conducted by subsidiaries belonging to the same parent company rather than being operated by the shipping line itself (Heaver, 2002). In 2007, only AP Möller (Maersk), NYK Line and APL/NOL had substantial logistics subsidiaries albeit almost all of the major container carriers claimed that they were logistics providers (Frémont, 2009).

Engaging in terminal management is very expensive but facilitates enhanced services offered by shipping companies (Álvarez-SanJaime et al., 2013; Frémont, 2009) and enables them to become “a reliable one-stop shop service to customers” (Franc & Van der Horst, 2010, p. 564) that can lead to cost savings in the long run (Notteboom & Merckx, 2006). It is more profitable for CSLs with their own terminals to continue utilising open port facilities to some extent and to keep their own terminal(s) non-exclusive (Álvarez-SanJaime et al., 2013). On the other hand, Maersk is trying to build a global network of exclusive terminals (Soppé et al., 2009) as it reduces the risk of having to deal with unreliable third-party service providers (Franc & Van der Horst, 2010) and engaging in inland operations could provide immense rewards for liner firms (Notteboom & Merckx, 2006). Still, it is difficult for shipping companies to differentiate themselves (Lee & Song, 2013) since alliances have transformed the industry towards greater uniformity (Slack et al., 2002), which requires the development of new services in order to gain a sustainable competitive advantage (Yang, Marlow, & Lu, 2009). On the contrary, Lee and Song (2017) claim that competition among container carriers is based primarily on costs.

The shipping industry is very complex with many influencing aspects such as global macroeconomic factors, relationships within the market and the individual performance of single CSLs. However, the national characteristics of a CSL’s home market also affect it, making it vital to address the shipping industry in Korea as well, in order to shed some light on HJS’ collapse.

3.2 The Korean Maritime Sector

The section on the Korean maritime sector is structured as follows. After a short introduction of the sector and its significance to the Korean economy, some light will be shed on the role of the government and its power to influence it. Relevant events and policies will be covered as well as the role of corruption in Korean society before going into greater detail for the Korean port sector and shipbuilding sector. The chapter will conclude with the development of Korea’s main container shipping lines.

3.2.1 Korea’s Economy and Shipping Industry

Korea has experienced rapid economic growth in the last six decades (World Bank, 2017b), leading eventually to its ascension into the group of the 20 wealthiest nations on the globe (CIA, 2017). This advancement can largely be attributed to Korea’s macroeconomic policies that have promoted an orientation towards external trade (CIA, 2017) which have made the country an unequivocal net-exporter for decades (UNCTADSTAT, 2017). Today, a near 100% of all goods that are sent to and from the country are transported by sea (Ha, Chung, & Seo, 2016; Song & Lee, 2016) and the country’s exports generated more than 50% of Korea’s GDP in recent years (UNCTADSTAT, 2016).

During the same period, the marine shipping industry has not only assumed an important strategic role, going back to the geopolitical developments in the 1950's and thereafter, but also laid the foundation for the nation's tremendous economic progress (Hong, 1995; Kim, 1992; Song & Lee, 2016). What is perhaps more important, is the fact that the growing significance of the shipping sector was not left to chance within the framework of free market forces rather than the calculated result of preferential treatment from the Korean government (Kim, 1992). To understand the importance and behaviour of the marine shipping sector in Korea today, it is necessary to have a closer look at its aforementioned linkages with the Korean government.

3.2.2 The Korean Shipping Sector and Governmental Action

Initially, the comparatively quick economic rise was made possible by a close-knit network of businesses with government ties as well as directed import and credit restrictions (CIA, 2017). The relationship of the Korean government with the private sector was special in so far as a significant degree of economic planning was involved through which "the government guided (not ordered) the private sector in the direction it planned" (Kim, 1992, p. 266). The Economic Planning Board laid, with its master plan, the foundation for industrial and even sectorial investment projects by aiding industrialists substantially by means of subsidies in form of preferential taxes, government loans, favourable interest rates and a number of grants once they had engaged in these government-planned projects (Kim, 1992; Kim S., 2015; Thanopoulou et al., 1999). The taken course of action allowed the Korean regime to secure unprecedented power by not only selecting "which sector to foster, but also which industrialists and enterprises should take charge of the sector and related investment projects" (Kim, 1992, p. 266). This particular manner of regulating and promoting investments was perhaps one of the major characteristics of Korea's economy.

A business licence system (Lee, 1999; Thanopoulou et al., 1999), a cargo waiver system and a reservation system restricted the number of new entrants to the shipping industry as well as gave Korean flagged vessels priority for transporting cargoes (Lee, 1999). These measures saw to promote the development of a national Korean fleet while keeping competition between Korean carriers and unregulated foreign encroachment at bay. However, in the early years Korea was also particularly dependent on foreign container operators to transport its products to foreign markets, a problem that would be further addressed by the government in the years to come (Thanopoulou et al., 1999).

Korea's export-driven trade policies "promoted the import of raw materials and technology at the expense of consumer goods and encouraged savings and investment over consumption" (CIA, 2017). As a result, the shipping sector received a prioritised status in Korean economic policies (Kim, 1992) in order to support the nation's commercial ambitions (Thanopoulou et al., 1999). The marine shipping sector and other export industries, including shipbuilding, were primarily supported due their valuable externalities, i.e. their ability to raise foreign exchange, as domestic capital was scarce, in order to fuel the envisioned economic growth (Kim, 1992). Consequently, seen as a means to an end by those in power, Korean ship-

owners were required to expand “without reference to profitability or financial distress” (Kim, 1992, p. 275). The growth of the national fleet eventually outpaced any increases in cargo volume¹⁵ which gave rise to over-capacity in the late 1970’s and disproportionate competition in the Korean shipping industry. What is more, the situation further exacerbated as the second oil crisis in the early 1980’s was followed by a steep decline of world market shipping demand (WTO, 1996). Falling freight rates led to drastically reduced profitability for Korean shippers and the mounting struggle of the sector eventually exposed the financially weak setup of many companies (Kim, 1992).

The government responded with the Shipping Industry Rationalisation Policy in 1984 to restructure the domestic shipping industry (Thanopoulou et al., 1999) which resulted in the substantial consolidation of the sector through forced mergers and acquisitions as well as a number of business cessations (Hong, 1995; WTO, 1996). Besides restricting new market entrants (WTO, 1996), non-partaking companies were effectively excluded from governmental aid (Thanopoulou et al., 1999) and from originally 115 domestic Korean shipping companies only 34¹⁶ were left in the end (WTO, 1996). Any further expansion of the fleet could be done on a more financially sustainable basis by the companies that remained active and allowed for a better realisation of economies of scale, especially for container carriers (Thanopoulou et al., 1999).

However, the OECD (1999) makes critical remarks on other less favourable sites of the rationalisation policy, claiming that it worked as a governmental bailout that gave rise to the ‘too-big-to-fail’ mentality. Chaebols¹⁷ were the predominant form of industry governance in Korea’s economy and considering their considerable market share combined with their enormous vertical integration in the maritime sector (Lee, 1999), “the social costs of a *chaebol* bankruptcy would be enormous” (OECD, 1999, p. 27). Single chaebols, such as Hanjin and Hyundai, controlled a network of businesses that simultaneously engaged in the operation of port terminals, shipbuilding and maritime container shipping (Lee, 1999). More specifically, this meant that one corporate entity was generating business for another, thereby, creating a web of (financial) cross-dependencies (OECD, 2014). In order to prevent a system-threatening economic crash, the government took part in the excessive risk-sharing of the chaebols through state-owned banks (OECD, 1999).

Strict prudential regulation and supervision were hardly applied to banks given the fact that the government and banks were in the same boat in the sense that both acted as a risk-sharing partner of business firms. [...] In such an environment, the chaebols incentive structure with regard to corporate financing was seriously distorted: the more they borrow, the safer they are. (OECD, 1999, p. 27)

¹⁵ 19.3% average annual growth for the fleet compared to 16% increase in cargo volume between 1970 and 1980 (Kim, 1992).

¹⁶ Thanopoulou et al. (1999) reports a reduction from 70 to 20

¹⁷ Family-owned business conglomerates.

The lack of financial prudence and appropriate managerial governance combined with high amounts of foreign denominated debt should prove disastrous only a few years later when the pegged Korean Won depreciated massively during the Asian financial crisis (OECD, 1999).

3.2.3 Corruption

The level of corruption in Korea's public and private sector has declined significantly since the country changed from military dictatorship to democratic rule in 1987 (Kalinowski, 2016) but continues to trouble the country's affairs (OECD, 2016; Schopf, 2012). Since 1987, every Korean president or a family member of theirs has been trialled on corruption charges (Choe, 2017; Schopf, 2012), indicating that the practice has systemic character (Yun, 2013). Consequently, the distrust of Korea's government has far surpassed G7 and OECD averages which "can have a negative impact on the effectiveness of public policies and on compliance with rules and regulations" (OECD, 2016, p. 26). Today, the remnants of an authoritarian past (Kalinowski, 2016) as well as blood, regional and school ties are still key elements in holding Korean society together (Son, 2015).

Personal networks are a common feature of Korean society and are especially problematic once they include members of both the public and the private sector as they can easily lead to collusion and corruption (Kalinowski, 2016). The network of personal connections is also referred to as *inmaek* and draws parallels to *guanxi* in China (Brown & Brown, 2006). The networks are formed early on in schools and universities and play a crucial role in promoting personal or in-group interests "at the cost of the public good" (Son, 2015, p. 1010). Nepotism has become commonplace, in both politics and the economy, and seamlessly links the public with the private sector. Moreover, a strong hierarchical social setup combined with paternalistically dominated organisations/institutions have led to a reduced sense of accountability as much as they undermine attempts to produce greater transparency in governance (Kalinowski, 2016).

Korea's major political parties draw their power from a few distinct regions where "official political ideologies or policies of the parties matter relatively less" (Son, 2015, p. 1010) compared to the interests of the networks the politicians are part of. As a result, the trust of the general public in the political system and public institutions has eroded over time (OECD, 2016; Son, 2015).

Lastly, in Korea a small number of *chaebols* yields immense economic power which poses "the greatest challenge for a more transparent society and a better governance system" (Kalinowski, 2016, p. 641). These *chaebols* are managed by family-oriented networks which display all the features or ties associated with the Korean society at large (Yun, 2013). Not only are Korea's weak institutions unable to efficiently curb corruption due to a lack of resources and capacity (Yun, 2013) but the social status enjoyed by *chaebol* managers appears to go beyond their economic status and seems to extend into the governmental domain as well (Choi, Kang, Kim, Lee, & Park, 2016). It is even suggested that there is a judicial bias towards large business groups that increases with the economic importance of

the chaebol to Korea's GDP and which has arguably resulted in few convictions and lenient sentences for top-managers despite heavy allegations of corruption (Choi et al., 2016). As long as this concentration of economic power remains unchanged, it can be assumed that business executives will rather utilise economic resources at their disposal to gain assistance from the state than engage in fair competition (Kalinowski, 2016).

In the past, these chaebols have assumed nearly exclusive power in Korea's economy, aided by preferential treatment by the state (Kim, 1992). However, as the nation developed and became more and more embedded into world trade, the Korean government had to make concessions and began to level the playing field towards greater competition with foreign businesses (WTO, 1996).

3.2.4 Deregulation, Liberalisation and the Asian Financial Crisis

The 1990s were a period of deregulation and liberalisation for the Korean maritime sector (WTO, 1996). From 1989 on, foreign carriers were permitted to establish branches in Korea and were given the option to directly invest in complementary services, e.g. freight forwarding four years later (WTO, 1996). Further protective measures such as the waiver system for liner shipping and the cargo reservation system were repealed in 1995 and 1999 respectively, giving foreign parties virtually full access to the Korean shipping market (Lee, 1999; WTO, 1996). The licensing system, which the Korean government used to designate shipping routes to carriers, was eventually changed to a registration system in 1996 (Lee, 1999). The liberalisation process of the Korean maritime sector was partly in preparation to the country's finalised OECD membership in 1996, denying the government to "support the industry with protective policies and distorted market mechanisms" (Lee, 1999, p. 318).

Similar to many other sector of the Korean economy¹⁸, the Asian financial crisis considerably impacted the nation's maritime shipping industry (Lee, 1999; Yang, 2014). Many chaebols were highly debt-ridden due to their unbalanced business practices and have been blamed publicly for the disastrous state of the Korean economy. In return for emergency loans from the IMF, Korea was required to submit to an extensive process of economic restructuring, thereby further advancing the deregulation process that had already been initiated (Ahn, 2001; Park H.-J., 2016). For instance, foreign direct investment as well as foreign acquisitions and mergers of Korean enterprises became an opportunity by 1998 (Lee, 1999). Combined with the steps already undertaken, these measures allowed for significantly more competition in the maritime sector.

Chaebols had to reduce their debt-to-equity ratio to below 200% based on strict governmental guidelines by 1999 (Lee, 1999). Compliance would be monitored rigorously by the financial authorities and the chaebols' main creditor banks. Unfortunately, due to the financial nature of the shipping industry, a lack of readily available funds was a serious problem for a range of Korean shipping companies. Since asset re-evaluation was not an option and cross-

¹⁸ See also IMF (Asian Financial crises: Origins, implications and solutions, 2001).

subsidiary debt guarantees were soon to be prohibited, assets sales or other ways of attracting foreign capital were the only way to address this problem (Lee, 1999). Consequently, several Korean carriers were instructed to sell parts of their fleet to improve their balance sheets (Lee, 1999; Yang, 2014). Companies that failed to comply with these guidelines had to expect being declared bankrupt and being put on a receivers' list (Lee, 1999).

The government-led big deals or business swaps were a second important aspect of the reform program and had a positive effect on the Korean carriers (Lee, 1999). The top five chaebols¹⁹ would participate in series of deals that redistributed certain business such as car production, semiconductor production and ship engine production, oil refinery, etc. among themselves which would lead to a greater industry concentration (Lee, 1999; Schopf, 2011). These swaps compelled chaebols to concentrate their operational efforts on core businesses and the newly found focus on core competences has empowered the concerned carriers to further develop their shipping business (Lee, 1999).

The measures taken by the Korean government appear to have had a positive effect (Yang, 2014) as GDP growth rebounded and trade continued to grow until 2008 although at a reduced rate than compared to the time before the crisis (Whang & Kim, 2017). The Korean merchant fleet nearly doubled in gross tonnage and number of vessels (Yang, 2014) and Korea became increasingly more embedded in the global economy as its Liner Shipping Connectivity Index (LSCI) continued to rise, placing it 3rd by 2016 (UNCTAD, 2017). The LSCI consists of five different components and reflects a country's connectivity/embeddedness in the global liner shipping network (UNCTAD, 2016). For that reason, the financial crisis of 2008 and the ensuing global recession should prove challenging for shipping lines all over the world, including Korea's (Notteboom & Rodrigue, 2009).

Korea's continued linkage to world trade is ensured almost exclusively through its ports as the country currently does not control any land connection to the rest of the Asian continent which makes it effectively an island (Song & Lee, 2016).

3.2.5 Port Governance

Since the introduction of Korea's export-oriented trading policy in the 1960's its ports have functioned as strategic gateways for import and exports and facilitated the nation's economic development (Jung, 2011). The ports have become essential nodes for the trade routes between Asia and the US/Americas, Asia and Europe as well as the growing intra-Asian trade (Yeo et al., 2008; Wang & Cullinane, 2014). Over the last few decades, export volumes increased rapidly which went hand in hand with the growth of import volumes respectively. Handling these mounting cargo streams successfully has thus been a key point in Korea's port development policy (Song & Lee, 2016). Moreover, the Far East has been subject to tremendous economic activity since the late 1990's which puts Korean ports in a special

¹⁹ Hyundai was part of this group while Hanjin ranked 6th and was not included due to sufficient equity from its partnership with DSR (Lee, 1999).

position (Yeo & Cho, 2007). As a result of their relative proximity to other important trading ports, such as Shanghai, Hong Kong, Singapore and Yokohama (see Figure 3), there is a fierce inter-port competition (Yeo et al., 2008) that decisively influences port development and expansion plans (Wang & Cullinane, 2014). On the other hand, simultaneous inter-port cooperation, to maximise profits, becomes just as important (Yeo & Cho, 2007).

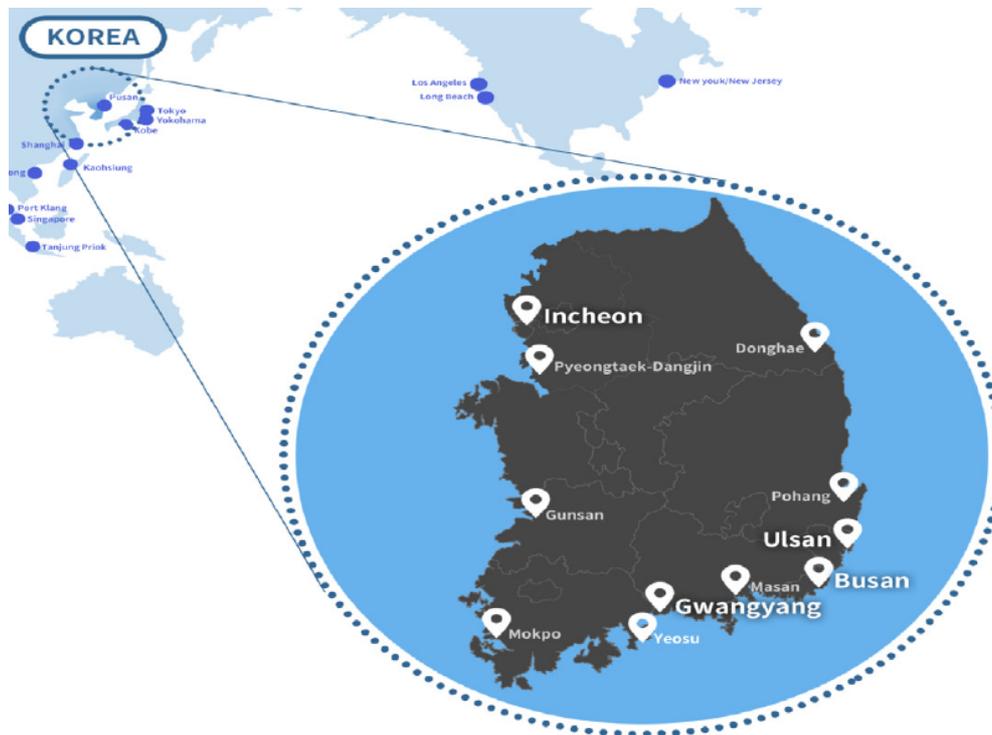


Figure 3. Geographical Location of and Major Ports in Korea.
Source: Song & Lee (2016, p. 2).

It is generally accepted that the port industry is exceedingly capital-intensive (Cullinane & Song, 2003; Lee, 1999; Meersman et al., 2009; Song & Lee, 2016) and containerisation, as well as other technological advancements, have reinforced this trend additionally (Jung, 2011). Until the Asian financial crisis, private or foreign direct investment (FDI) in the sector has been impossible and ports and terminals were collectively planned, run and developed by government institutions which would also carry the associated substantial financial burden (Lee, 1999). Similar to the marine shipping sector at large, the port sector experienced a great deal of liberalisation, permitting both private and foreign container terminal operators (CTOs) to lease Korean infrastructure from 1998. This course of action would allow for greater competition but also the possibility of cost sharing between the public and the private sector (Lee, 1999; Song & Lee, 2016).

The country's major container ports in Busan, Incheon and Gwangyang, are special compared to other ports in Korea in regard to their regulatory oversight which is managed

partly by the Ministry of Oceans and Fisheries (MOF) and partly by individual port authorities (PAs). The respective entities are half-public, half-private corporations which receive financial governmental support and see to their port's administration and development while private CTOs manage the operational site. In this regard, port development includes both terminals and the vast logistics parks that are connected to them (Song & Lee, 2016). Introducing privatisation to the port sector was done in an attempt to achieve greater efficiency and improved performance based on a more competitively motivated management approach (Cullinane & Song, 2003; Yeo, 2015). The respective PA receives an income from leasing out the container terminals and facilities to private and foreign operators as the land is owned by the port authorities while the private half of the PA is tasked with attracting greater cargo volumes from domestic and foreign sources (Song & Lee, 2016).

Owing to their strategic economic importance, the government presented development plans for the ports of Busan and Gwangyang already in the late 1990s, in order to boost domestic port competitiveness (Lee, 1999) with the aim of developing them into regional logistics hubs for North-East Asia (Yeo et al., 2008). This decision was important as it was believed that failure to continue to develop the ports would inevitably result in a declining degree of competitiveness that would lead to the ports' eventual demotion to basic feeder ports in the region's hub and spoke system (Chang, Lee, & Tongzon, 2008). In order to not be left behind in this cut-throat environment, Korea's government decided to act (Song & Lee, 2016). The development of hub-ports, and thus Busan as well, is fuelled by "[i]ncreasing ship sizes, the existence of strategic alliances and other collaborative arrangements, as well as the greater industrial concentration of the liner shipping sector" and "[a]s a result, container traffic has become increasingly consolidated into hub ports and the shipping lanes which connect them" (Wang & Cullinane, 2014, p. 152). In context to the Korean shipping industry it should be mentioned that both HJS and HMM, the country's leading national carriers and alliance members, operated their own terminals in the nation's major ports (Seo & Park, 2016).

The enormous capital requirements for both projects led the government to co-finance the step-wise expansions with private sector investors, both domestic and foreign (Lee, 1999). Once finished in 2020, Busan and Busan New Port will have a combined capacity of 60 berths with a projected container throughput of more than 25 million TEUs per year (Song & Lee, 2016). At present, Busan is by far the most important port for Korea, handling about 19.5 million TEUs or 75.8% of the total container cargos in 2015. Although international, both Incheon and Gwangyang, generally only assume a complimentary or assistant role for the country's main port in Busan (Song & Lee, 2016). In order to deal with the cut-throat competition in the international port market, Busan has lobbied intensively to attract a greater rate of transshipments which approached 50% of its container throughput in recent years (Yang, 2014). Moreover, Busan has also undertaken direct investments in smaller Chinese ports in order to get feeder cargo from them to further strengthen its hub port status (Lam & Yap, 2011).

According to Seo and Park (2016), the government-aided expansions have also created major problems for Korean ports, further highlighted by Chang et al. (2012) who noted that the Korean administration had overinvested in its port development projects. The extension plans were based on forecasted cargo volume developments that were far too optimistic and have led to unprecedented overcapacity (Seo & Park, 2016). As real cargo streams increased far slower than anticipated, the addition of terminal facilities has created an imbalance between demand and supply in Busan which left CTOs struggling to attract sufficient freight traffic. As a result, handling charges per TEU in Busan dropped significantly below international levels and were approaching the break-even point (Seo & Park, 2016). Giving rise to excessive intra-port competition, the actual danger of this pricing strategy is that although it might attract new customers, it is likely to fail in recovering the high initial investment costs in the long-run, which in turn might lead the port in question eventually to its own extinction (Haralambides, 2002). The financial status of CTOs has been further threatened by M&As in the liner shipping industry that have resulted in greater bargaining power for carriers, strategic alliances between container shipping lines and their own cargo handling policies and a range of new entrances in the CTO market (Seo & Park, 2016). It was also the described shortfall of projected, compared to actual, container traffic that stopped further expansions of Gwangyang port (Song & Lee, 2016).

Shipbuilding plays an essential role in the relationship between carriers and ports (Stopford, 2009). In their pursuit to reduce unit costs, CSLs steadily order bigger vessels which in turn have to be accommodated by the corresponding infrastructure (Seo & Park, 2016).

3.2.6 Shipyards

In the last decades, shipbuilding has become more and more concentrated in Asia, with China and Korea as the undisputed industry leaders, followed by Japan on third place (Shin & Lim, 2014) manufacturing collectively 91.4% of the world's gross tonnage in 2015 (UNCTAD, 2016). China and Korea each secured slightly more than a third²⁰ of the world shipbuilding market by 2010 but it is noteworthy that there were significant production asymmetries between the two frontrunners. While China focused more on the production of bulk carriers, Korea's shipyards produced nearly 60% of the world's supply of container ships and 80% of LNG tankers by dwt (OECD, 2014; UNCTAD, 2016). Production is largely concentrated around three major manufacturers that produce almost 60% of Korea's output and until 2013, the shipbuilding sector had regularly contributed 4-6% to the country's exports²¹ and a little less than 2% to GDP (OECD, 2014). Many Korean shipbuilding companies, and especially the largest ones, are part of chaebols and it is not uncommon that the big liner companies also produce their own ships through the network of affiliated companies within their respective conglomerates (UNCTAD, 2011).

²⁰ China 36%, Korea 34%, UNCTAD (2016).

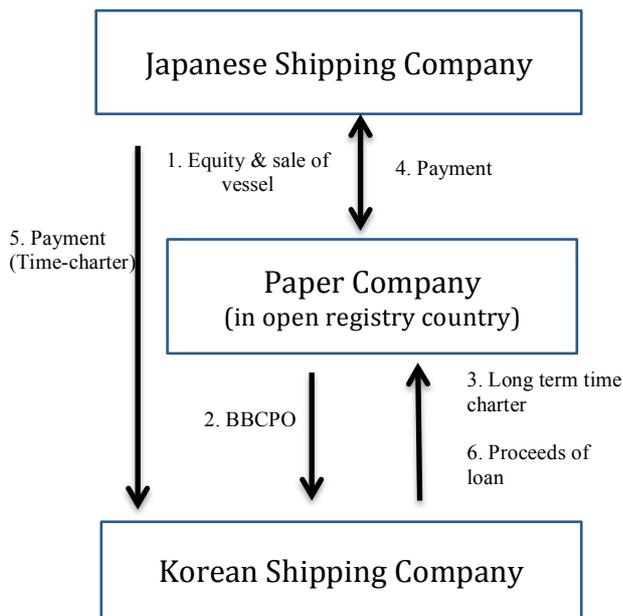
²¹ By value and completion of vessel, OECD (2014).

The international rise of Korea's shipyards can be attributed to a number of factors (Lee, 1999; Yang, 2014). Firstly, the yards have benefited from Korea's aggressive governmental shipping aid policy, dating several decades back (Shin & Lim, 2014; Yang, 2014). The government supplied financial assistance for ship construction since 1975 and additionally founded a shipping finance company in 2002. As part of these measures, Korea's government provides its domestic industry with a variety of fiscal incentives aimed at the simplification of doing business and to relieve the sector of some of its potential financial burdens (Yang, 2014). Partly due to these measures, the industry was able to expand capacities at an accelerated pace in the last decades and Korean shipbuilders have continuously aimed for a greater world-market share (Lee, 1999; OECD, 2014; Shin & Lim, 2014). A downside of this rapid expansion, however, is that it will in times of economic downturn, eventually lead to overcapacity that will lower the ship prices that can be charged (see Figure 5) (Shin & Lim, 2014).

In 1999, Lee argued that Korean yards were predominantly able to underbid their competitors by building ships below costs. 15 years later, the OECD (2014) ascertained that the average value per vessel had gone well above those of Korea's main competitors China and Japan, additionally pointing out that only German and Italian shipbuilders had charged more. The OECD (2014) also remarked somewhat critically on the active role the government had taken on restructuring the maritime sector in recent years in order to ensure its continued competitiveness. Two state-run export credit agencies provide significant monetary funds to shipbuilders via lending, guarantees and insurances. These policies pose a sizable amount of "government exposure to the industry, via ownership and export credit policies" (OECD, 2014, p. 5) that could become problematic in case industry performance should take a turn for the worse.

In Korea, bareboat charter with purchase option (BBCPO, 40.3% in 2011 for the whole maritime industry) and capital investment by loans from banks (30.9%) are the most common measures for financing vessels (Yang, 2014). However, leasing via a ship investment company (6.8%) and loans for planned shipbuilding (2.7%) are also possible. BBCPO was initiated in 1965 between Korea and Japan and was one of the driving forces behind Korea's merchant fleet expansion in the 1960s and 1970s (Lee, 1993). In this arrangement (see Figure 4)²², a Korean shipping company chartered a vessel under a BBCPO contract from an affiliate to a Japanese shipping company with the condition of a long-term charter (of the same vessel) back to the Japanese shipping company, i.e. the Japanese company chartered back its vessel with a Korean crew. The Korean shipping company generates a profit when the revenue of the time charter is higher than the labour costs of the crew. With the profit, the Korean shipping company makes payments to the ship and the ownership is transferred when sufficient capital is accumulated.

²² Figure 4 displays exemplary relationships between chartering parties. Japanese companies have over time been replaced with other actors (Kim, J.-w., 2015).



1. Japanese shipping company transfers title to its affiliate (vessel becomes registered under a flag of convenience country)
2. Affiliate charters the vessel to the Korean shipping company under the condition of (long-term) charter with the Japanese shipping company
3. The Korean shipping company charters the vessel with crew
→Both bareboat and time charter have been established
4. The affiliate distributes the payments from the Korean shipping company to the Japanese shipping company
5. The Japanese shipping company makes periodical payments for the time charter
6. The Korean shipping company makes installments to procure the vessel until ownership is transferred

Figure 4. Arrangement of BBCPO.
Source: Adapted from Lee (1993, p. n.a.).

Over the years, a weak currency has proven to be a competitive asset to the export of ships made in Korea (Eich-Born & Hassink, 2005; Lee, 1999). Nearly all sales payments are made in US Dollars while about two thirds of all expenses are balanced in Korean Won (Lee, 1999). Uncertainty about the foreign exchange development of the Korean currency is said to be a decisive factor for sales forecasts and pricing practices of the Korean shipbuilding industry (Lee, 1999).

Lee (2013) outlined the traditional cycle of the shipbuilding industry which is claimed to repeat itself every nine to 15 years (see Figure 5). As such, the industry is less prone to react instantly to changes in the general economic environment but will display them with some delay instead.



Figure 5. Traditional Shipbuilding Business Cycle.
Source: Lee (2013, p. 336).

Due to the nature of shipbuilding, the financial crises of 1997 and 2008 did not have an immediate effect on the shipbuilding sector (Lee, 1999; OECD, 2014). In both instances the order books of many Korean yards were still full when the economic downturn hit most other industries, as ship manufacturing can take several years until a vessel's completion (Lee, 1999; OECD, 2014). Especially the financial crisis of 2008 has affected the Korean shipbuilding industry to different extents (Lee, 2013). Larger shipyards were able to stay competitive by building ever larger ships and were also capable to diversify their production portfolio towards specially designed vessels and ocean-going structures. Smaller shipyards on the other hand have lacked behind in these areas and had to deal with mounting competition from China as well as business size-specific financial hurdles that hampered their commercial activities (Lee, 2013; OECD, 2014). In particular, receiving shipbuilding loans was more difficult due to worse credit ratings than larger companies in the industry had (Lee, 2013).

A report from the OECD (2014) regarding Korea's shipbuilding industry showed that after 2008, contract terminations have been a serious problem in particular for Korean small and medium-sized shipyards of which many have faltered and been litigated since then. Shipbuilders increasingly started to experience liquidity problems from cancelled or postponed orders. They were neither unable to receive the associated advance payments from sales nor obtain new loans, as the issuance of new ones had been completely suspended. A new government program²³ was initiated in 2009 to address the shrinking ship financing market that contracted in a similar manner as financial markets around the globe. Financial support was given to struggling yards in order to bridge cash-flow gaps while a minority of companies received assistance for either transforming or ceasing their business activities. However, industry profitability is low and several companies face unsustainable debt levels. Major shipbuilders including Hyundai and Hanjin, have been placed under supervision from the Korean Financial Supervisory Service while agencies related to the government have pursued a course of increased ownership in other companies of the sector due to their poor financial performance. Government exposure has increased additionally deriving from a significant volume of export guarantees.

Lastly, it should be pointed out that the majority of Korean shipbuilding companies is not publicly traded and one side-effect is that financial data is not readily available to give comprehensive insight to the industry's economic condition (OECD, 2014). It is possible to get a glimpse on how the sector is doing from information of the few listed companies but not possible to draw general conclusions for the entire industry. The profitability of Korean shipbuilders differs significantly from company to company but the level of indebtedness has soared to new heights after 2008 with an increasing focus on short-term debt (50% in 2012) (OECD, 2014). Similar conditions can be attributed to the situation of Korea's main CSLs (Lee J., 2016a) but it helps to understand how they get there by addressing their past.

²³ Shipbuilding Industry Restructuring and Competitiveness Reinforcement Plan, OECD (2014).

3.2.7 Container Shipping Lines

Korean container carriers slowly emerged in the 1970's as a low-cost alternative to established consortia (Thanopoulou et al., 1999). Many Korean liners initially took either an opportunistic or opposing stance towards conferences and later consortia but remained largely independent. However, attitudes have changed in times of progressing globalisation. An increasing cost pressure from progressing containerisation and the necessity to expand their reach to a global level in order to stay competitive resulted in many Korean companies seeking to distribute their financial burden through other forms of cooperation (Thanopoulou et al., 1999).

In the mid-1990s, global alliances and M&As were the response to these developments and aided Korean shipping companies to gain access to a growing range of markets around the world than they could have served independently (Slack, 2004). Alliance partners were generally chosen in a complementary fashion, i.e. in a way that would e.g. maximise market presence, generate savings from potential economies of scale and would aid in achieving a number of other operational objectives (Panayides & Wiedmer, 2011; Thanopoulou et al., 1999). Among Korean carriers, particularly HJS, Hyundai Merchant Marine (HMM), and Cho Yang, emerged as major industry players as they were able to enlarge their service networks substantially with the support of their respective alliance partners during this time (Slack, 2004). Slack (2004) also argued that the increase in market coverage was possible as members contributed their largest vessels to alliance services and were, in turn, able to dispatch other ships to lesser markets such as South America and Africa (Panayides & Wiedmer, 2011). Subsequently, alliance membership also required carriers to harmonise and realign their service portfolio (Slack, 2004). That meant among other things that the offered services became more uniform between carriers and liners had to decide which ports to call in the future and which ones to drop. Although the majority of retained alliance ports had already been served by HJS, HMM and Cho Yang, all three carriers were able to expand their destination portfolio significantly during the period of 1994 – 1999 (Slack, 2004).

This growth period should continue in lockstep with the unprecedented expansion of the world economy until the financial crisis in 2008 (Panayides & Wiedmer, 2011). In fact, it is suggested that it was alliance membership that encouraged the disproportionate capacity increase that led to the employment of ever larger vessels in the growing fleets among alliance partners (Lu et al., 2006; Panayides & Wiedmer, 2011). The early years of the new millennium saw a period of modest global growth with a slowdown on the East-West link (UNCTAD, 2002). HJS started to fill the gap left by Cho Yang, lifting some of its cargo (UNCTAD, 2002), while HMM still struggled financially with the aftermath of the Asian financial crisis (Lee et al., 2012). From 2005, the newly introduced tonnage tax²⁴ (Yang, 2014) aided Korean carriers to reduce their operational burden and had a positive effect on their bottom-line earnings (Lee et al., 2012).

²⁴ Fleet net tonnage becomes subject to taxation instead of carrier's operating profits (PwC, 2015).

Parallel to international developments, changing government policy in the late 1980's and particular 1990's influenced Korean container liner shipping companies in their home market as well. The Korean liner shipping market was assumed to be under constant threat of new entrants, foreign or domestic, and, therefore, Korean shipping companies were said to have operated at minimum average costs which made them effectively price-takers (Ha & Seo, 2013). As such, Korean carriers were virtually without any noteworthy market power and freight rates were generally set for them by global shipping companies and could potentially rise above or fall below the aforementioned average shipping costs. Ha and Seo (2013) linked this development to the progressing deregulation and liberalisation of the Korean shipping sector which effectively led to a shrinking degree of market concentration. Particularly, the rationalisation plan and the mandatory debt restructuring for Korean carriers after the Asian financial crisis have decisively influenced the situation and as a result the competition between Korean operators intensified. However, HMM and HJS overwhelmingly dominated the group of Korean liner shipping companies, presiding over a combined market share²⁵ of 46% by 2004 while the rest of the market appeared to be highly fragmented. All shippers, except HJS, had seen their market shares decline until 2004 and many, including Cho Yang, had left the industry entirely by then (Ha & Seo, 2013). This development stands in clear contrast to the global shipping industry (Ha & Seo, 2013) which has followed a course towards greater concentration, making the market structure increasingly oligopolistic (Panayides & Wiedmer, 2011; Sys, 2009).

The world economic crisis in 2008 left its marks on the Korean liner shipping industry as well. The progressing global recession led to a collapse of shipping demand and the associated combination of freight rate decline, oil price increase and overcapacity created serious challenges for Korean companies (Ha & Seo, 2013). Compared to the shrinking global decline of trade volumes, especially China, which had been Korea's biggest trading partner, both in terms of imports and exports, slowed down significantly, reducing its economic expansion from 14.2% in 2007 to just 7.7% in 2013 (Batra, 2014). The alliances reacted at first by adjusting their capacity deployment strategies by reducing their number of services, vessel lay-ups and shifting capacity from trans-Pacific primarily to Europe-Asia routes (Notteboom & Rodrigue, 2009; Panayides & Wiedmer, 2011). Both the New World Alliance (HMM) and CKHY (HJS) cut their combined capacity by a quarter while Senator Lines, which was affiliated with HJS, went completely out of business (Notteboom & Rodrigue, 2009). In line with many other major shipping lines both HMM and HJS experienced a severe liquidity crisis (Lee J., 2016a) which was caused for the latter by operating losses worth 1.1 billion USD in 2009 (Hoffmann, 2010). However, world trade grew only sluggishly and the post-crisis years also saw a considerable amount of capacity increases for Korean shippers, despite low freight rates, thereby exacerbating the existing overcapacity problem (Batra, 2014). What is more, in spite of optimistic expansion plans in

²⁵ Disclaimer: Market share by revenue. As mentioned in shipbuilding chapter, many chaebols do not publish their financial results unless they are publicly traded which is likely to provide a skewed picture of the economic realities.

the terminal operating sector, Korea's main carrier HJS should continue to struggle in the years to come (UNCTAD, 2014; 2016).

3.3 Hanjin Shipping

HJS' collapse in August 2016 created turmoil in the container shipping market, forcing other liner firms to take over its supply which affected freight rates and it "is expected to lead to further restructuring in the shipping market" (Kuo et al., 2017, p. 357). Furthermore, Ryan (2016) argues the bankruptcy of HJS had an impact on the global value chain and could have "profoundly deleterious effects for an economy, a government and a way of life" (p. 2). Obviously there have not been any published in-depth-studies about the collapse but the available literature about HJS might show if there have been any indications that raise concern for the company's well-being.

There are several studies that have included HJS, with most of them addressing the effects of being an alliance member (Ferrari et al., 2008; Lu et al., 2006; Panayides & Wiedmer, 2011; Soppé et al., 2009), as well as operational (Bang et al., 2012; Ducruet & Nottenboom, 2015; Gadhia et al., 2011; Kannan, Bose, & Kannan, 2012) and financial performance (Baird, 2015; Bang et al., 2012; Lee et al., 2012). However, academic research about HJS based solely on a microeconomic level is, to the writers' knowledge, non-existent with the exemption of the case study by Thanopoulou et al. (1999).

HJS was established in the late 1970s in response to Korea's rapidly growing economy and was able to promptly increase its fleet thanks to Korean shipyards and subsidies (Slack et al., 2002). The carrier later differentiated itself from other shipping companies by having an "anti-conference and anti-consortia attitude" (Thanopoulou et al., 1999, p. 220). For instance, after HJS' acquisition of state-owned Korea Shipping Corporation (KSC) in 1988, its membership in the ACE Consortium was terminated. HJS' main concern about being a member in a conference/consortium was related to the risk of slow decision-making and overall inflexibility. This strategy of independence was very successful in the beginning and was possible as the Korean liner shipping industry was considered to be a low-cost fleet in the 1970s and 1980s.

In 1996, HJS decided to enter the United Alliance with DSR-Senator and, Korea's third main carrier at the time, Cho Yang (Thanopoulou et al., 1999). This allowed for an increased service frequency and improved market coverage which aided the shipper in realising its ambitions to become one of the leading ocean carriers. One year after the formation of the alliance, HJS acquired 75% of DSR-Senator and the shipper reaped significant benefits from the acquisition as the capabilities and knowledge of both CSLs were largely complementary. HJS gained important knowhow in the trans-Atlantic, the North/South and the Mediterranean trades whereas its own strength lied in in the East-West and intra-Asia trade. Along with its growth, HJS lost its previous cost advantage and the authors argue that shipping companies from China, e.g. COSCO, would increase their market shares on the behalf of the now more

expensive Korean firms. Thanopoulou et al. (1999) argued that the emergence of new low cost operators would force HJS to form alliances with other carriers in order to survive in the container industry since economies of scale of large vessels and managerial strategies can only help to a certain point.

CKYH, together with the Grand Alliance and the New World Alliance were the three major global strategic alliances in the beginning of the 21st century (Panayides & Wiedmer, 2011). The primary reasons for the formation of CKYH were to increase the service level based on coverage and frequency (Lu et al., 2006). However, CKYH's capacity was the most concentrated of the three alliances (Ferrari et al., 2008) and primarily focused on trades between Asia and the US West Coast (OECD, 2015). Panayides and Wiedmer (2011) argue that CKYH, as the youngest alliance, was able to react faster to market changes than the other two by introducing new routes or discontinuing unprofitable ones. Moreover, as the members of CKYH had similar organisational structures and cultures, including that the three other carriers had already been part of an alliance since 1996, indicated a positive outlook for the alliance (Lu et al., 2006). The cooperation within the alliance was also extended to port operations, where the members often used each other's facilities rather than ones owned by an external partner (Soppé et al., 2009). In general, CKYH preferred to utilise few selected external TOCs such as HPH and PSA.

The dominating member within CKYH was HJS, both in terms of number of vessels and capacity (TEU) (Lu et al., 2006; Panayides & Wiedmer, 2011) and 60% of HJS' vessel fleet were dedicated to the alliance (Panayides & Wiedmer, 2011). HJS' affiliation with CKYH increased its services by 143%²⁶ (Ferrari et al., 2008). However, the growth also generated higher coordination costs, e.g. service scheduling and port rotation. Similar to its alliance, HJS' carrying capacity was highly concentrated (Ducruet & Nottenboom, 2015; Ferrari et al., 2008) and very dependent on Korea's export flows (Ducruet & Nottenboom, 2015). HJS services were limited to few regions (Parola & Veenstra, 2008), focusing on the 'Container Belt' (Gadhia et al., 2011). In Asia, its main region, HJS deployed a greater share of carrying capacity in the east (based on data from 2006) with the highest throughput rate in the north east (based on data from 2005), while it did not have any significant presence in the Mediterranean rim (Ferrari et al., 2008). However, its geographically limited network can be justified by its relatively small fleet (Gadhia et al., 2011). HJS' network was relatively concentrated to its home market (Gadhia et al., 2011), indicating that HJS could affect the fleet deployment in this region but was also economically dependent on various terminal operators in these markets (Ferrari et al., 2008). According to Kannan et al. (2012), HJS' services were rated above average but not as high as e.g. Maersk's. Of 23 criteria, shippers were only a bit dissatisfied with HJS' shipment tracking service, whereas HJS had the highest satisfaction rate of e.g. flexibility, equipment availability, communication, and credit facility, among six other carriers. However, it was also pointed out that HJS needed to improve its services to become more competitive.

²⁶ As of February 2006.

HJS provided only minimal logistics and value-added services, and it can be argued that its philosophy was “an ocean carrier is first and foremost and ocean carrier” (Baird, 2015, p. 186). Moreover, compared to the pioneer Maersk Line, HJS did not display the same degree of balance between port network and distribution of carrying capacity (Ferrari et al., 2008). However, HJS was relative independent in the stevedoring market as it used its own facilities to quite a high extent (26% of its weekly containerised transport capacity based on data from 2006) rather than relying on external parties (Soppé et al., 2009). In line with other Asian shipping lines, HJS made investments in major ports along the US west coast rather than in ports in South-East Asian countries due to socio-cultural differences, regulations and political obstacles in these nations (Ferrari et al., 2008), which is why HJS mostly focused on vertical integration of port operations in Korea in the Asian region (Soppé et al., 2009). HJS limited its investments in these port projects to only hold a minority stake (OECD, 2015).

Lee, Lin and Shin (2012) compared the financial performances of two Korean (HJS and HMM) and two Taiwanese (Evergreen and Yang Ming) ocean carriers between 1999 and 2009 and found that the Korean companies had poorer performance than the Taiwanese firms. Moreover, the Korean firms had much higher debt-to-equity ratios compared to the Taiwanese firms until 2006 when the differences between the carriers became nearly non-existing. The authors argue that the two Korean firms lagged behind the Taiwanese companies due to the aftermath of the Korean financial crisis in 1997. During that time, HJS had a shortage of operational funds and had to sell off 29 of its container vessels²⁷ in order to improve its liquidity and to comply with new government demands (Lee, 1999). However, to enable the carrier to keep the same service level, the vessels were mostly sold under the condition that HJS could charter them back. HJS had a relative good stance in the beginning of the studied period but its results deteriorated to having the worst performance of the four companies in 2009 (Lee et al., 2012).

HJS has also been struggling since the most recent financial crisis as many other shipping lines (Lee et al., 2012). Based on a study on shipping companies' performances in 2008, HJS had a relatively good financial efficiency (financial leverage and liquidity excluded) but had less operational efficiency, implying that the firm needed to enhance its operational strategy for example by a better resource utilisation (Bang et al., 2012). Except from the year 2009, HJS has had a better performance than HMM, which could be explained by its implementation of a relatively better restructuring approach, i.e. selling vessels, to lower its debt-to-equity ratio (Lee et al., 2012). In 2010, HJS' fleet was (still) chartered to a higher extent than for many other shipping lines; 80% compared to the average of 59.77% (Panayides & Wiedmer, 2011).

The Korean carrier has been struggling for several years, e.g. its total debt increased from KRW 195 billion in the fourth quarter of 2012 to KRW 440 billion in the first quarter of 2014 (Batra, 2014) and it was announced that HJS planned to discontinue its services in the trans-Atlantic region in order to terminate unprofitable activities in 2014 (AlixPartners, 2014).

²⁷ As well as 2 Panamax and 1 compact bulk carrier

Similar to many other carriers (AlixPartners, 2012), HJS did also try to increase its market share by increasing its container fleet despite its heavy debt burden (Batra, 2014). Furthermore, a new alliance, Ocean Alliance, was announced in April 2016 and will come into force in April 2017 (Lee & Song, 2017). Since COSCO and Evergreen (together with CMA CGM and OOCL will join this alliance, Lee and Song (2017) argue that it would bring an end to the CKYHE alliance and they express their doubts that HJS would be able to join any of the other main alliances due to its poor financial situation. It could be argued that to improve its financial performance HJS would need governmental support²⁸ (Lee et al., 2012).

3.4 Summary of Theories

The maritime shipping sector is perhaps one of the most capital-intensive industries in the world and the engine behind globalisation, and has changed significantly over the course of the last decades. The industry offers the potential for substantial commercial success for those that know how to read the signs correctly and vast losses for those that fail to do so. What is more, the sector which appears to have been designed for perpetual growth has continuously produced ever larger vessels in the pursuit of economies of scale, seemingly in tandem with ever larger alliances, eventually resulting in enterprises so enormous that, if allowed to fail, could spell extensive problems for the world economy. The financial crisis nearly 10 years ago exposed the problems of this growth strategy which is largely debt-financed and started to force the shipping industry to reorganise itself. Soaring oil prices, falling freight rates from shrinking shipping demand and continuous overcapacity amplified the already fierce competition in the sector and still the industry changed little, hoping for the next economic up-swing that would turn the tide.

International trade is highly important for Korea, considering that the country is virtually an island state, and as such the maritime shipping industry receives strategic importance, thereby ensuring country's continuous economic prosperity. Although the maritime shipping sector in Korea has been deregulated noticeably in the aftermath of the Asian financial crisis and has adapted to the changes brought upon it in times of progressing globalisation, the state still has a vested interest in the sector's continuous success. Shipbuilding, liner shipping and port operations are fundamentally linked to one another and should receive attention collectively for at least two reasons. Firstly, as has been pointed out, they all have the potential to decisively influence Korea's economic prosperity, considering that Korea is a major shipbuilding nation and home to two of the top 20 carriers and one of the top six busiest ports in the world. Secondly, these sectors are also in the hands of relatively few Korean business entities that form an opaque network with alleged government ties.

HJS' container business was founded in response to Korea's rapid economic growth in the late 1970s and became the country's biggest CSL as well a significant global player over the course of just four decades. The long-term alliance member prospered enormously under the

²⁸ For example, the new tonnage tax system that was implemented in Korea in 2005 helped HJS to improve its financial results.

progressing globalisation and the accompanying increasing trade volume fuelled HJS' rapid expansion as Asia rose to become the factory of the world and a new market for western products. The financial crisis of 2007/2008, however, heralded a period of financial hardship for the carrier for the years to come and is assumed to have ultimately laid the foundation for the CSL's eventual demise.

During the literature review, several criteria (see Table 3) were identified as potentially having causal relationships to the research questions and should aid in answering them. These variables will be used as a foundation for the interview questions and then to form the structure of the results. This list will be then adapted to the analysis based on the findings.

VARIABLES for RQ		Addressed by e.g.
Internal		
Financial	Access to capital	Albertijn et al. 2011; Mitroussi et al., 2016
	Liquidity	Drobetz et al., 2016; Merikas et al., 2011
	Debt-to-equity ratio	Drobetz et al., 2013; Lee et al., 2012; Paun & Topan, 2016
	Type of liabilities	Drobetz et al., 2016
	Type of charter party	Merikas et al., 2011
	Ownership	Kavussanos & Tsouknidis, 2016
Investment	Fleet	Slack et al., 1996
	Vertical integration	Lee & Song, 2010; Panayides et al., 2011; Panayides & Cullinane, 2002
Operational	Network	Ferrari et al., 2008; Soppé et al., 2009
	Alliance membership	Caschili et al., 2014; Ferrari et al., 2008
External		
	Korean economy	Slack et al., 2002; OECD, 2014
	Regulation	Lee, 1999; Yang, 2014
	Governmental involvement	Gong et al., 2013; Lee et al. 2012
	Corruption	Choi et al., 2016; Kalinowski, 2016
	Future threats	Lee & Song, 2017
VARIABLES for SQs		Addressed by e.g.
	Alliance structure	Midoro & Pitto, 2000; Song & Panayides, 2002
	Market consolidation	Panayides & Wiedmer, 2011; Sys, 2009
	Korean economy	Song & Lee, 2016

Table 3. Identified Themes from the Literature Review

4. FINDINGS

A brief introduction of HJS and a timeline are first presented to provide a perspective on how events have unfolded that should impact HJS and to facilitate the reader's understanding of the following sections. After the company background, findings from the interviews are complemented with information from HJS' annual reports and various news articles to provide a comprehensive picture about the issue at hand.

4.1 Contextual Background

HJS, a subsidiary of Hanjin Group, was a Korean carrier established in May 1977 under the name Hanjin Container Lines (Hanjin Shipping, 2017a). The company received the name Hanjin Shipping after a merger with KSC in 1988 and had an ambitious mission to become a global logistics leader (Hanjin Shipping, 2017b). By 2016, HJS presided over 97 container vessels, of which 60 vessels were chartered, (Voynichenko, 2017), 11 dedicated container terminals and 2 logistics centres (Hanjin Shipping, 2016). The carrier's strategy in 2015, based on service routes is displayed in Table 4. HJS operated 74 liner services, connecting over 90 ports in more than 35 countries (Hanjin Shipping, 2016). The highest service frequency was offered within Asia as well as on the trans-Pacific and Asia-Europe trade lanes but the CSL also deployed vessels into the trans-Atlantic trade and Latin America.

Routes	Weekly Service	Deployed Vessels (TEU)	Main Calling Ports (Country)
Trans – Pacific	22	3,000 ~ 10,500	Korea, Japan, China, Taiwan, Hong Kong, Malaysia, Singapore, U.S.A., Canada, etc.
Asia – Europe	14	8,500 ~ 14,00	Korea, Japan, China, Taiwan, Hong Kong, Singapore, India, Netherlands, Germany, U.K., France, Spain, Italy, Greece, etc.
Intra – Asia	33	1,000 ~ 6,500	Korea, Japan, China, Taiwan, Hong Kong, Thailand, Vietnam, Singapore, Indonesia, Malaysia, Philippines, India, Sri Lanka, Pakistan, UAE, India, Egypt, Saudi Arabia, Australia, Kenya, Tanzania, South Africa, etc.
Trans – Atlantic	1	6,500	US, Italy, Spain, Egypt, Saudi Arabia, UAE, etc.
Latin America	4	5,500 ~ 8,500	US., Germany, Netherlands, Brazil, Mexico, Argentina, Uruguay, Peru, etc.

Table 4. HJS' Service Lanes.

Source: Adapted from Hanjin Shipping (2016, p.40)

According to all respondents, HJS had a good reputation in the industry and one of the respondents argued that HJS had the best reputation of the Korean CSLs (Mr A, personal communication, 2017-03-21). The carrier was considered to be one of the best CSLs, as HJS had exemplary service reliability (Mr B, personal communication, 2017-03-21) and provided services that were highly vertically integrated by connecting ocean shipping with air and land transport via its IT system (Mr A, 2017; Mr B, 2017). The focus on vertical integration has also been described in all of HJS' business reports (Hanjin Shipping, 2005-2016). However, HJS had a less developed sales division that was lacking drive and eagerness to attract greater cargo volumes (Mr B, 2017).

HJS wanted to become “a leader in green management” and thereby initiated slow-steaming and super slow-steaming in 2009 (Hanjin Shipping, 2010, p.5) and the CKYH alliance was also called ‘the Green Alliance’ since 2010 (Hanjin Shipping, 2011). Later, the CKYHE alliance was described as a network of cooperation rather than a fair split of each vessel which made it different from other alliances that would typically operate services jointly and split the cost between the partaking carriers (Lund & Holmberg, personal communication, 2017-03-28). Instead, the members of the CKYHE alliance ran a mixture of individual and joint services and cross-marketed them amongst each other. Another characteristic of the alliance was a practice referred to as ‘owner’s merit’, whereby vessel operators held back a certain amount of a single vessel’s capacity that they could use at their own discretion while the rest was made available to the pooled resources of the alliance. Moreover, based on an operational safety decision, some cargoes were restricted to specific carriers within the alliance due to the mutual refusal of taking responsibility for each other’s equipment. This led to the establishment of parallel operational structures within the alliance compared to a single consolidated one. Another specific aspect of the CKYHE, that set it apart from other alliances, was that no mutual fund was required for the alliance (Lund & Holmberg, 2017).

4.1.2 Developments between 2003-2016

2003-2008

The five-year period is characterised by significant growth for HJS and the carrier managed to actively reduce its debt-to-equity ratio from previously more than 600% in 2001 down to 132% in 2007 (Hanjin Shipping, 2004-2009; Lee et al., 2012). Revenues as well as the carrier’s fleet and network continued to expand, and especially China and its rapidly growing economy became an important destination for the CSL, both for the European as well as the American trade lanes.

2008-2009

HJS recognised the first signs of the unfolding mortgage crisis in the US in 2007 and started to prepare itself for worsening conditions such as rising oil prices and fiercer competition between global carriers (see Figure 6, point 1) (Hanjin Shipping, 2008). Over the coming months, the global financial crisis’ effect began to unfold, resulting in world trade contracting by 12% (DSF, 2010a) and the record-breaking losses for the entire shipping industry at an estimated USD 15 billion (Alphaliner, 2010a; Hanjin Shipping, 2010). 2009 also marked the

worst year in HJS' history with a loss of USD 652 million for its container segment and the carrier noted that the recession might become a long-term problem (Hanjin Shipping, 2010).

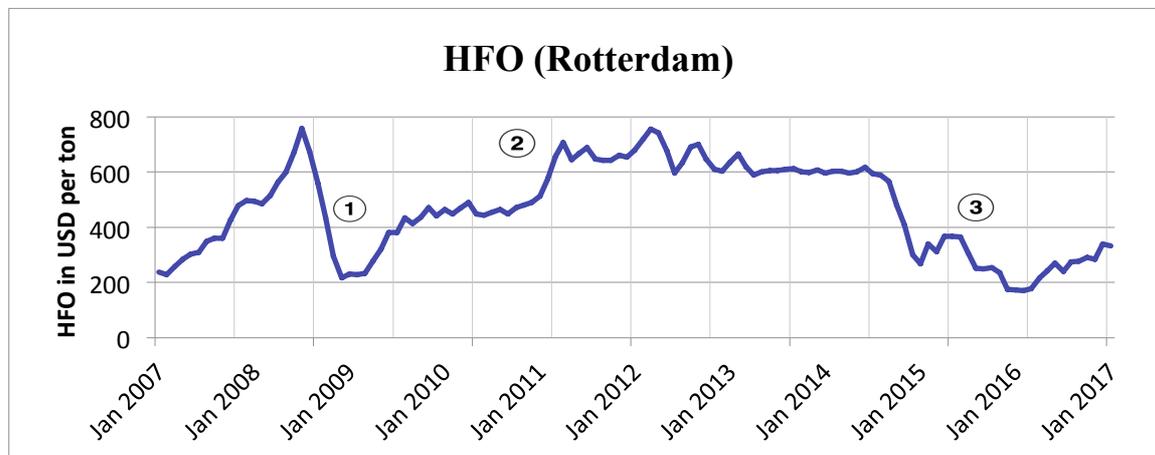


Figure 6. Heavy Fuel Oil Price in USD per Ton, Jan. 2007 to Jan. 2017.
Source: Adapted from Insee (2017, p. n.a).

2010

After initially promising positive developments in container trades during the year (Hanjin Shipping, 2011; Håkansson Säll, personal communication, 2017-03-20), the crisis in the Eurozone started to affect the trade between Asia and Europe, one of the most important sources of revenue for HJS, and the CSL's income in this container segment gradually deteriorated over the next five years from 35% in 2010 to 24% in 2015 in terms of revenue (Hanjin Shipping, 2011-2016). As freight rates fell and oil prices rose, competition became fiercer (Hanjin Shipping, 2012). Additionally, to the stagnating development in the European container trade in 2010 (Hanjin Shipping, 2011), China's economy began to slow down significantly from previously double-digit growth rates to single digits (World Bank, 2017a) and continued to grow at a decelerating pace in the years thereafter (Hanjin Shipping, 2013-14; World Bank, 2017). What is more, a considerable number of mega-vessels that had been ordered before the onset of the crisis were delivered now (Alphaliner, 2010b). Carriers had problems to find employment for them (DSF, 2010b) and the situation of oversupply gradually worsened (DSF, 2010b; Hanjin Shipping, 2011). However, the application of slow-steaming helped the Korean CSL to absorb some of the excess capacity and to reduce the growing potential cost burden from hiking oil prices (Hanjin Shipping, 2011).

2011-2013

In 2011, political unrest in the Middle East and Northern Africa, the continuing Euro crisis as well as the earthquake in Japan dampened shipping demand, increased speculative fuel prices (see Figure 6, point 2) and systemic overcapacity puts the industry under pressure (Hanjin Shipping, 2012). HJS' container business moved from an operating profit of KRW 595

billion²⁹ in 2010 to an operating loss of KRW 550 billion just one year later (Hanjin Shipping, 2011-2012). Vessels exceeding 10,000 TEUs continued to increase the problem of overcapacity on the Asia-Europe trade lanes, yet HJS received five new 13,100 TEU ships in order to “gain a competitive edge” (Hanjin Shipping, 2013, p. 5). The following year, it was this big-vessel deployment that was believed to have prevented a rate restoration (Hanjin Shipping, 2014). In 2013, HJS’ main trade regions still show little economic improvement which highlights the carrier’s shifted focus on cost competitiveness, since 2010, that in turn results in “aggressive service rationalisation, asset sales, cost-cutting measures and voluntary retirement program of staff” (Hanjin Shipping, 2014, p. 4).

2014-2015

2014 seemed to bring a change for the struggling HJS; the carrier’s major trade regions showed signs of recovery, bunker prices fell (see Figure 6, point 3) and the container business made an operating profit for the first time in four years (Hanjin Shipping, 2015-2016). However, the following year, vessel deliveries in the container shipping industry exceeded 1.7 million TEUs and surpassed the previous record from 2008 of about 1.5 million TEUs (Alphaliner, 2017). According to Alphaliner (2017), the segments of 13,300-18,000 TEU and 18,000+ TEU vessels generated a combined share of around 800,000 TEUs (Szakonyi, 2016) which exacerbated the existing oversupply problem and created a downward pressure on freight rates (see Figure 7) (Hanjin Shipping, 2016; Szakonyi, 2016). The large availability of cheap capital has fostered the trend (Mr B, 2017) and is clearly a problem (Hermansson, personal communication, 2017-03-24). During June and October, freight rates for the Asia-North Europe and Asia-Mediterranean trade lanes hit lows at USD 205 per TEU (Shanghai Shipping Exchange, 2015a) and around USD 100 per TEU (Shanghai Shipping Exchange, 2015b), respectively.

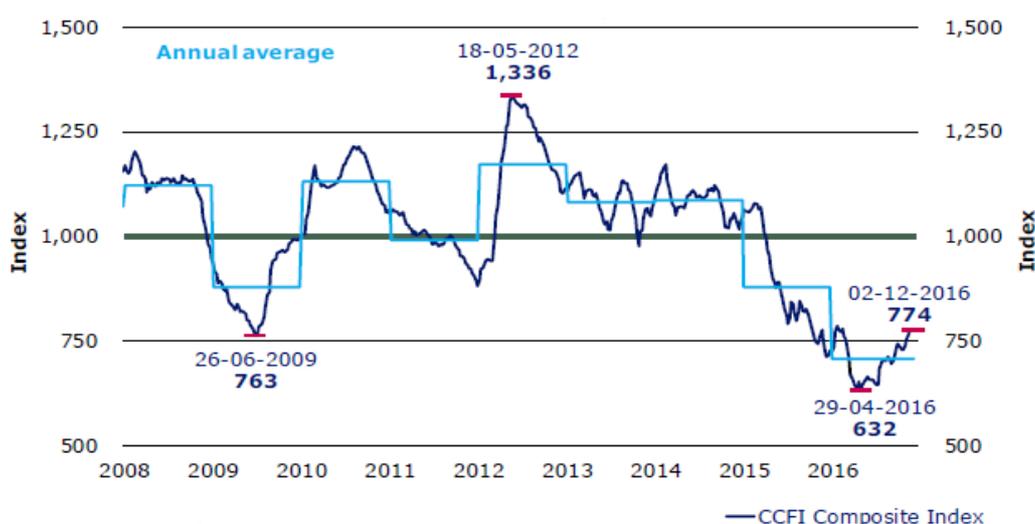


Figure 7. CCFI Composite Index, 2008-2017.
Source: DSF (2016, p.39).

²⁹ Calculated with exchange rate USD to KRW of 1118.7 from 31.12.2010

Over the course of the last 18 months before the collapse of HJS, the carrier (increasingly) displayed signs of financial difficulties and at least one freight forwarder required Yang Ming's agents in Sweden to not load its cargo on HJS vessels which otherwise would have been possible due to slot sharing agreements within the alliance (Lund & Holmberg, 2017). These early signs gave rise to the alliance's gradual disentanglement over the coming months.

2016

HJS held a 7% market share in the trans-Pacific trade (Park K., 2016b), which were the CSL's greatest source of revenue for the last decade (Hanjin Shipping, 2004-2016). In April the freight rates for the US West Coast fall to a low of USD 725 per FEU (Shanghai Shipping Exchange, 2016) which set the starting point in the contract rate negotiations for many exporters (Szakonyi, 2016). In the weak market environment, the ongoing spot rate erosion, which started in late 2015, was now catching up with the contract market (LM, 2016) and several retailers secured rates around USD 750 per FEU (Szakonyi, 2016). Contract rates were typically 2-3 times higher than the now negotiated value that would take effect on May, 1st and last for 12 months (Szakonyi, 2016).

HJS also handed over managerial control to its main creditor, the KDB, in late April which provides an impression of the severity of the financial trouble the carrier was in (Lee S.-y., 2016a; Kim J.-w., 2016). A deal to restructure HJS' massive debt would require full creditor consent and the process towards a deal would be "unlikely to be smooth sailing for Hanjin" (Lee S.-y., 2016a, §7). High charter rates are made out to be a major problem of the mounting debt burden (Kim J.-w., 2016) and in June HJS entered negotiations to secure lower rates from ship-owners for 60 vessels (Park K., 2016c). Seaspans Corp. was with 70,000 TEUs HJS' greatest external capacity provider (Jhoo, 2016c) but blocked the CSL's renegotiation efforts and even called them illegal (Park K., 2016c), although it offered an alternative solution later that summer (Jhoo, 2016c). HJS' creditors, on the other hand, made the provision of additional funds to improve the carrier's financial situation conditional to lower charter rates as part of the debt restructuring plan (Jhoo, 2016c; Park K., 2016c). Prospects to reach an agreement for a needed 30% rate cut worsened when HJS started to miss charter payments in the following weeks (Wackett, 2016b).

By the end of August, HJS' creditors unanimously rejected the carrier's latest self-rescue plan, as it fell short by almost half of the KRW 700 billion that the creditor group had required before it would extend any financial assistance (Jhoo, 2016a; Yonhap, 2016a). Hanjin was expected to need at least KRW 1.3 trillion for the next 12 months for charter fees, operational capital and to pay back outstanding loans (Park S.-s., 2016) which it could only partially finance itself due to a severe shortage of cash (Jhoo, 2016a). On August 31st, HJS filed for receivership in South Korea (Park S.-s., 2016) and on February 17, 2017, the CSL was declared bankrupt as a Korean court adjudicated that it would generate more value to the carrier's creditors than corporate rehabilitation (Financial Times, 2017).

4.2 Results

This section will present the findings from the six conducted interviews (see Table 5), complemented with information from secondary data. Inquiries for interviews with HJS officials were made in the first quarter of 2017 when the carrier's offices in Korea, Germany and the US were contacted by email. Unfortunately, the email addresses in the US were no longer serviced and the other offices did not reply. One of the respondents, mentioned that the German office was already closed down last year and that the employees at the Korean head office did not have the knowledge of HJS' operations, as they were allegedly employed after the CSL's collapse. Also, interview requests were sent to the Swedish offices of COSCO and K Line, without any response. These carriers were contacted since they were part of the CKYHE alliance. However, they were only contacted by email once as the authors believed that the other interviews would be sufficient to answer the research questions, especially as the insights from Mr Hermansson, Mr Lund and Mr Holmberg provided the perspective from HJS' alliance partners.

Name	Post	Entity	Interview type	Date
Mr A	Scholar and advisor	Not specified	Skype	2017-03-21
Mr B	Industry expert	Georg Hansen Shipping	Face-to-face (Gothenburg, Sweden)	2017-03-21
Fredrik Hermansson	Managing Director	Greencarrier	Face-to-face (Gothenburg, Sweden)	2017-03-24
Fredrik Håkansson Säll	General Manager for Sweden and Norway	HMM	Face-to-face (Gothenburg, Sweden)	2017-03-20
Leif Lund Jacob Holmberg	Managing Director General Manager for Sweden and the Baltics	Overseas Liner Agencies	Face-to-face (Gothenburg, Sweden)	2017-03-28
Dong-Wook Song	Korea Chair and Professor	World Maritime University	Face-to-face (Malmö, Sweden)	2017-03-30

Table 5. Overview of the Respondents.

The results will be presented in the order of the research questions, i.e. first, the factors are discussed that could have contributed to HJS' bankruptcy and then, its consequences are addressed.

4.2.1 External Factors

The conditions of the external environment typically set the framework for the internal decision of a company. For that reason, this section will highlight the main external factors that impacted HJS, such as the prevailing market conditions and how they changed; the role of regulation both in a Korean and an international context, as well as the main actors in the events that led to HJS' bankruptcy.

4.2.1.1 Market Conditions

The container shipping industry has faced many difficulties since the financial crisis in 2007/2008 and the exit of one CSL from the market was expected sooner or later (Håkansson Säll, 2017). It was not apparent which carrier would disappear, although speculations about the insolvency of a Korean company were made (e.g. Lund & Holmberg, 2017; Mr B, 2017). Low *freight rates*, *oversupply*, *declining demand* and *trade imbalances* have been recurring concerns by almost all respondents and the prevailing market conditions contributed to HJS' collapse (Hermansson, 2017; Håkansson Säll, 2017; Mr B, 2017).

In the container shipping industry, *freight rates* are standardised to a certain degree (Lund & Holmberg, 2017; Mr B, 2017) and customers typically prioritise low freight rates (Hermansson, 2017). As freight rates are standardised, regardless of the cargo's final destination port, carriers aim to maximise their services on the most profitable lanes (Mr B, 2017). However, for the past years, some carriers have enforced lower rates in order to maintain (and increase) their market share, forcing other carriers to adapt the same rates (Hanjin Shipping, 2012; Lund & Holmberg, 2017). These low freight rate levels were deemed to be unsustainable in the long-term (Mr B, 2017), as many CSLs already displayed negative results (Hanjin Shipping, 2012) and would eventually cause the bankruptcy of a container carrier (Mr B, 2017). In response to the low rate levels during the past years, carrier attitude started to change towards greater cost awareness and CSLs have begun to make more strategic pricing decisions, i.e. focusing more on revenue than volume and what segments to invest in (Hermansson, 2017; Lund & Holmberg, 2017). Furthermore, clients have to realise that they will have to pay for the provided services appropriately (Lund & Holmberg, 2017). In the past, volume and the respective increase of market share used to be the driving force behind the business activities of carriers but is slowly replaced by the increased focus on actually making money (Hermansson, 2017). Greater cost awareness between CSLs has enabled carriers in the meantime to decline 'bad business' which was previously impossible (Lund & Holmberg, 2017).

During recent years, HJS was concerned about the imbalance between supply and demand (Hanjin Shipping, 2014-2016) and as supply was inflexible due to the long lifespan of ships (around 25 years) (Song, personal communication, 2017-03-30), the trend of continuously larger vessels, which began in 2012 (Hanjin Shipping, 2014), further escalated the problem of *oversupply* (Lund & Holmberg, 2017). The trend of larger vessels was attributed to Mærsk's Triple E which was introduced as a means to change competition in favour of the Danish CSL (Hermansson, 2017; Song, 2017). Mærsk utilised a blue ocean and/or first-mover

strategy (Song, 2017), hoping that other carriers would have to leave the market (Hermansson, 2017). Other carriers in turn were forced to either invest in similar sized ships, which is very capital-intensive (Mr B, 2017), or risk to be left behind (Hermansson, 2017). The large vessels also force CSLs to cooperate with other carriers in order to achieve an appropriate utilisation level which is harder to accomplish for carriers individually. The largest vessels are mainly deployed on the Asia-Europe trade lane (Håkansson Säll, 2017) and HJS was worried about augmented oversupply on this specific route when 18,000-19,000 TEU vessels were delivered in 2015 (Hanjin Shipping, 2016) as this was one of the carrier's most important service loops (Hanjin Shipping, 2016; Mr B, 2017).

The increased supply in combination with *lower demand*, partly as a result of the slowdown of the Chinese economy since 2012, has exacerbated overcapacity as well (Hanjin shipping, 2013; Mr B, 2017). Global demand has also been affected by natural disasters (e.g. the Japanese earthquake in 2010 and economic downturn in emerging countries e.g. Brazil) (Hanjin Shipping, 2012; 2014; 2016). Another problem for CSLs was to optimise inbound and outbound volumes (Hermansson, 2017; Håkansson Säll, 2017; Lund & Holmberg, 2017) as inbound and outbound volumes did not match within a trade route, leading to high costs of repositioning empty containers (Håkansson Säll, 2017). Equipment imbalances due to different cargo composition between inbound and outbound flows complicated the situation further (Hermansson, 2017; Lund & Holmberg, 2017). Inbound flows to Europe from Asia are mainly composed of commercial goods that are lighter and more valuable, which are transported in TEUs and generate a larger number of containers. In the other direction, on the other hand, fewer containers are required as the goods are heavier and primarily transported in FEUs.

HJS paid close attention to external risks, such as the aforementioned factors, (Hanjin Shipping, 2005-2016) and although these elements did not affect HJS exclusively, they can explain some of the measures undertaken by HJS. However, international aspects were not the only external factors that contributed to the CSL's demise. National influences such as the economic, political and legal environment in Korea have to be taken into consideration as well.

4.2.1.2 Preferential Treatment

In the past, the Korean shipping industry received direct and indirect subsidies as it was in the nation's interest to facilitate international trade which created cost advantages for national producers against international ones (Song, 2017). However, over the last decades, and even more so after the *Asian financial crisis* (Mr A, 2017), shipping has become an international industry with open competition and a less protectionist approach has been chosen (Song, 2017). In the meantime, the prevailing rationale takes a somewhat socialistic viewpoint, meaning that should the government aid one sector, others might claim the same treatment (Mr A, 2017). Therefore, there are no more direct subsidies and indirect support has become negligible (Song, 2017). Today, there is no explicit preferential treatment (for the shipping industry) to speak of. Due to the fixed vs. mobile nature of assets, the situation is different for

the port industry. Container ports still receive direct subsidies which has led to lower prices, at higher quality, when compared to other foreign ports in the past (Song, 2017).

One respondent remarked that although chaebols, like Hyundai and Hanjin, had the chance to manufacture the very ships they would later use in their own business activities (ocean shipping) via separate affiliated companies, these intra-chaebol transactions were not subject to beneficial treatment either (Mr A, 2017). In fact, in the case of Hyundai, internal pricing strategies were responsible for higher vessel charges to HMM than to external customers. Although, Korea established a shipbuilding fund after the Asian financial crisis, the allocated means were considered too small to have a significant impact on the overall shipbuilding sector. Moreover, rising price levels for vessels manufactured in Korea have led (Korean) CSLs to order their ships at lower rates from Chinese yards instead (Mr A, 2017). However, while one respondent stated that Korean CSLs were allegedly required to order their ships in Korean shipyards due to financial interests of the government in the industry (Hermansson, 2017), another one mentioned that the government would indirectly aid Korean CSLs if they choose a ship made in Korea instead of China by various means to bridge the price difference (Song, 2017).

Especially after the latest wave of corruption came to public attention, favourable sentiments for the government-chaebol network are assumed to largely dissipate (Mr A, 2017). The government has started to take a tougher stance on corruption by investigating several chaebol leaders, e.g. Samsung, SK, Lotte and Hanjin (Kim H.-j., 2016; Mr A, 2017), promising no further preferential treatment to the conglomerates (Mr A, 2017). However, the government is also a major indirect shareholder in many of the large chaebols and doubts have been expressed how tough this stance really will be (Gopalan, 2016).

The Korean legislative played a critical role in HJS' demise and was an important factor in creating and shaping the legal framework for the carrier. Some of the regulation that impacted HJS is said to have been introduced more than 30 years ago (Song, 2017). For instance, legislation regarding financing in the Korean shipping industry was amended in 1984 in connection with the rationalisation policy. Since then, the government introduced stricter regulations and shipping lines were required to maintain a certain (maximum) level of debt-to-equity level if they wanted external financing for the chartering of new vessels. Unlike the tramp market, liner shipping chartering is relatively predictable and consequently utilises more long-term chartering strategies. Nonetheless, charter rates also develop with the market and can be a tricky point in terms of risk management. This regulation limits the competitive advantage for Korean CSLs, hence it was suggested that the Korean government should reconsider the debt ceiling (Mongelluzzo, 1986; Song, 2017).

The root of another of HJS' problems stems from stricter rules introduced in 1998, in response to the Asian financial crisis, regarding the maximum debt-to-equity ratio (200%) major Korean companies should incur, compelling HJS to sell off several of its assets to reach this target (Mr A, 2017). In order to be able to continue to provide the same or at least a

similar service level as before, the carrier had to resort increasingly to chartering ships instead, since the purchase of new vessels became virtually impossible under these new rules. Financial support from the government was drastically reduced which set the Korean maritime sector apart from the European one (Mr A, 2017).

The need for alliances stem from the EU's anti-collusion legislation (Hermansson, 2017) and this regulation is made out as another piece of regulation that is assumed to have directly contributed to HJS' collapse as well (Mr B, 2017). One of the respondents expressed the opinion that carriers should at least be allowed to discuss capacity-related issues which the aforementioned bill prohibits. Better capacity coordination between carriers might have prevented the severity of the current situation. On the other hand, the EU's regulation on exempting consortia was suspended in 2009 and remains so until 2020 for all consortia with a market share of less than 30% (European Commission, 2014). According to a joint statement of the CKYH(E) alliance, the carriers were staying well under this threshold, logging in a combined capacity of around 23% (Bonney, 2014). HJS did not only have to comply to EU's legislation but also to Korean governmental policy.

4.2.1.3 Chaebols and the government

The relationship between Korea's chaebols and the government is two-sided as they need each other for economic growth but has also been compared to 'sleeping with the enemy' which makes the relationship uncomfortable at times (Song, 2017). As a typical part of Korean mentality, the government sees itself as a regulator for the economy while corporations regard this governing function as an unnecessary hindrance. Chaebols recognise the need for government oversight while the government regards the chaebols as the main bread-earning entities. As Korea progresses in its development to become a developed state, the question arises whether to treat chaebols as a single unit, or whether to allow them to evolve naturally or whether to dissolve them (into smaller entities) (Song, 2017).

After the Asian financial crisis, the state required the Hanjin Group to separate its business units (e.g. land, air and sea transport) although the existing business dynamic did not require such a strategy when, in fact, vertical integration was needed (Song, 2017). Separating companies but keeping them under the same umbrella or holding, led to a loss of vertical integration and created internal competition instead. Moreover, as the government still assumes a regulatory role in the economic sphere of the country, chaebols in response have claimed on many occasions to have fulfilled their respective obligations which should allow them to get assistance from the government in turn. According to Song (2017), this mentality of mutual dependency should be changed when compared to the international business survival level, both public- and private-wise.

4.2.1.4 Corruption

Corruption has been a recurring theme in the conducted interviews and four out of seven respondents have expressed their belief that this was an essential factor in the course of events that led to eventual HJS' collapse. On the other hand, other sources only hint at a

causal relationship between corrupt practices of the Korean government and HJS' demise (Gopalan, 2016; Tan, 2017).

Nowadays, corruption among Korean companies has become quite transparent compared to two decades earlier (Song, 2017). Under-the-table business transactions used to be very common but today, this practice has largely disappeared. On the contrary, unethical behaviour still continues to exist on a governmental level (Song, 2017) and as a result, Korea displays a relatively poor score on the global corruption index in relation to its economic development (Song, 2017; Transparency International, 2017). In the past, corruption was very much a combination of being publicly driven and privately needed phenomenon. Today, however, the driving force behind corruption is predominantly the political establishment, making it nearly impossible for private companies to decline government 'requests' without having to expect negative consequences (Song, 2017).

Consequently, Korea's political situation played a significant role in HJS' collapse and is largely blamed for HJS's demise (Mr A, 2017; Mr B, 2017; Song, 2017). Three respondents stated that corruption penetrated the highest governmental levels which included the presidential office³⁰. According to one of them, powerful individuals within the Korean government, including the president as well as her closest advisor, have unilaterally set price policies for some larger companies and required these businesses to 'purchase' the government's continued goodwill by annually 'donating' to non-profitable organisations, run by the aforementioned individuals (Mr B, 2017). Hanjin Group was not exempted from these practices and is said to have reluctantly contributed funds as well, but recently rejected further payments to their full amount due to the carrier's own financial struggles. Eventually, Hanjin's chairman was pressured, like other prominent chaebol leaders, into paying but it was too late and too little, and regarded as a symbolic gesture rather than a substantial contribution (Song, 2017). Fallen from favour and confronted with political ill-will as a result (Mr B, 2017), banks, such as the KDB which was one of HJS major creditors (Song, 2017), were consequently instructed by government representatives to stop lending to HJS (Mr B, 2017; Song, 2017), thereby denying the carrier the support, it needed to survive (FMC, 2017; Mr A, 2017).

4.2.1.5 The Korean Maritime Sector – A Public Good?

The Korean government traditionally and even now regards the shipping, the port and the shipbuilding industry as public goods (Song, 2017). Therefore, the government has always intervened in situations of distress but this time the scale was assessed to be different. HJS' problems were determined to be too great and the government did not have the financial means to step in all by itself, especially since the entire Korean maritime industry is suffering (Lee & Lee, 2016b; Song, 2017). In 2015, Korea's biggest shipyards made record losses, amounting to USD 6.7 billion and it was speculated that the situation would not improve drastically in the near future (Yonhap, 2016b). Consequently, both the shipbuilding and the

³⁰ This statement refers to the impeachment of President Park (see e.g. Snyder, 2017; The Economist, 2017).

port industry are attracting funds from the government in order to support them (Lee & Lee, 2016b; Song, 2017).

When faced with the decision of how to allocate the limited, available funds, i.e. which sector to rescue effectively, the Korean government favoured the shipbuilding sector (Lee & Lee, 2016b; Song, 2017) over a single shipping company, resulting in the saving of Daewoo, Hyundai Shipping and Hyundai Heavy Industries instead of HJS (Song, 2017). Daewoo was acquired by the KDB when the state bailed out the shipbuilder during the Asian financial crisis and in 2015, the KDB and another state-run bank, had provided another KRW 4.2 trillion to help the shipyard (Nam, 2017). In the meantime, the bank owns nearly 80% of the world's second largest shipbuilder (Nam, 2017). Unfortunately, the government-controlled KDB is said to have taken a harsher stance towards HJS after Daewoo bailout ended in a disaster after rescue funds were misappropriated, claiming to avoid further waste of taxpayer money (Lee & Lee, 2016b; Tan, 2017). However, with Samsung, Hyundai and Daewoo as well as other major players, the shipbuilding industry could cope with the collapse of a single company and maintain its (world) market share but in ocean shipping only HJS and Hyundai Merchant Marine (HMM) were operating on an international scale (Song, 2017).

The main reason for favouring the shipbuilding over the shipping industry in the governmental rescue plans were domestic employment rates (Song, 2017). Korean shipbuilders provided work for a far greater number of individuals domestically than the shipping industry and it was argued that without governmental support, the current trend of job-losses would be far more accentuated. The world's three biggest shipbuilders Hyundai Heavy, Daewoo Shipbuilding and Samsung Heavy Industries Co. are said to cut another 40,000 jobs until 2018, additionally to the 20,000 that have already lost employment in 2016 alone (Lee, Kong, & Park, 2016). In total, the Korean shipbuilding sector directly employs nearly 200,000 people and considerably more indirectly (Wackett, 2017). In comparison, HJS provided work to less than 2,400 people in Korea (Hanjin Shipping, 2016), giving it less political weight in negotiations with the government (Lee & Lee, 2016b).

The development of the shipbuilding industry is based on the (industry) life cycle concept and Korean shipbuilding currently finds itself in the decline phase (Farley, 2016; Song, 2017). The shipping industry, on the other hand, is based on cyclicity, which means that even if the industry as a whole experiences severe difficulties at the moment, it is expected to recover after a few years and then to compensate the losses of the previous period. As much as these developments are recognised, politicians are said to have disregarded them in favour of short-term goals (Song, 2017). The industry's uncertainty can also be related to another Korean bankruptcy.

4.2.1.6 Cho Yang and HJS

During one interview a comparison was drawn between the bankruptcies of Cho Yang, another Korean CSL that collapsed in the early 2000s, and HJS' own demise (Lund & Holmberg, 2017). Both carrier's struggled supposedly in a similar manner and disappeared as

support for them dissipated which allows drawing conclusions on Korean way of industry structuring practices. Cho Yang, which had struggled since the Asian financial crisis (European Commission, 2000), was liquidated by court order in 2001 after a Korean legal institution deemed the carrier's efforts to restructure its debts to have failed (PCBUSA, 2001).

Another respondent, on the other hand, stated that there is no logical link between the bankruptcies of HJS and Cho Yang as the main cause and time scale are different in both cases (Song, 2017). The market conditions at both points in time were different and the market mechanisms that were at work in either case were beyond what either CSL could influence. It is a matter of choice of how to react to these mechanisms that has to be made by both companies and regulators (government). Almost 20 years ago, the CEO or senior management (of shipping companies) was less concerned about risk management and events were intuitively explained with the shipping industry's cyclical nature that requires companies to survive 5-10 years until the next upswing. Opinions have changed and both the government and companies have expressed the need for a risk management system for the shipping industry (Song, 2017). Regardless if any comparison can be made between the collapses of HJS and Cho Yang, they were also competitors, alongside HMM.

4.2.1.7 National CSLs

There are considerable differences between the public perception of the reasons for HJS' bankruptcy and the perspective insiders take (Song, 2017). The Hyundai Group is much bigger than Hanjin Group and its business activities have a much broader scope. Hanjin, on the other hand, is predominantly a logistics-based chaebol and HJS was considerably better off than competitor HMM, both capability-wise and financially speaking (Song, 2017).

Shipping is primarily a network-based industry and without a well-connected network, the industry is meaningless (Song, 2017). Compared to HMM, HJS' network was far wider and better developed and despite market instabilities in recent years, HJS maintained its operational and financial capabilities well under the imposed regulatory framework, while HMM, on the other hand, struggled (Håkansson Säll, 2017; Mr B, 2017; Song, 2017). Since 2011, the latter has regularly incurred losses (Morris, 2016), its stock prices have fallen by nearly 98% since 2010 (Google Finance, 2017) and the carrier's debts were valued eight times higher than its equity (Park & Cho, 2016). Until June 2016, HJS managed to lower its own ratio to about 600% and was hoping to become eligible for a nearly KRW 1.3 trillion strong, government-led shipping and shipbuilding fund which was set up to aid the ailing industry (Lee S.-y., 2016b). According to the fund's statutes, assistance would be granted to companies that were able to lower their own debt-to-equity ratio to below 400% through self-rescue measures (Zeng, 2016c).

HMM realised the severity of its situation and took immediate actions (Tan, 2017) to lower its debt-to-equity ratio to below the stipulated ratio (Zeng, 2016d). The carrier managed to decrease its debt burden by successfully renegotiating rates with charterers and carried out a

debt-to-equity swap that would provide some room to manoeuvre (Tan, 2017). Hanjin, however, did not believe for a long time it would need government assistance, given that the carrier did comparatively fine in the then current situation (Song, 2017). In this way HJS was slightly slower to react in terms of response time which also created a negative impression towards the public side (government) (Song, 2017).

HJS and HMM did not only display differences in size, capabilities, performance (Tan, 2017) and reputation (Mr A, 2017) but had also cultivated different relationships with the Korean government (Song, 2017). HJS operated on a global scale and dealt with general industry trends rather than the Korean government itself while HMM, although a big company, operated on a smaller scale when compared to HJS. HMM's relationship to the government was different due to that scale, making it to react more quickly to government requests. HMM was quicker (than HJS) to lobby the government for a bailout in order to restructure its debt, based on the maintained network of close, influential relationships (Mr B, 2017; Song, 2017), rooted in the cultural practice of *guanxi*³¹ (Song, 2017). In the end, the government's poor decision-making and lack of conceptual understanding of overall shipping business dynamics is said to have contributed to HJS' eventual collapse (Song, 2017; The Korea Times, 2017).

Several respondents mentioned that the collapse of a Korean CSL was expected but due to the financial situation many assumed that HMM would be the first to falter while HJS would be the more obvious choice for a government bailout (Hermansson, 2017; Håkansson Säll, 2017; Lund & Holmberg, 2017; Mr A, 2017). HJS has had financial problems before but these had always been solved with the help of Korean banks and its partners (Lund & Holmberg, 2017), so the actual course of events is said to have come as a surprise (Hermansson, 2017; Lund & Holmberg, 2017).

4.2.1.8 The Role of the KDB

Song (2017) expressed the view that the Hanjin Group should have acted more proactively to prevent HJS' collapse, drawing attention to one of the Group's profitable flagship enterprises and greatest shareholder of HJS, Korean Air. He acknowledged that cross-guarantees had been legally prohibited after the Asian financial crisis but could be permitted with governmental consent if one of the affiliated companies under the same umbrella were to be in trouble (exemption clause). Korean Air had already supplied the carrier with about KRW 2 trillion in liquidity in 2014 and thereby considerably reduced the CSL's debt-to-equity ratio from previously 1,400% to 800% (Tan, 2017). Furthermore, according to press statements, the airline had pledged additional funds worth several billion KRW during the summer of 2016 to support the troubled carrier (Zeng, 2016e). However, Korean Air could not save HJS, even if it wanted to (Song, 2017). The main reason for the supposed failure of assistance was the role of the KDB. As main creditor to both Korean Air and HJS, the bank allegedly

³¹ The practice of *guanxi* is still very effective in Korea and, to some extent, Korea is even worse and more complicated than China but less difficult than Japan (Song, 2017).

opposed the airline's intentions to step in financially (any further) while the latter did not want to risk an unpleasant reaction from the government (Song, 2017). The KDB in turn had previously "been criticised for using taxpayers' money to help finance other troubled shipping enterprises and shipbuilders" (Zeng, 2016, §5). HJS' own efforts to regain the upper hand in its financial struggle, such as the renegotiation of charter rates or the sales of non-core assets, had been deemed insufficient and unconvincing by the creditor group led by the KDB (Voynichenko, 2017).

So far, the factors that impacted HJS externally have been established that is to say elements that HJS had no or little direct control over. The following section in turn will address the internal factors that played a role in the carrier's collapse.

4.2.2 Internal Factors

This section will shed some light on the internal factors of HJS' bankruptcy and more particularly how the carrier was managed in regard to its operational, investment and financial strategy respectively.

4.2.2.1 (Mis)management

In order to be competitive in the international container shipping industry, a "highly motivated and agile global organisation" is required (CTI Consultancy partner Andy Lane in Tan, 2017, §35). HJS' main problems began when the management changed in 2007 (Voynichenko, 2017). In 2004, HJS had an objective to "continue to remain competitive in the marketplace and continue to improve on its management strategy and financial position" (Hanjin Shipping, 2005, p. 4). After the financial crisis, on the other hand, HJS shifted focus towards the enhancement of its risk management of its exposure to oil prices, foreign exchange rates and interest rates in order to stabilise its financial foundation and soundness (Hanjin Shipping, 2009).

The carrier's management was reasonably good (Song, 2017) and professional at the middle management level (Mr B, 2017). However, some members of the *top management* did not display similar professionalism (Mr B, 2017) and being part of a chaebol might have been one of the contributing factors for HJS' collapse (Tan, 2017). Chaebols are family-run businesses or 'family-dominated business groups' and it is preferred to keep [top] management positions within the family (related to guanxi), even if these persons lack appropriate knowledge (Song, 2017; Tan, 2017). HJS was no exception and the carrier's problems exacerbated as an individual without sufficient knowledge of the shipping industry became the carrier's appointed CEO (Mr A, 2017; Song, 2017). It was stated that the position was not awarded based on merit rather than family ties. Former chairwoman Choi, who was appointed after her husband's death and managed the company between 2006 and 2014, has acknowledged that she was partly responsible for the CSL's demise (Tan, 2017). For example, Mrs. Choi made several irresponsible investments (Tan, 2017) and introduced lower fees that exaggerated the carrier's financial difficulties after the financial crisis (Oh,

2016). Withal, the carrier's insolvency can partially be blamed on its company culture, meaning that its management was unwilling to lose the brand name in favour of letting the company survive in a different form, perhaps under the umbrella of a competitor (Song, 2017). If HJS had adapted its business culture around five years ago, the situation would probably be different. Another aspect of corporate culture can be found in the managerial practices HJS representatives employed.

One of the respondents believes that the chairman and CEO at the time (Yang-ho Cho) was hoping that HJS would be considered 'too big to lose' by the government (Mr B, 2017). When they realised that the government would not step in to rescue the carrier, it was already too late for the management to turn the situation around. Another respondent claims that HJS had been questioning if they would need assistance considering that they were doing well compared to HMM (Song, 2017). As a result, HJS did not act as quickly as the other Korean CSL to lower its debt-to-equity ratio in order to meet the government's requirements of 400%³² (Herh, 2016a; Zeng, 2016c; 2016d). Moreover, several respondents stated that the carrier did not have any own 'rescue' strategy (Håkansson Säll, 2017; Lund & Holmberg, 2017) and a rescue plan was not finalised until less than one week before the carrier filed for rehabilitation (Jhoo, 2016b).

In case the restructuring process had been completed, the government suggested a merger between HMM and HJS as a potential option to stabilise the Korean CSLs (Nam, 2016) and Power, Mason, and Kapoor (2016) speculated that such a combination could create a top five carrier. However, others have questioned the viability of such a union (Park K., 2015; Song, 2017), drawing attention to the massive effort it would take to untangle the complicated shareholder structure of both companies (Park K., 2015) and the differences in company culture (Song, 2017). HJS' managerial decisions can further be divided into the three pillars (operations, investments and financing), which will be addressed below.

4.2.2.2 Operational strategy

Carriers aim to maximise their services on the most profitable lanes and HJS displayed a strong performance along the east-west links and along the Europe-Asia lanes but was considered weak in other markets. In 2007, the CSL increased its capacity on the Asia-Europe trade lane to counterbalance the poor market conditions, e.g. lower profitability on the Asia-North America route (Hanjin Shipping, 2008). HJS appeared to have concentrated only on Asia for too long (Mr B, 2017) and did not genuinely start focusing on new and emerging markets until 2013 (see Figure 8 and Appendix 2) (Hanjin Shipping, 2005-2016).

³² HMM lowered its debt-to-equity ratio from 5,000% to 200% in July 2016 (Herh, 2016b)

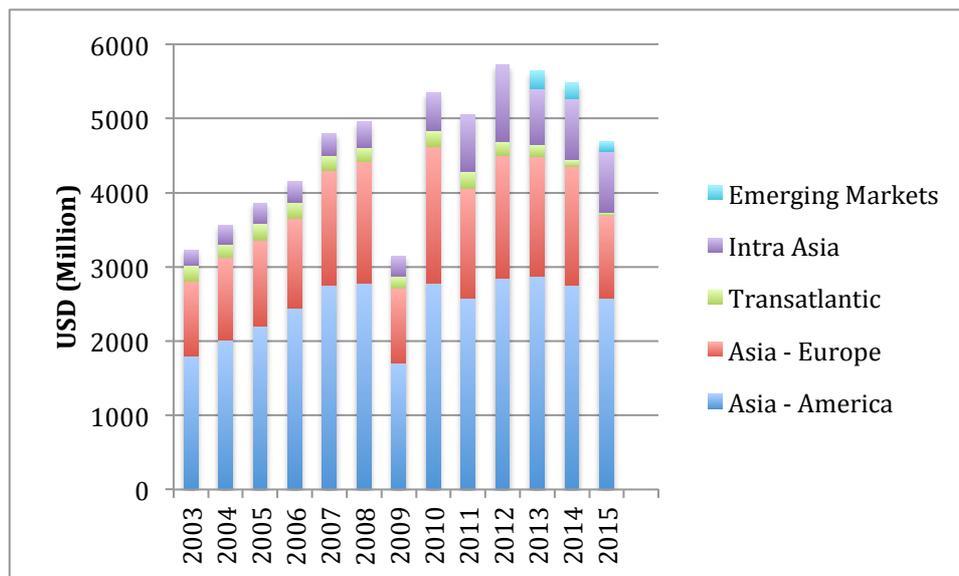


Figure 8. Breakdown of Trade Routes by Revenues
Source: Adapted from Hanjin Shipping (2004-2016).

In 2010, the carrier changed its pricing strategy and implemented a general rate increase as well as bunker (BAF) and peak season surcharges (Hanjin Shipping, 2011). Consequently, HJS had slightly higher freight rates than other carriers as more services were included in its standard rates, including all actually incurred costs (capital costs, fuel, etc.) and it was assumed that other carriers' profit margins were too low to cover all these expenses (Mr B, 2017). The carrier also tried to stabilise its financial situation by focusing on high revenue shipments (Hanjin Shipping, 2014). However, early signs of HJS' ongoing struggle were noticeable, as the Korean carrier absorbed the obtained cash rather than selling its services for profit (Lund & Holmberg, 2017). Assets such as vessels and containers were utilised to generate turnover rather than to assess which activities would actually yield profit as the resulting cash-flow was a necessity to sustain the business operations. Towards the end, HJS was called 'price slasher' as the carrier accepted cargo no other liner was willing to take in time of space shortages, including scrap or chemical cargoes which are heavy and have a low profit margin. Pursuing a strategy of mere market share expansion rather than steady and adequate vessel utilisation is not a sustainable strategy (Hermansson, 2017). It is a better strategy to transport these kinds of commodities, as well as empty containers, more during the low season from December to February due to their vast availability (Lund & Holmberg, 2017). In the low-rate environment of the last years, HJS also made continuous fleet and lane optimisations (Hanjin Shipping, 2012-2016), e.g. the carrier discontinued services to/from ports in Northern Europe that had become unprofitable (Mr B, 2017). The decision of suspending some service lanes was made in order to enhance the load factor (Hanjin Shipping, 2012). Another element of HJS operations was the organised flow of containers in its global network.

As a result of the high costs of relocating empty containers due to trade imbalances between Asia and Europe, balancing the capacity between inbound and outbound volumes was very important to HJS (Mr B, 2017). During the last decade, this focus increased and HJS started to increasingly restrict capacity in order to avoid volume asymmetries. The trade imbalances between Asia and Europe became a problem as the volume that was shipped to China started to decrease in step with a slowdown of the Chinese economy, thereby limiting what could be transported to Europe in turn due to the CSL's own capacity restrictions. In order to further reduce its own market supply, HJS also implemented blank sailings i.e. cancelled sailing (Hanjin Shipping, 2016). In general, *timing* played an important role as several actions were taken too late to ensure a successful rescue of HJS (Mr A, 2017). This issue of time management was not only limited to the CSL's operational but also impacted its investment strategy.

4.2.2.3 Investment Strategy

HJS started to substantially invest in vessels from 2006³³ (see Figure 9) (Hanjin Shipping, 2005-2016) and almost doubled its vessel fleet between 2009 and 2013 (Tan, 2017). The CSL deployed its first 10,000 TEU vessel in 2010, which was the biggest container vessel operated by a Korean carrier (Hanjin Shipping, 2012). However, only two years later, HJS deployed its first very large container ship with a capacity of more than 13,000 TEU (VLCS) (Hanjin Shipping, 2013). During 2012 and 2013, HJS received nine of these VLCSs (Hanjin Shipping 2013-2014), after they had been ordered less than a year earlier in mid-2011 (Leach, 2012). The carrier was aiming to strengthen its competitiveness by developing a fleet of VLCSs in the East-West, Asia-Middle East and North-South trade lanes (Hanjin Shipping, 2014). In 2015, HJS employed vessels up to 14,000 TEU and the largest served the lanes between Asia and Europe (Hanjin Shipping, 2016). Nonetheless, the rapid fleet expansion was not very strategic and generated several problems (Voynichenko, 2017).

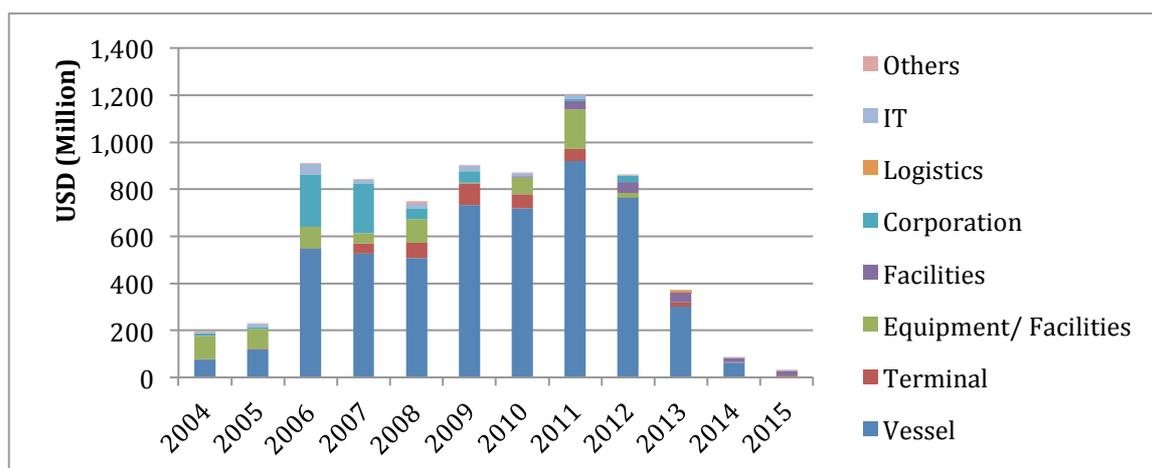


Figure 9. Development of HJS' Investments, 2004-2016.
Source: Adapted from Hanjin Shipping (2004-2016).

³³ An increase of over 450% compared to the previous year in realised capital expenditures.

HJS also invested in terminal infrastructure (Hanjin Shipping, 2005-2016), which has gained in strategic value in recent years because alliances can potentially amplify the possible gains from terminal operation as several members might get serviced at the same terminal (Mr B, 2017). The carrier did invest in equipment, facilities, the establishment of affiliated companies, logistics and IT as well (Hanjin Shipping, 2005-2016), providing HJS with a competitive edge over HMM (Tan, 2017). HJS’ investments in vertical integration activities was a good strategy (risk management) since it is considered a basic trend to provide one-stop services to customers (Song, 2017). Still, it was not deemed to be a specific competitive advantage since all other major shipping companies were also engaging in vertical integration. From 2011, however, HJS’ total investments started to subside and were almost negligible in 2015 compared to the investments made four years earlier (Hanjin Shipping, 2005-2016). It has been argued that HJS was financially stable to expand vertically before the bankruptcy stage (Song, 2017), indicating that there are some other underlying internal factors that have to be taken into consideration as well.

4.2.2.4 Financial Strategy

HJS had been struggling since the financial crisis but thought that it had turned the tables in 2015 when the carrier achieved operating profits again (see Figure 10) (Hanjin, 2016). However, HJS’ liabilities exceeded KRW 6.5 trillion (Hanjin, 2016) and based on an estimate by the Korean government, a minimum of KRW 600 billion would be needed to cover HJS’ outstanding expenditures, e.g. fuel and charter costs (Park K., 2016a). In short, HJS’ problems were assessed to be too great and the government did not have the financial means to rescue the CSL (Song, 2017).

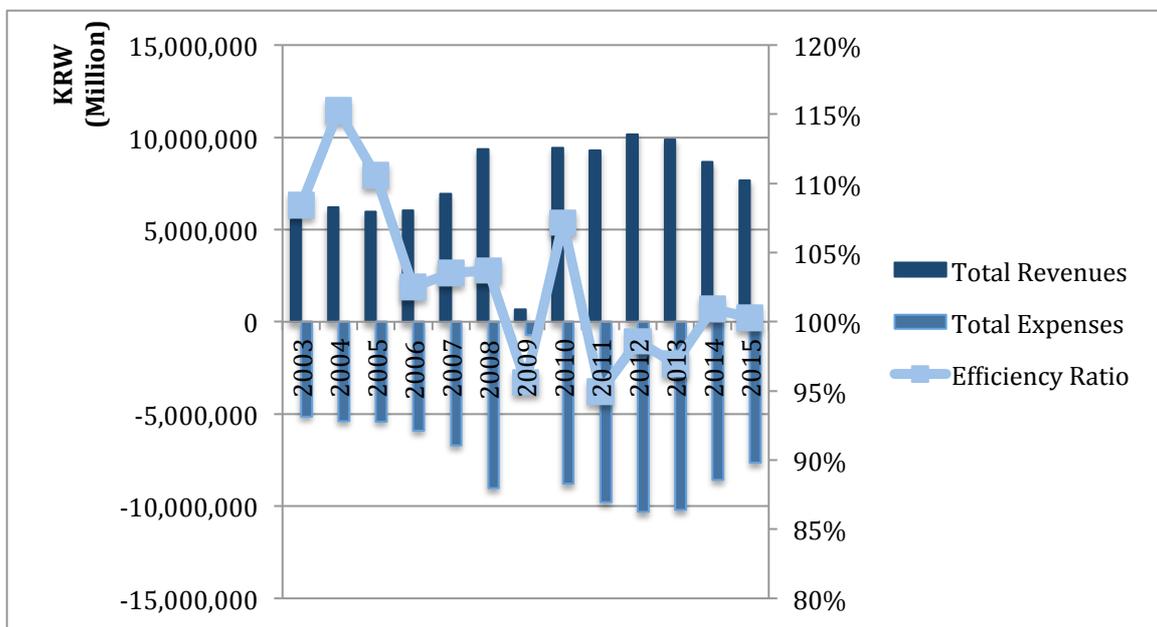


Figure 10. HJS’ Operational Results, 2003 – 2016.
 Source: Adapted from Hanjin Shipping (2004-2016).

HJS' annual report states that the principal Korean creditors were Korean Air Lines (KRW 220 billion, representing 33.2% of its external financing, excluding bonds), KDB (KRW 168.273 billions), KEB Hana Bank (KRW 82.041 billions), Woori Bank (KRW 58.601 billions) and NH Bank (KRW 58.601 billions) in 2015 (Hanjin Shipping, 2016). The Korean Herald, on the other hand, reported that the carrier's total debt in 2016 was KRW 660 billion to KDB, KRW 89 billion to KEB Hana Bank, KRW 85 billion, KRW 69 billion to Woori Bank, KRW 53 billion to KB Bank and KRW 50 billion to the Korea Export-Import Bank with 50 billion won (The Korea Herald, 2016).

According to Song (2017), around 70% of HJS' [bank] debt came from KDB, which was initially provided at favourable terms that gradually worsened. Moreover, KDB financed some of HJS' BBC/POs in the container segment (Lakshmi, 2016) through special purpose vehicles (SPVs) (Zeng, 2016f) and bonds (Kim J.-w., 2015). In Korea this is referred to as bareboat charterhire purchase (BBCHP) (Zeng, 2016b). BBCHP is a ship financing system specific to Korea where the operator of the vessel automatically obtains vessel ownership when the loan has been paid in full which normally takes five years. As HJS relied heavily on one (governmental sponsored) bank, the carrier had to behave carefully towards the government which would not have been necessary if HJS had a better risk management strategy (Song, 2017). Instead, risk should have been gradually spread to other financial institutions, e.g. international banks.

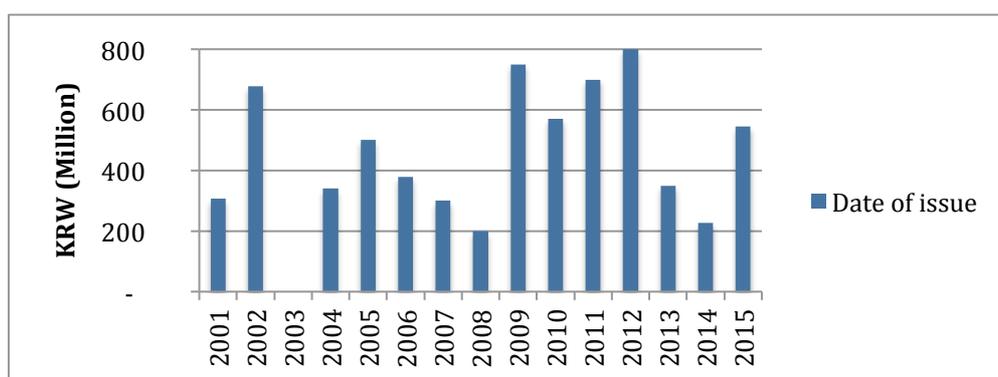


Figure 11. Development of Corporate Bonds, face value.

Source: Adapted from Hanjin Shipping (2004-2016).

Investors in the international shipping industry, in particular banks and financial institutes, began to be more prudent after the financial crisis and started to demand greater productivity and improved finances (Hermansson, 2017). As a result, HJS was forced to issue bonds and charter vessels to get access to financial capital, which generated a disadvantageous cost structure for the carrier (Mr B, 2017). Bonds were issued more frequently after the financial crisis (see Figure 11), when HJS' total liabilities increased rapidly (see Figure 12) (Hanjin Shipping, 2015-2016). For instance, HJS' debt increased over 230% between 2007 and 2009 (Hanjin Shipping, 2008-2010). Between 2008 and 2013, HJS' total liabilities continued to increase annually (Hanjin Shipping, 2005-2016). The current liabilities increased steadily

during the whole period while the non-current liabilities only grew during the first five years within this timeframe. The year 2013 marked the highest point in the carrier's history with total liabilities exceeding KRW 9.9 trillion (Hanjin Shipping, 2005-2016). This extensive debt generated a debt-to-equity ratio of over 1,400% (see Figure 12) (Hanjin Shipping, 2014) and the heavy debt burden can be explained by HJS' investments and in particular its investments in vessels (Voynichenko, 2017). However, financial statements can be manipulated (Song, 2017). Due to specific Korean regulations, HJS' debt-to-equity ratio has to incorporate many more aspects (e.g. chartering financing) than other (foreign) CSLs utilise in their statements (Song, 2017). As a result of this legislation, HJS accumulated previous charter loans which had to be declared and can explain the high leverage ratio in 2013/2014.

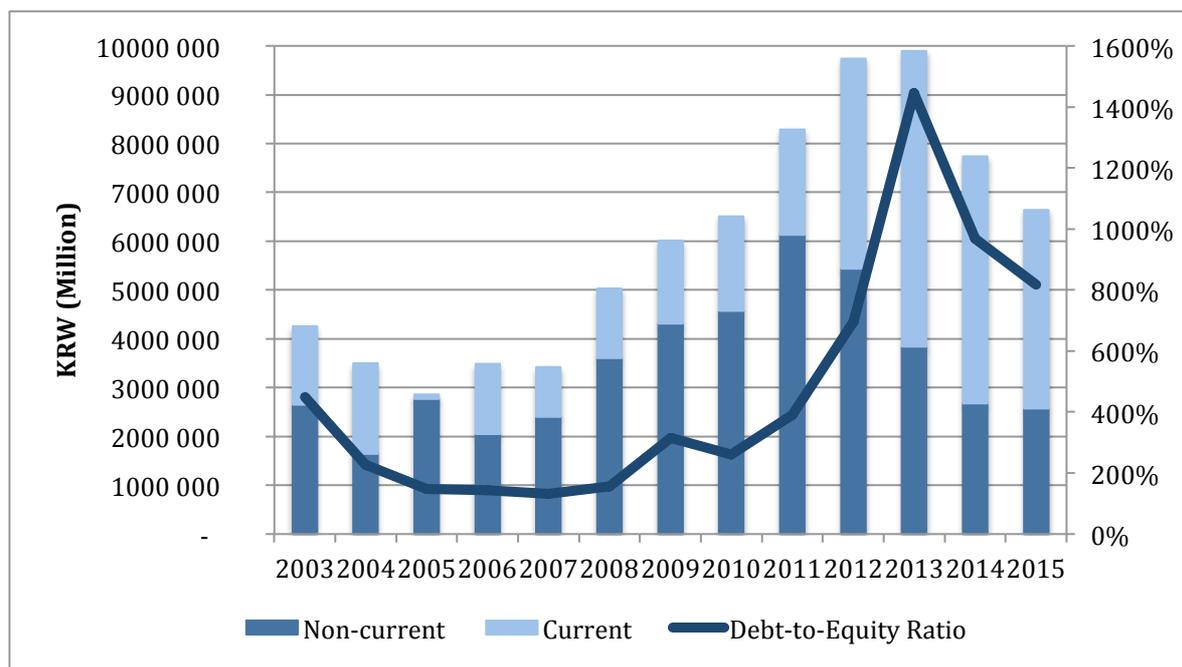


Figure 12. Development of Total Liabilities and Debt-to-Equity Ratio, 2003-2016.
Source: Adapted from Hanjin Shipping (2004-2016).

The approach of obtaining funds from the Korean banking sector was further limited for HJS by 2015, as the sector became considerably more cautious in its lending practices and generally followed a hands-off policy after several financial institutes had been exposed unfavourably due to their mismanagement of their credit in the Korean shipbuilding sector (Mr A, 2017). This made it significantly harder for shipping companies, including HJS, to obtain bank loans. What is more, HJS also started to increasingly experience difficulties in other financial areas that stemmed from changes in the environment it operated in.

The prevailing market conditions such as the charter market created a difficult situation for HJS (Voynichenko, 2017). The carrier's *charter strategy* is one of the main reasons for its inadequate financial performance (Mr A, 2017; b; Song, 2017) and it was poorly structured compared to European CSLs (Mr A, 2017). The owner and/or charter structure of a fleet is

dependent on the prevailing market situation with the right timing as an important factor (Mr B, 2017) and over time, the inability to read the charter market properly left HJS with long-term contracts whose rates were considered too high in an environment of decreasing profitability after the financial crisis (Mr A, 2017). For example, the CSL's charter rates with Seaspan cost USD 43,000 per day when spot charter rates were around USD 25,000 per day (Lee J., 2016b). The carrier had no choice but to charter vessels as a result of the legislation regarding the maximum debt-to-equity ratio (200%), forcing HJS to sell off several of its assets (i.e. vessels) to not exceed this leverage ceiling (Mr A, 2017). The carrier had to resort increasingly to chartering ships to continue to provide the same or at least a similar service level compared to before the Asian financial crisis, since purchasing new vessels became virtually impossible under these new rules. Many of HJS' charter parties were long-term agreements (Song, 2017) with contracting periods of over ten years (Wackett, 2016a). As time passed, the charter contracts steadily increased the financial burden the CSL had to shoulder (Mr A, 2017) with a total cost of around USD 2 million per day (Voynichenko, 2017) that the carrier was unable to lower to existing market levels by renegotiating the rates (Mr B, 2017). In 2014, HJS returned 20 chartered vessels, as their chartering period expired, in order to reduce operating costs and capacity, enabling the carrier also to reduce its debt-to-equity ratio (Hanjin Shipping, 2014-2016). As of September 2016, the carrier owned 37 vessels while it chartered 62 (Rodrigue, 2016) and planned to return its chartered fleet by another 38 by 2017 (Meyer, 2016). However, the premature termination of HJS' charter parties was estimated to cost USD 1.7 billion (Voynichenko, 2017).

On the other hand, HJS' charter strategy has been generating positive cash flows due to leverage strategy (Song, 2017). According to the leverage strategy, carriers could benefit from increasing their charter vessels in market booms but it is a risky strategy during declining market conditions. From early 2000 until 2012, the shipping industry experienced an unprecedented boom and HJS would thus have displayed a huge financial return if the leverage cap had been abolished. Moreover, revenues from chartering activities, e.g. charterage and miscellaneous revenues, had amounted to 20-30% of total operational revenues during the last 12 years (Hanjin Shipping, 2004-2016). Hence, Korean legislation restricted the CSL's earnings due to HJS' limitation in number of chartered vessels (Song, 2017).

The extent of the CSL's difficulties was also displayed by its rapidly deteriorating share price (Hanjin Shipping, 2005-2016). Since 2010, the carrier had repeatedly issued new shares in order to counterbalance the existing poor market conditions after the financial crisis (Hanjin Shipping, 2005-2016). Moreover, HJS tried to change its cost structure by implementing several changes such as service rationalisation, streamlining its workforce by means of termination and corporate restructuring (Hanjin Shipping, 2010). After 2013, the situation worsened for the carrier, forcing the CSL to undergo many changes, e.g. the carrier became more restrictive in its port selection, limited vessel space and terminated its transatlantic services (Mr B, 2017). Moreover, in 2014, HJS scrapped ten container vessels which were assessed to be uneconomical (Hanjin Shipping, 2015). The CSL continued scrapping vessels

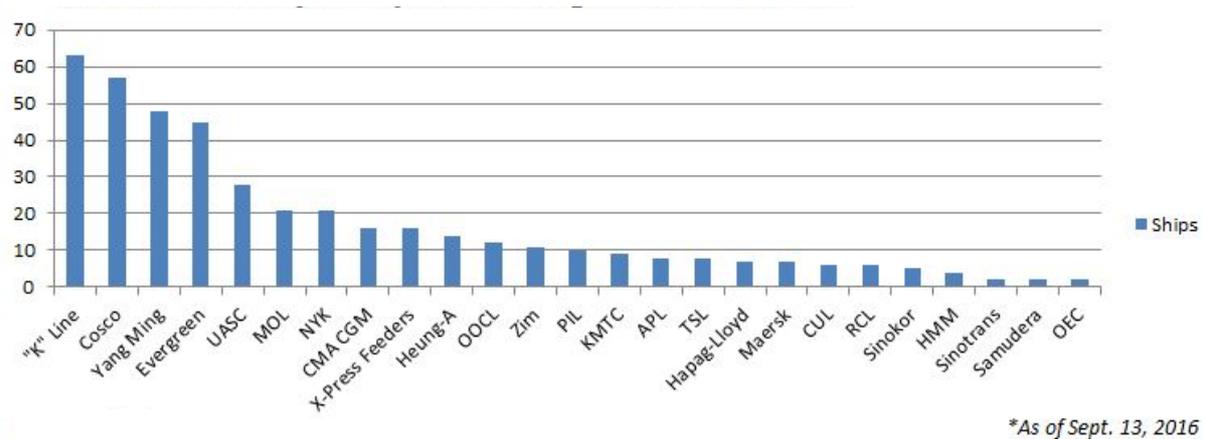
and sold its shares in Total Terminal International Algeciras (terminal in Spain) and Hanjin Newport (terminal in Busan, Korea) in 2015 (Hanjin Shipping, 2016). The CSL divested other assets as well (Hanjin Shipping, 2015) in order to raise additional liquidity (Igaz, 2016). Through its efforts and cost rationalisations, HJS was able to lower its debts in both 2014 and 2015 (Hanjin Shipping, 2015-2016). Nevertheless, a director at London-based Drewry Shipping Consultancy argued that HJS has been “living on borrowed time because its debt to equity ratio was over 600 per cent” (in Wright & Song, 2016, §8) since 2012 (Hanjin Shipping, 2013-2016).

Nonetheless, despite market instability at the time, HJS maintained its operational and financial capabilities well (Song, 2017) and thought that they were “heading towards normalisation of business” (Hanjin Shipping, 2016, p.4), which turned out to be wrong. HJS’ collapse affected a range of actors of the shipping industry and beyond. Direct affiliates, more particularly the members of the CKYHE alliance and customers (SQ1) were the first to be impacted and once the impact circle is widened, the Korean economy (SQ2) and the international shipping (SQ3) industry need to be considered as well.

4.2.3 Effects on the CKY(H)E (SQ1)

HJS had displayed signs of having difficulties to make payments which resulted in the carrier’s gradual isolation within the alliance structure (Lund & Holmberg, 2017). Consequently, HJS’ collapse had less of an impact on the other alliance members than it could have had 18 months earlier, as HJS was more or less operating its own services (loops) independently from the other members during this period. The disentanglement was not a result of fearing HJS’ eventual collapse rather than a strenuous/tense relationship with the carrier based on HJS’ continued extreme shortage of cash (Lund & Holmberg, 2017). This led to disruptions of existing sailing schedules as single terminals denied discharging services until they were paid for.

Nonetheless, the alliance members were affected by HJS’ bankruptcy due to their slot-share agreements (Hermansson, 2017; Lund & Holmberg, 2017). Both Greencarrier (Evergreen) and OLA (Yang Ming) only had a limited number of containers stuck on HJS vessels which were delayed in their delivery. However, due to agreements with other carriers, containers could also be found on various vessels that were not operated by CKYHE members (see Figure 13). Moreover, terminal operators around the globe progressively refused to discharge HJS containers without the assurance of receiving payment after the carrier had filed for receivership (Lund & Holmberg, 2017). Problems arose in particular when boxes of alliance members got stacked under HJS cargo. Depending on each port/terminal operator and their approach to safeguard their financial interests, a possibly different solution had to be found for all affected alliance members. In order to solve the predicament, Yang Ming had to set aside funds (USD 20 million for its European operations) to pay the concerned claimants where necessary and other carriers followed in a similar manner. Moreover, some ports denied HJS vessels altogether, due to possibly outstanding calling/processing fees which were needed to be covered in some cases, yet again, by alliance members.



*As of Sept. 13, 2016

Figure 13. Number of HJS' Ships with Cargo from Other CSLs.
Source: Braden (2016, §5).

Another direct consequence of HJS' collapse was the slump in available capacity for the other members as fewer ships meant less space (Lund & Holmberg, 2017). On the other hand, the loss of an alliance member meant that customers tried to transfer their shipping demand to the other members, after HJS was no longer an option (Hermansson, 2017).

4.2.4 Customers (SQ1)

According to one of the respondents, HJS sent its customers misleading signals, thereby providing a false sense of stability and the financial health of the CSL (Mr A, 2017). Furthermore, as the alliance members had containers on HJS vessels that were delayed, it generated additional costs as well as customer dissatisfaction among the shippers that were concerned (Hermansson, 2017). Hence, customers have become cautious in their dealings with carriers (Håkansson Säll, 2017), due to supply chain disruptions as a result of HJS' demise (Song, 2017), and are more interested in carriers' financial situation (Hermansson, 2017; Mr B, 2017), making it important to be more transparent (Hermansson, 2017). This resulted in the blacklisting of those carriers that are/were perceived as financially instable by customers (Håkansson Säll, 2017). One of the respondents drew a parallel between customers' demand for financial information and their demand for sustainability (Mr B, 2017). For example, customers used to be concerned about sustainability issues yet lack a clear definition of what sustainability is. Similarly, in regard to the requested financial information, customers are not always fully aware that numbers do not always illustrate the whole picture (financial health of the respective CSL) and can be misleading. What is more, the price for a service still has a high priority (Hermansson, 2017) and it has even been mentioned that customers declined a proposal based on favourable two cent price difference per unit by a competitor's offer (Lund & Holmberg, 2017).

In addition, large forwarders have become more careful and attempt to spread their risk by distributing their cargo between CSLs and alliances (Lund & Holmberg, 2017). Although, this behaviour is not meant to avoid potential future bankruptcies rather than general disruptions from e.g. the breakup of the cooperation between carriers, it puts stability high on

forwarders' agenda. HJS' bankruptcy did not only affect the actors closest to the carrier but its potential impact on the Korean economy has to be considered as well.

4.2.5 Effects on the Korean Economy (SQ2)

HJS used to carry around 70-80% of Korea's imports and exports which pose a setback for trade and a cost issue for Korea (Song, 2017) of estimated KRW 17 trillion (Jhoo, 2016a). The collapse will thus have a large impact on other Korean sectors e.g. banks (creditors), shipyards, ports, etc. (Lund & Holmberg, 2017). A comparison was made to the effects on the Swedish economy if a larger Swedish bank (e.g. Nordea) would go bankrupt. Although, the opinions regarding the effect on Korean shipyards are inconsistent as CSLs are ordering new vessels from China rather than from Korea due to the former's cost advantage (Mr B, 2017). The currently chosen course of events in Korea, nonetheless, is assumed to cost Korean shipyards a significant amount of contracts in the future from both domestic and foreign buyers (Hermansson, 2017). As Korean CSLs were required to build their own vessels in Korea due to financial interests of the government (Hermansson, 2017), it is vital for Korea's shipbuilding industry to have a national carrier (Håkansson Säll, 2017). Sentiment and governmental encouragement (by indirect incentives) can thus direct orders for new vessels from Korean carriers to domestic shipyards, which can bridge the price gap for cheaper vessels from China (Song, 2017). Still, the current issues that the Korean shipyards are facing can be compared to the developments of the shipyard industries in Sweden and Finland (Mr B, 2017). As a result, the combination of HJS' bankruptcy and little demand for new vessels will have a far-reaching ripple effect on global supply chains and the life of Koreans in the years to come (Song, 2017). In order to maintain the competitiveness of Korea's maritime industry, the government has to become more open-minded, i.e. government involvement should be minimised and companies should become internally more dynamic in order to survive.

The two respondents with the greatest knowledge of the Korean maritime industry believe that Korea needs at least one national carrier (Mr A, 2017; Song, 2017). As Korea is virtually an island and dependent on foreign trade (Mr A, 2017) the shipping and port industry receive special attention and Korean trade would be endangered without a national CSL (Song, 2017). HJS is said to have accounted for roughly 10% of the processed cargo at Busan port (Park S.-s., 2016) and it is projected that the effects of the bankruptcy will reduce the port's volume by 3.5% in 2017 (Vogdrup-Schmidt, 2016). The absence of a national carrier could create a dependency on foreign carriers (Mr A, 2017; Song, 2017) who might abuse their position, i.e. ability to set prices to Korea's disadvantage in the future (Mr A, 2017). Moreover, any Korean industry, e.g. the steel industry, would lose the cost advantage that Korea's carriers have offered by indirect governmental subsidies (Mr A, 2017; Song, 2017). The Korean government evaluated the possibility of influencing or indirectly controlling foreign carriers in order to undertake a cost-minimising approach to remain competitive in the international market (Song, 2017).

By the end of 2016, the Korean SM Group launched the world's newest CSL, SM Line (SM Line, 2017), based on HJS' business operations on the Pacific and Asian routes (MarEx, 2017) but due to its lack of a developed network it is nowhere near of being called a replacement for HJS (Song, 2017). Therefore, for the sake of the Korean economy, HMM has to survive: HMM was Korea's second best option but is now the only viable one. The KDB took over HMM vessels and made them available at a lower rate to the carrier to avoid larger CSLs to obtain and operate them (Lund & Holmberg, 2017). Furthermore, many of HJS' BBCHP vessels were financed by the Korean financial sector in order to serve the country (Zeng, 2016b). These vessels have been taken over by HMM, despite the legal difficulty to discern between actually owned and chartered vessels under BBCHP conditions. However, HMM's network is neither as developed as HJS' was and it is assumed that it will take 10-20 years before HMM and new entry SM Line will have created something comparable (Song, 2017). For the moment, HMM's collaboration (slot buying) with the 2M can therefore be vital for the Korean carrier to be able to serve the market even if the cost of the agreement with 2M is high. Song (2017) argues that HMM should attempt to learn and focus on a simple imitation strategy (instead of creation) as it will currently be difficult for the CSL to compete with the industry leaders on their terms. Moreover, being associated with the 2M brand is positive for HMM as the image of Korean CSLs is fragile at this point of time.

The development of Korea's international trade will also have a large impact on HMM's prospects (Mr A, 2017; Song, 2017). A slowdown in both exports (due to offshoring of man heavy industry and manufacturing activities) and imports will create a very tricky situation for HMM (Song, 2017). Withal, the political relationship with China is a further ongoing issue (Mr A, 2017). Korea's economic and military cooperation with the US continues to give rise to tensions between the two Asian countries which affects the Korean economy negatively, as China reduces its imports from Korea and the stream of Chinese tourists in response. In turn, these developments also affect the Korean maritime industry. HJS was not only important for the Korean economy but also for the whole international shipping industry as the CSL was one of the industry's largest carriers.

4.2.6 The International Shipping Industry (SQ3)

This section will cover aspects from the perspective of the international shipping industry that display weaker or stronger degrees of correlation to HJS' bankruptcy. First, consequences with a clear relationship will be addressed, followed by less obvious effects.

4.2.6.1 Direct Consequences

It has become more difficult to predict the future development of the shipping industry (Song, 2017). Although, the collapse of one or several carriers is considered beneficial for the industry as a reduced number of remaining carriers lessens the competitive pressure, the actual collapse of HJS will not have large effects on the container shipping industry when considering the carrier's moderate global market share (Hermansson, 2017).

In the months after HJS' filing for receivership, other CSLs were able to secure more capacity (trade volume) and witnessed volume increases especially for the transpacific route (Håkansson Säll, 2017). The carrier's downfall was not the sole reason for greater demand for shipping services rather than a contributing factor for a general, cautious rate recovery along with limited global economic growth. Conjointly, as HJS vessels were not removed from the available global capacity but merely redistributed among other carriers at a lower cost, the CSL's demise did not change the industry's capacity structure (Lund & Holmberg, 2017; Hermansson, 2017). Moreover, investors that see their chance to make sufficient returns will continue to invest in ships, thereby essentially offsetting the removal of vessels from the industry that tries to tackle overcapacity (Hermansson, 2017). The bankruptcy meant that the industry had lost another carrier, making the shipping industry progressively more oligopolistic which is not beneficial for the industry (Hermansson, 2017). HJS' collapse is also claimed to have sped up the formation of the three major alliances (2M, Ocean Alliance and THE Alliance) (Hermansson, 2017) that will start to operate during 2017 (Håkansson Säll, 2017). THE Alliance has also created an emergency fund in case of another CSL collapse (Hutchins, 2016). This financial reserve will be utilised to enable smooth operation and e.g. cover potential costs of stranded containers. It has also been argued that the other two alliances might implement the same strategy. Nonetheless, neither Ocean Alliance nor 2M consider this kind of fund to be necessary as its members are financially sound (Hutchins, 2017a). Nonetheless, HJS' collapse will not have any fundamental impact on the general behaviour in the industry for CSLs (Lund & Holmberg, 2017). Reactions by other actors depend on different underlying factors.

Governmental Support

After the developments of the Asian CSLs, including the Korean carrier's insolvency (Cheung & Hornby, 2016), the Taiwanese government set up a trust fund that is meant to support its national carriers in case of financial difficulties in order to prevent a possible bankruptcy (Hermansson, 2017). The fund amounts to USD 1.9 billion with preferential interest rates and is offered to the country's two largest carriers: Evergreen and Yang Ming (Cheung & Hornby, 2016). It was rumoured that Yang Ming was a potential candidate for dissolution but the governmental support has completely turned around the situation (Lund & Holmberg, 2017; Mr B, 2017). Governmental support is argued to make a clear difference and if HJS would have received external support, the carrier might still exist today (Mr B, 2017), i.e. state aid plays a vital role in deciding over the fate of CSLs (Hermansson, 2017).

Rescuing larger CSLs can stabilise the whole container shipping industry (Cheung & Hornby, 2016), although, governmental interventions generally assume market distorting characteristics (Hermansson, 2017). Therefore, public support should be provided to the shipping industry only until it has achieved a degree of maturity that allows it to compete on its own and thereafter, the government should minimise its support (Song, 2017). Several countries have shipping funds, e.g. Germany, Japan and Norway, however, the Greek shipping industry managed to survive without any governmental interference. Song (2017) argues that a governmental shipping fund can be utilised for a shorter period of time, if a

carrier is having problems, but this strategy should not be appropriated in the long run and should be limited to a single event. Regardless of company size, the mentality should be: “big is good but when they fail, let them fail”. Financial initiatives are directly related to HJS’ demise as they are created to avoid similar developments for other CSLs. There are other aspects that are not directly linked to the bankruptcy but their developments have accelerated as an effect of the disappearance of HJS.

4.2.6.2 Indirect Effects

The two main developments that can be witnessed after HJS’ collapse are an increased degree of market consolidation and greater importance for company differentiation.

Consolidation

The industry’s oligopolistic characteristics will become somewhat more problematic in light of the industry’s ongoing consolidation process (Hermansson, 2017) here to name the merger of the Chinese carriers COSCO and China Shipping; the potential merger of Japan’s CSLs K-Line, MOL and NYK; Maersk’s acquisition of Hamburg-Süd, Hapag-Lloyd’s merger with United Arab Shipping Company, CMA CGM’s acquisition of APL and the unknown fate of OOCL.

Song (2017) stated that the merger of the Japanese CSLs is still equivocal and one of the carriers could be forced into bankruptcy. He argues that the individual business cultures play an important role, which can vary significantly between companies, even if they are from the same country (e.g. Samsung and Hyundai). Asian CSLs have shown slower adaptability compared to European carriers such as Hapag-Lloyd but since the case of HJS has been announced, the three Japanese CSLs have become more cautious and are more likely to work towards internal consolidation. If they are successful there will be no bankruptcy, otherwise, maybe one potential one is inevitable. Concerning the Taiwanese CSLs, it is unlikely that YM and Evergreen would merge (Lund & Holmberg, 2017). This is based on Taiwan’s need to have access to its own fleet in case of potential political blockades and the different owner structure of the carriers, where Yang Ming is partially government-owned while Evergreen is a private company. While it was rumoured that Yang Ming would go bankrupt (Hermansson, 2017), it has also been speculated that something will happen to Evergreen due to its peculiar fleet structure and some potentially internal succession problems (family-run business) (Lund & Holmberg, 2017).

What is more, the process of carrier consolidation via M&As will continue in the foreseeable future (Håkansson Säll, 2017) or for at least the next 20 years (Song, 2017). Song (2017) argue that further market consolidation is inevitable as the trend is commercially driven and will continue as long as no institution, such as for example trade unions, interferes. Other liquidations are also possible in the current market environment (Hermansson, 2017). The final number of prevailing CSLs varied among the respondents between two and ten global carriers (Håkansson Säll, 2017; Mr B, 2017; Song, 2017). Another respondent stated that at least four to six carriers will disappear in the next ten years (Hermansson, 2017). The trend of

continued consolidation will depend on the political and economic developments in e.g. China and India, and their impact on world trade (Lund & Holmberg, 2017). While economic growth is seen to have positive effects, stagnation would make mega-vessels superfluous. Consolidation is not considered by customers to be especially positive (Hermansson, 2017) but is a necessity for the needed rate recovery and the stabilisation of incomes (Lund & Holmberg, 2017). In order to survive in this competitive environment, CSLs have to differentiate themselves and a different strategy could have influenced HJS' survival.

Differentiation

Differences between CSLs are typically relatively small, sometimes literally as small as the colour of the containers, making it difficult for individual carriers to stand out (Hermansson, 2017). However, differentiation is created through coverage, i.e. departure frequencies and the established service network with its inherent strengths and weaknesses (Hermansson, 2017), which creates a market where larger carriers have the advantage (Song, 2017).

As a result of a continued consolidation process and poor market conditions, the number of global carriers is diminishing while other CSLs are forced to retreat into niche markets (Håkansson Säll, 2017; Mr B, 2017; Song, 2017) by diversification and specialisation (Lund & Holmberg, 2017). Thus, there might be a need for two different sets of strategies in the container shipping industry, as the mode of operation is different for small and medium sized carriers compared to large-scale ones (Song, 2017). If smaller carriers attempt to compete with larger CSLs on their terms, it is likely to result in the smaller carriers' eventual absorption by the bigger ones due to their inability to compete on the same cost level (Lund & Holmberg, 2017). For the next ten years or even longer, large companies will continue to gain market shares while smaller companies will become relatively smaller (Song, 2017). Lund & Holmberg (2017) argue that the key to success for smaller CSLs is to maintain competitiveness in certain market segments and maintain one's operations and ships. Yang Ming is already pursuing this strategy and "grows on others, not with others" (i.e. organic growth as opposed to the inorganic growth of M&As).

A carrier's ownership structure could be used as a differentiating tool as well (Hermansson, 2017; Lund & Holmberg, 2017). Private ownership allows for greater success and perhaps greater profitability than for other carriers as investment strategies of privately owned CSLs often have a long-term horizon compared to short-term gains from public offerings (Hermansson, 2017). Furthermore, Lund and Holmberg (2017) argue that partial governmental ownership is a differentiating attribute for Yang Ming (except from COSCO) which gives the CSL characteristics of a national carrier that ensures Taiwan's access to world trade.

In total, HJS' collapse had both positive and negative consequences for the industry (Hermansson, 2017). Nonetheless, the impact will be relatively insignificant for the container shipping industry as whole (Hermansson, 2017; Lund & Holmberg, 2017). Consequently, HJS' bankruptcy will not have a lasting effect on the shipping industry and is likely to be forgotten in the near future (Mr B, 2017).

5. DISCUSSION

The themes that were identified in the literature review and the findings are analysed in order to answer the research questions (i.e. template analysis). The findings either support or reject the identified variables from the literature. In this section, causal links between the overlapping aspects are evaluated.

5.1 Answers to the Main Research Question

The main research question is: “*What were the reasons behind the bankruptcy of Hanjin Shipping?*”. Many of HJS’ problems started as early as after the Asian financial crisis in 1997. However, the progressively poor market conditions after the financial crisis in 2007/2008 made these issues drastically more noticeable.

From the results, it has become clear that several factors were contributing to HJS’ bankruptcy, i.e. the respondents had different perspectives. Table 6 illustrates an assessment of the different factors that have been identified to contribute to HJS’ bankruptcy in relation to the respondents’ answers. It is impossible to pinpoint a single one that would assume the sole responsibility for the carrier’s eventual demise. Instead, the chain of events that led to HJS leaving the container shipping industry is a combination of several factors that each played an important part and they should be assessed in conjunction to each other (see Figure 14). Therefore, and in acknowledgement of the complexity of the issue, this chapter will integrate external and internal factors, since these aspects are believed to be interdependent of one another.

5.1.1 Operational Strategy

Slack and Fremont (2009) highlighted the merits of private versus public ownership and according to them, private owners enjoy greater room to manoeuvre for their strategies and can enact changes quicker than an upper management that requires public consent. HJS was publicly owned (Hanjin Shipping, 2016), yet only on paper. The carrier is publicly traded yet has a limited number of large investors. Family members and parts of the Hanjin Group were the main shareholders of HJS which should have given HJS’ chairman nearly the same managerial freedom as leaders of family-owned Evergreen and MSC. This is assumed to be equal to a free pass from shareholder accountability and is especially dangerous when the supposed leader raises questions of competence. Former chairwoman Choi’s was considered unfit for the position she held within HJS between 2006 and 2014 and allegedly only assumed it due to family ties which confirms the powerful role of personal networks in Korean society (Kalinowski, 2016; Song, 2017; Yun, 2013). It is also noteworthy that the aforementioned years were the time period when HJS struggled the most due to drastically changing market conditions.

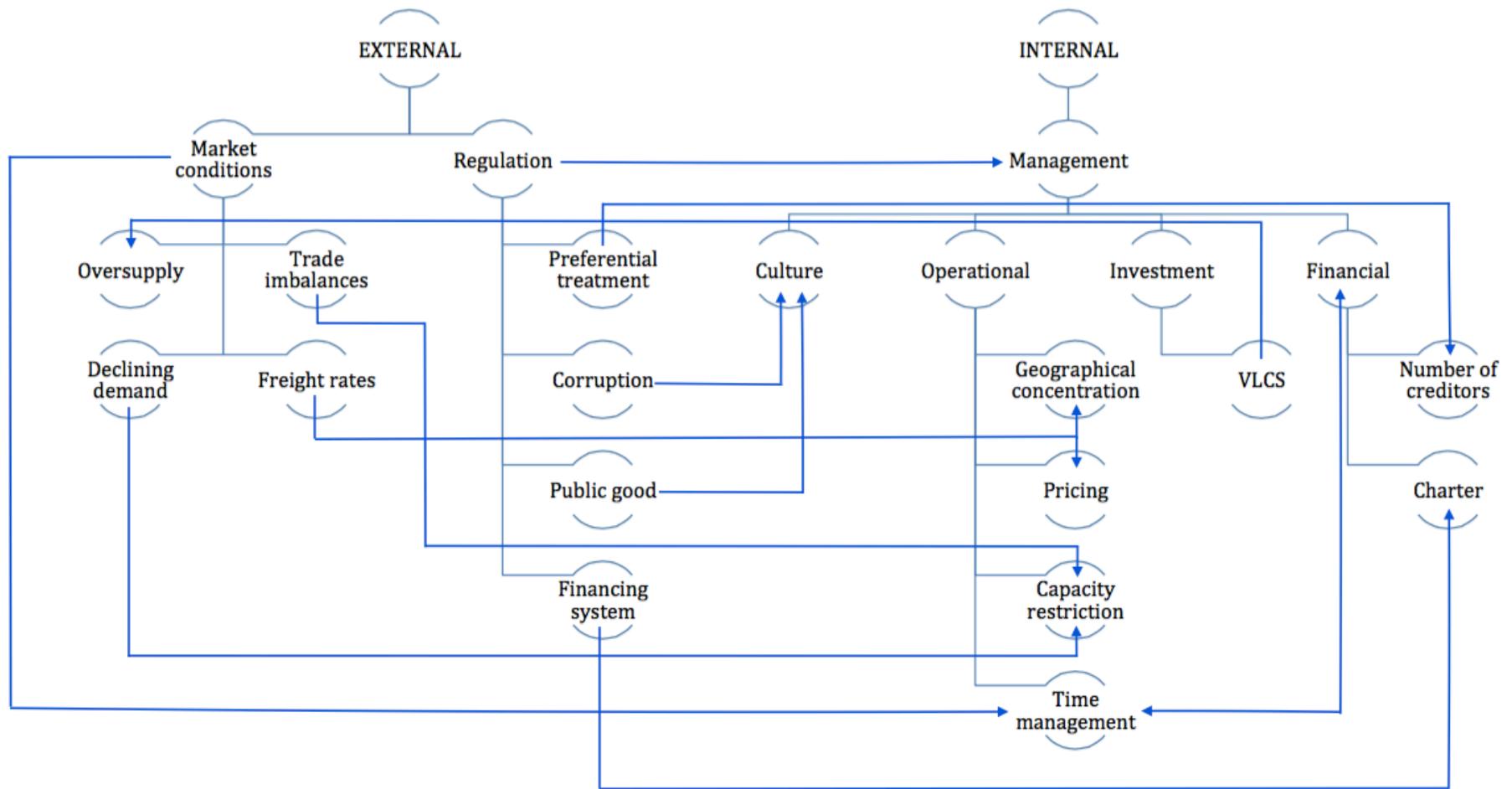


Figure 14. Relationships Between Identified Factors.

Respondents	Hermansson (Greencarrier)	Håkansson Säll (HMM)	Lund & Holmberg (OLA)	Song (WMU)	Mr A	Mr B
Themes						
Market conditions	+	++	++	–	–	++
Regulation	–	–	–	+++	++	–
Political	+	–	++	++	+++	+++
Culture	–	–	–	++	++	–
Operations	–	–	+	–	+	++
Investments	–	–	–	–	–	–
Financing	++	–	+	+++	+ / +++	++
+++ Very strong contributing factor, ++ Strong contributing factor, + Contributing factor, –Not mentioned						

Table 6. Assessment of the Respondents' Answers.

The demand for maritime shipping is influenced considerably by the growth rate of the world's economy. The global financial crisis was the beginning of a chain of events that meant a worldwide economic slowdown that led to a market collapse (the last stage in the shipping cycle) in the container shipping industry and a drop in demand for shipping that resulted temporarily in very *low freight rates* during 2009. However, fuel prices initially rose in two big steps from little more than USD 200 per ton in January 2009 to a peak of more than USD 750 per ton in March 2012, partly due to speculations based on geopolitical events, before levelling off at around USD 600 per ton until the summer of 2014 (see Figure 6). Similar developments, although with a delay of a few months, can be witnessed for freight rates, meaning that carriers had incorporated the increased costs from bunker fuel into their rates (see Figure 7). Like other CSLs (Slack & Gouvernal, 2011), HJS handled the grown fuel expenses via bunker surcharges that were passed on to customers (Hanjin Shipping, 2011). It can be assumed that higher bunker prices influenced carriers in another way as well. Bunker expenses constitute a considerable portion of carriers' operating costs (El-Masry et al., 2010; Stopford, 2009) and given that bunker prices would remain at a similar level for the foreseeable future, CSLs, including HJS, were in need for fuel-efficient vessels that would allow for a reduction in unit costs (Bang et al., 2012; UNCTAD, 2016). HJS was able to quickly expand its fleet with new VLCSs during 2012 and 2013 and that by itself doesn't explain why the carrier went bankrupt. Still, it shows that HJS actively partook in an industry trend that continuously introduced ever-larger vessels and the associated extensive capital

commitments at a time when the carrier already made large losses. Moreover, it can also be argued that HJS helped fuelling the prevailing situation of overcapacity.

Between August 2014 and January 2016 the heavy fuel oil price crumbled by nearly 70% to its lowest point in a decade and again freight rates followed the downwards trend with a few months' delay. The BAFs, the shipping industry had incorporated until that moment, had kept it from tackling the prevalent problem of overcapacity seriously and as spot rates eroded in 2015 the problems the entire industry had essentially suffered from since the global financial crisis, became far more pronounced. The ensuing price (or rate) war should exacerbate HJS' existing financial problems even more. The rates were far below what was considered sustainable and created a challenging environment for financially struggling carriers such as HJS. Already suffering from low profitability, the Korean CSL had no chance to join the steadily fiercer fight for cargo volume or to be left out entirely. What is more, in April 2016, the CCFI hit its lowest point, at a time when HJS was negotiating contract rates for the trans-Pacific routes, essentially spelling another year of losses for the already financially troubled carrier.

As freight rates are more or less standardised, the aforesaid events were not exclusively affecting HJS but all CSLs. In fact, HJS charged higher freight rates than other carriers in order to cover its operational costs (Mr B, 2017). However, as the carrier encountered several years with losses after the financial crisis it indicates that its freight rates were not sufficient to cover its total costs. On the other hand, HJS would not have been able to set even higher rates due to the price elasticity of demand. Hence, it can be argued that the price difference compared to other carriers could have been at most only marginal as it has been pointed out that a difference of a mere two cents per unit can be decisive for the customers. In the end, HJS accepted all cargo regardless of profitability which could have resulted in higher costs than revenues, i.e. not a tenable strategy. HJS' cargo composition and volume were also highly influenced by the network it operated and the resulting trade imbalances.

Extended periods of low freight rates cannot only strain but severely threaten a carrier's financial stability and eventually lead it to exit the global market entirely or focus its business activities on niche-markets with less fierce competition (Notteboom & Rodrigue, 2009). In fact, HJS could have focused more on niche markets in order to counterbalance the low freight rates on its main trade lanes but as its revenues from emerging markets were less than 3%, (see Figure 8) it became impossible for the carrier to leverage operational gains and losses between different markets as other carriers were able to. The relative rigidity of HJS' fleet composition is perhaps responsible as well for the carrier's inability to actively engage in the niche-market trades or simply the ships, HJS had at its disposal, might not have been appropriate for this kind of trade and the charter contracts too long to make any quick changes. Nonetheless, its geographical concentration is said to be aligned with its relatively small fleet (Gadhia et al., 2011). HJS also needed to enhance its resource utilisation as it was deemed to be too expensive and its capacity restrictions would enable a higher utilisation ratio. However, this also hampered potential revenues and especially as the head haul of the

Asia-Europe route is more profitable. One of the respondents even expressed strong disbelief of capacity restrictions from Asia as this reduces carrier's profitability. Accordingly, HJS' intention of restricting capacity was reasonable, although it generated more losses than gains.

HJS mainly focused on routes along the container belt, however, these services lanes generated several challenges such as fierce competition, severe oversupply and large trade imbalances. Parola and Veenstra (2008) highlight that geographical concentrated CSLs are dependent on the network provided by their alliances. However, the CKYH alliance did not enable HJS to exploit a significant increased market coverage as this alliance was extremely concentrated compared to other alliances. Nonetheless, its utilisation rate was improved by the alliance and the CKYHE was not hampered by the EU's anti-consortia regulation as its market share was less than 30%. What is more, the CKYHE alliance also had other shortcomings that limited the potential benefits from cooperation.

Previous research (Ferrari et al., 2008; Lu et al., 2006; Soppe et al., 2009; Panayides & Wiedmer, 2011) argues that the CKYH(E) alliance had a good structure and could potentially be beneficial. However, all members had/have problems which can be exemplified in the merger between Chinese (COSCO) and Japanese (K-Line) CSLs respectively and the creation of the Taiwanese shipping fund (Yang Ming and Evergreen). Due to the other carriers' struggles, HJS might not have benefited too much from the alliance as it was anticipated, especially not as the Korean CSL was the dominating carrier within the alliance, at least until Evergreen joined. Hence, the coordination cost presumable out-balanced the additional income due to increased service frequency. This is also supported by the fact that the freight rates were very low while carriers' cost structure remained/increased.

5.1.2 Investment Strategy

During times of low freight rates, it is essential that carriers lower their operational costs (Meersman et al., 2009). HJS invested heavily in *VLCSs* in order to gain market shares by expanding its fleet (Batra, 2014), similar to the market leader Maersk. CSLs that do not follow general market trends risk losing competitiveness (Drobotz et al., 2016). Thus, this investment strategy can be regarded as a necessary tool to remain among the industry's main players. Investing in *VLCSs* was also done in an effort to try to lower unit costs. As pointed out by Bang et al. (2012), HJS needed to improve its operational efficiency and the newer fleet could have achieved this. However, expanding blindly is not always a suitable strategy (Mørch et al., 2017) and HJS' investment strategy generated several drawbacks as well. For example, these *VLCSs* required higher investments in an already capital-intensive environment and the larger vessels were less flexible due to their limitations to specific trade routes, e.g. the trans-Pacific and Asia-Europe, and can thus explain why HJS was focusing on specific service routes. The carrier realised around 2014 that its fleet was too big compared to the demand for its services and consequently tried to rationalise it. The somewhat irrational behaviour behind the investments also implies a lack of knowledge of the shipping industry by HJS' management. Sometimes, the mechanisms of the shipping market can help to cover this knowledge deficiency, e.g. when inappropriate investments are limited to a boom period.

Bust periods such as the time after the global financial crisis on the other hand have the ability to accentuate the aforementioned managerial shortcomings and can create a financial burden for the company.

Previous research stresses the importance of *vertical integration* (e.g. Lee & Song, 2010; Panayides et al., 2011; Soppé et al., 2009), pointing out at the same time the capital-intensiveness of this path of expansion that includes e.g. terminals (Álvarez-SanJaime et al., 2013). Consequently, selecting which activities to invest in is crucial and it can be argued that HJS made some wrong decisions. For example, the carrier invested in equipment in the ‘Pusan New Port Terminal’ in Busan which sounds logical as it is the main port of Korea. Unfortunately, HJS’ investment was initiated in the first quarter of 2007 and was based on estimates about future cargo volume developments from the Korean port administration which fell short of expectations as the financial crisis commenced in late 2007. Still, the construction of Pusan New Port progressed as envisioned which created significant overcapacity (Seo & Park, 2016).

Utilising its own terminal provides a cost advantage (Álvarez-SanJaime et al., 2013) but the aforesaid overcapacity led to cheaper rates and greater bargain power for other CSLs (Seo & Park, 2016), which presumably offset the potential profitability of HJS’ investment. HJS’ investment before the financial crisis must have seemed like an excellent opportunity to increase its degree of vertical integration, given that the world economy still experienced massive growth. The slump in maritime shipping demand that followed, underlines the element of uncertainty that is inherent to the industry and in hindsight it could be argued that HJS could not have chosen a worse time for such a capital-intensive commitment. Despite HJS’ investment in vertical integrated activities, the carrier had only basic ocean carrier services (Baird, 2015).

5.1.3 Financial Strategy

A study by Bang et al. (2012) accredited HJS with relatively good financial efficiency. However, it should be pointed out that two key aspects were not taken into consideration; financial leverage and liquidity. CSLs need a substantial cash flow in order to be financial flexible (Drobotz et al., 2016) but HJS tied up most of its capital by its investments in new vessels and the carrier’s debt-to-equity ratio displayed a strong positive correlation with the vessel investments. While there is no optimal debt-to-equity ratio (Paun & Topan, 2016), it is difficult to justify HJS’ extraordinary high ratios. Merikas et al. (2014) stated that a leverage ratio of around 80% was quite common among CSLs before the financial crisis and the industry average did not exceed 125% in the years thereafter (Power et al., 2016). In contrast, the Korean CSL’s lowest debt-to-equity ratio was 131,88% in 2007 and had a mean value of over 600% since then (see Figure 12), indicating that HJS’ financial strategy must have differed considerably from industry practices.

The Korean financial crisis explains the higher value before 2008 as HJS recovered from a considerably higher ratio (Lee et al., 2012). The years after 2008, however, show a significant

deviation that is rooted in inappropriate financial management. This also indicates that HJS was less prepared to the changing market conditions than other CSLs. The development of this ratio might be explained by Korea's legal governance over the shipping industry and the establishment of the debt-to-equity ceilings at which the government stops to render financial assistance. These ceilings were used for the state-aided chartering of vessels and more noticeably both during the Asian financial crisis and in 2015/2016 as part of the rescue fund for the shipping and shipbuilding sector (Song, 2017). On the one hand, each ceiling prevents the excessive accumulation of debt, thereby preventing that the government spends taxpayer money in order to assist potentially unviable or unsustainable business practices. As the global shipping industry operated at a debt-to-equity ratio far below Korea's target of 200%, it presses the question why HJS could not manage it. However, it can also be argued that the setting of a specific debt-to-equity ratio limited which financial instruments HJS could utilise in order to maintain its operations. As Lee (1999) pointed out, after the Asian financial crisis the carrier had sold its own ships under the condition to charter them back, enabling the CSL to keep its previous service level and to reduce the debt in its books. It is needless to say that this action merely deferred the issue and the risks of chartering versus owning vessels will be pointed out below. Considering that the shipping industry necessitates continued investments and that it is simultaneously characterised by a high degree of uncertainty, especially when chartering vessels, wrong managerial decision can prove fatal in the long run. It can be claimed that it was partly Korean legislation that set HJS on a riskier path to finance its assets which became one of the many sources of its demise.

5.1.3.1 Charter Strategy

The implemented charter strategy by the Korean CSL is considered as a financial strategy, as it was utilised to finance its fleet expansion. HJS had 62 chartered vessels in the third quarter of 2016 (Rodrigue, 2016), however this number incorporates both BBCHP and time-charter agreements. The Korean BBCHP enabled the CSL to purchase vessels in instalments without a high initial capital expenditure. If the carrier would have been able to survive in this market, HJS would eventually have become less dependent on chartering vessels; a dependency that was created by *Korean legislation*. However, the charter composition was only reduced with 17.4 percentage points between 2010 and 2016 (calculated by data from Panayides & Wiedmer, 2011; Rodrigue, 2016) and as many vessels were redelivered to their owners (suggesting time charter) in 2014, it is indicated that this would only be possible in the long run. Chartering is normally conducted in order to leverage uncertain demand (Mason & Nair, 2013) but HJS' charter contracts generated high costs as the rates were higher than the market's (Mr A, 2017; Mr B, 2017; Song, 2017), which implies poor managerial decisions. It is clear that HJS' chartered vessels contributed to its demise as the accumulated costs of HJS' all chartered vessels were overwhelming. The CSL wanted to re-charter 38 vessels by 2017 and despite the staggering costs of early termination, the total chartering costs would exceed the termination costs within 2.5 years. As many of HJS' contracts were until 2025, early termination was a strategic decision; the total costs for HJS' charter parties until the end of the contracts would almost reach USD 6 billion (calculated with data from Voynichenko, 2017).

Time charter generates a higher debt ratio than spot charter (Merikas et al., 2011) and as Song (2017) stated, the high debt-to-equity can be explained by HJS' charter strategy and different reporting standards. Still, the continuously high ratios indicate that the carrier's capital structure had underlying problems. Furthermore, the carrier managed to reduce its ratio by selling off assets but HJS was also dependent on its connection to Hanjin Group as Korean Air contributions had helped the CSL to improve its financial situation on several occasions. Similar to other CSLs (Grammenos et al., 2008; Kavussanos & Tsouknidis, 2016), HJS had mostly bank loans but started increasingly issuing bonds due to the diminishing availability of the former in the aftermath of the 2007/2008 crisis. Many of these bonds were presumably issued as a result of BBCHP. Issuing bonds can be seen as a quick way to gain access to financing, but as they often have a shorter maturity period than bank loans, bonds entail larger risks in the shipping industry due to the possibility of having to pay back the debt during a bust period that can last for several years. Most of HJS' bonds in 2015 had a maturity of only two years, which accredits the carrier a risk-taking behaviour in an uncertain industry. Moreover, the carrier's bonds that would mature within the following three years, had a total value of approximately KRW 1.4 trillion. This means that even if HJS survived in 2016, e.g. with financial aid from Korean financial institutes, its monetary debts would still remain a problem for years to come.

5.1.3.2 Relationship with the Korean Financial Sector

Access to capital depends on macroeconomic factors such as demand for shipping (Mitroussi et al., 2016), i.e. Korea's dependency on HJS can have played a role for the continued external financing to HJS and in particular as the main creditor was indirectly governmentally controlled. The fact that Korean banks were HJS' principal creditors in regard to both bank loans and issued bonds, underpins a strong *dependency on the Korean financial sector*. Hence, a similarity to the collapse of Cho Yang can be established. One of the respondents implied that Cho Yang's collapse was due to failed risk management. However, this risk behaviour stemmed from an operational perspective, i.e. shipping cycles, whereas HJS' insolvency can be linked to poorly constructed risk management of its financial activities. Another resemblance to Cho Yang is that one of the main factors for its bankruptcy was HJS' failure to successfully restructure its debts. While HJS was able to perform better than HMM after the Asian financial crisis as a result of its fast restructuring process (Lee et al., 2012), the Korean CSLs' responses were the opposite last year. HMM seemingly quickly divested the majority of its assets to reduce its own debt burden in 2015/2016. HJS' was in urgent need of liquidity as well but as Albertijn et al. (2011) state, chartering vessels instead of owing them can be very risky during poor market conditions as the tied up capital in these physical assets cannot be liquidated. Moreover, it appears that the value of HJS' 37 own vessels would not have been enough to settle all its outstanding debts and then to continue to operate in the industry. This indicates that time management and financing of vessels appear to be two crucial factors – at least for Korean carriers.

The KDB was HJS' greatest debt holder and as such exercised considerable control over the carrier during the CSL's debt-restructuring process. Before the Asian financial crisis, the

OECD (1999) already remarked that chaebol financing depended heavily on government controlled banks who, in the past, also had ensured their assistance in case the chaebols encountered financial trouble. It appears that the ‘too big to fail’ attitude that HJS speculated on would save it in the end, was still very much a part of managerial/cultural practice within the chaebol in 2016. This opinion was not only directly expressed by a respondent but is also suggested by the small number of creditors HJS had and more particularly the government-funded KDB as the largest debt holder. The small number of creditors could have been the conscious result of a strategy described by the OECD (1999) where HJS simply increased the stakes for the KDB by limiting its own financial exposure to few financial institutes in hope these would step in to protect their investments in case the carrier experienced financial trouble. One possible solution for HJS would have been to spread its financial exposure over several national and international institutions to avoid too much dependency but once it was certain that the Korean CSL could not shoulder its debt problems alone, HJS management and creditors could have reviewed other possible forms of cooperation or governance that could have allowed it to continue to operate.

Instead of going bankrupt, HJS could have merged with or allowed an acquisition by another CSL which is an alternative method to obtain capital (Mitroussi et al., 2016). As M&A is usually the preferred choice of growth (Midoro & Pitto, 2000), this strategy could also have been utilised instead of the investments in new vessels. There were speculations about an eventual merger between the two Korean CSLs. This could have been a rational strategy as M&As are relatively easy between firms with the same company culture (Yeo, 2013) and also provide a competitive edge for the home market (Das, 2011). However, it was elucidated that even if HJS and HMM shared the same national culture, their company cultures were different. Differences in organisational culture can generate more problems than benefits and the fact that the two shipping companies belong to two different chaebols makes the situation even more challenging. Thus, HJS’ brand name did not allow any merger (Song, 2017); at least not a merger with HMM. Another option could have been to become partially state-owned such as Yang Ming, which would provide a certain safeguard against financial troubles but it could also mean less control over the operations. Nonetheless, as HJS gave government-controlled KDB managerial control in April 2016, this was not really a decisive factor.

There are two opposing opinions of which one is found in both the reviewed literature and the findings while the other one is only mentioned by one of the respondents. Several persons (e.g. Gong et al., 2013; Lee et al., 2012; Lund & Holmberg, 2017; Mr B, 2017) assert that CSLs need assistance from their respective governments. On the other hand, Song (2017) argues that this is not a method to survive in the long run and governmental involvement should be kept at a minimum. These arguments illustrate the variety of possible standpoints that could be taken and give rise to the discussion as to when and how much a state should intervene to rescue a company that is in financial trouble or if said company should be subjected purely to market forces. Given Korea’s own stake in the industry and its ensuing economic, political and strategic interest in the sector’s continued well-being, state

interference would have been justified at least from a foreign and maritime industry perspective. However, it is not always possible to aid larger CSLs as the capital prerequisites can amount to the GDP of a small country. Whereas both perspectives have their respective point it is obvious that the challenging environment, which the container shipping industry offers, requires a strong financial foundation combined with an appropriate management strategy. As HJS had almost 40 years of experience in the container shipping industry, it can be argued that the carrier should have had a better foundation and therefore no need for any external aid. However, given the historical development of rules and regulations in Korea, the carrier also benefited for a long time from the country's protective policies.

5.1.4 Restructuring of the Korean Maritime Sector

Korea's government has required the repeated restructuring of the nation's maritime sector several times during the last decades. In each case the prevalent market conditions and the state of the national economy played a decisive role in the enforced changes. The latest restructuring process began in late 2015 and is still in progress. This process was one of the contributing aspects for HJS' demise and at least two different argumentative perspectives can be assumed to explain the course of events of 2016/2017.

5.1.4.1 Economic Perspective

Korea's maritime sector is of key importance to the nation's economic development and direct Korean state support has reached a level where it is said to have become nearly non-existent in recent years. While shipbuilding and the port industry do receive direct support in form of financial aid, the Korean shipping sector has supposedly not reaped any direct subsidies. However, the situation begins to change when the vast and opaque government-chaebol network is taken into account. One respondent indicated that the government influences business transactions indirectly by providing financial incentives that cannot be directly linked to specific business deals. If this practice holds true, government support would become untraceable. For instance, HJS carried a considerable volume of the nation's exports (Kim & Park, 2016) despite offering its services at slightly higher rates than its competitors, suggesting that Korean exporters received subsidies to afford said rates. As such, state support appears to have moved away from being publicly visible and instead, has taken a more covert form that distorts competition in favour of Korean companies. What is more, the continued assistance seemed to have come at a price as well.

The fact that HJS was by far the country's largest carrier in terms of TEU and one out of only two globally operating Korean CSLs, should have put HJS in a unique position in the bailout process. Given its size and the developed state of its network, HJS should have been the more obvious option for a state-aided rescue. However, the financial trouble that the entire sector experienced was considered so substantial that it set a limit to what could be funded with the available means from the public side (Song, 2017). During 2015, the state took an active role in bailing out the nation's biggest shipbuilder, Daewoo (Tan, 2017) but appeared to have taken a far more resolute stance towards HJS. The bailout of Daewoo was not only

considerable in monetary terms but the PR disaster that followed the misappropriation of rescue funds, influenced the public and political attitude towards further taxpayer-funded bailouts as well, explaining the stance the government took towards HJS. Similar to the financial aid the government provided during the Asian financial crisis, Korean CSLs could become eligible for state aid in 2016 under the condition that they would undertake extensive self-rescue efforts themselves first.

In April 2016, HJS submitted itself to a creditor-led process with the target of achieving a specific debt-to-equity ratio. However, one of the conditions set by the creditors was to achieve a reduction for HJS' charter rate contracts which had started to exert a mounting financial strain on the carrier in the prevailing low-rate environment. In the end, HJS appears to have failed to achieve the crucial key point in the renegotiation process in the summer of 2016, thereby, losing the opportunity of a significant reduction of its growing debt. What is more, HJS' funding requirements for the next 12 months would have nearly equalled the means made available by the government for the whole shipping industry on the one hand and on the other, a bailout might not have guaranteed HJS' survival without further financial assistance in the future either. Moreover, HMM in turn had shown significant progress in its own restructuring efforts, making Korea's second global carrier likely to become eligible for the limited state aid package. The KDB's decision to cut further potential funding by the end of August, 2016 can be interpreted as the creditor's way to cut its own (potential) losses.

The argument that the shipbuilding sector was preferred over the shipping industry in the debt restructuring process is assessed to be only partially true. Although both industries were ailing from a combination of lower demand and low freight rates respectively, the rescue efforts differ in their time of occurrence and magnitude. The shipping industry was already addressed by the government in 2015, while HJS and HMM went into debt restructuring in early 2016, meaning that the extent of the CSLs' problems might not have been fully known to creditors when significant funds were committed to Daewoo less than a year earlier. Nonetheless, Korea's shipbuilding sector directly generates a noticeable fraction of the country's GDP and with a significant number of Koreans that could have been out of work, it could be argued that the direct effects on Korea's welfare system, additionally to the direct effects of the shipbuilder's bankruptcy, would have been substantial to the Korean economy at large in the short and medium term. HJS on the other hand was negligible in terms of potentially unemployed workers and its services could be substituted with other carriers, including HMM and the new SM Line. Other, less direct effects, like the future treatment of Korean exports and imports in light of potential loss of competitiveness for Korean companies and the future of the entire shipbuilding industry remain open to speculation and will not be addressed here. The other perspective addresses the potential involvement of corruption that ultimately led to HJS' demise.

5.1.4.2 Corruption Perspective

Two respondents mentioned that the continued goodwill was ensured via bribery (Mr A, 2017; Song, 2017) which explains why the peculiar relationship between the chaebols and the

government was described simultaneously as difficult but also necessary (Song, 2017). The government held noteworthy stakes in the major chaebols, including Hanjin Group, and could exert additional power via the state-owned banks, like the KDB. This created a certain financial dependency from which HJS might not have been able to detract itself from. Collusion between the government and the chaebols is still common but, recently, more controlled from the government. Still, based on the nature of corruption, it remains unclear whether or not [HJS] officials engaged actively in corrupt practices themselves in order to secure advantages from the state as described by Kalinowski (2016).

Inmaek, or guanxi, is an essential part of Korean (business) culture (Kalinowski, 2016) and the corruption affair and its ongoing investigation of the chaebols shed some light on what might be considered common practice in the Asian nation, according to Yun (2013). Nonetheless, the obvious problem with corruption is its traceability. As it commonly takes place behind closed doors, the general public is typically unaware of the practice, unless it is openly revealed. Moreover, even if Hanjin Group or HJS officials should have actively, or against their will, participated in this practice it still remains unclear what quantifiable benefits or disadvantages they might have reaped in terms of business conditions or barred access to financial means respectively. Currently, it is impossible to prove allegations of for example HJS' unfair treatment by the KDB in what was termed a 'failure to render assistance' without having anything to substantiate the claim.

Many underlying factors have been established for contributing to the collapse of HJS, which can be summarised by the three pillars and the Korean restructuring process. The effects of the bankruptcy were not limited to the Korean CSL alone but affected other actors as well.

5.2 Answers to the Sub-Questions

The second part of the research is related to the sub-questions: *How were the CKYHE members and customers affected (SQ1); What is the potential impact on the Korean economy (SQ2); How is the container shipping industry affected in the immediate short term (SQ3)?* While media outlets boldly expressed their opinions regarding the effects on the international container shipping industry as a result of HJS' bankruptcy, the findings indicate a more modest viewpoint. However, it is unquestionable that the future of the Korean maritime sector has become more uncertain and that CKYHE members and customers were impacted directly.

5.2.1 Direct Consequences for the CKYHE and Customers

The effects of HJS' insolvency on the CKYHE alliance were increased costs due to issues with containers, reduced capacity and a lower utilisation rate. However, it can be argued that the additional costs only arose in the immediate response to the demise. As the members were already preparing for the establishment of new major alliances and their role in them, the consequences were less severe than what they could have been. The problems with containers affected many shippers and after these supply chain disruptions, customers have

become more careful when selecting CSLs. Yet, if the behaviour of requesting financial information is appropriate or not can be discussed but at least it signifies that customers are trying to evaluate other factors than solely price quotations. Instead of fixating on the two cent price difference per TEU, shippers need to address potential underlying [iceberg] costs and service aspects, e.g. reliability, as well. Customers will also be affected by the ongoing consolidating process as fewer carriers mean fewer options to choose from. These factors suggest that risk mitigation is not only needed by CSLs but also by their customers, i.e. the uncertainty of the container shipping industry has been extended upward the supply chain as well.

5.2.2 Impact on the Korean Economy

The process of deregulation and liberalisation of the Korean maritime sector during the 1990s (Lee, T.-W., 1999) levelled the playing field for CSLs in Korea which created both advantages and disadvantages. For instance, Korean legislature has prevented past mistakes from occurring again by isolating companies of the same chaebol financially, i.e. reducing their mutual exposure to cross-debt, and activity-wise, leading to a reduction of vertical integration in order to contain the potential failure of a single business unit from spreading within an entire conglomerate. During the Asian financial crisis, the OECD (1999) remarked that a chaebol bankruptcy would be enormous in terms social but also economic costs. HJS was separated from other business units within the Hanjin Group (Song, 2017) which led to less potential financial vulnerability should one part of the group experience problems but also limited what measures the Group could take in order to assist HJS. Moreover, it could be argued that HJS' financial problems by 2016 were even too large for the Group itself to bear, as contributions from HJS' owners were considered small and had been made only hesitantly. When HJS was declared bankrupt in 2017, the carrier's failure was largely contained within the shipping industry, i.e. HJS' collapse did so far not directly cause the bankruptcy of other companies, as opposed to e.g. Lehman Brothers in the international financial sector.

The findings suggest that the insolvency of the Korean CSL will have a large effect on the Korean shipbuilding industry but to what extent is difficult to estimate and requires a more in-depth study. Korea's shipyards already face increasing competition from other Asian nations (OECD, 2014) and if Korean CSLs did order predominantly from Korean yards in the past, the collapse of the nation's biggest CSL should reduce order volumes in the future. However, as the sector is currently in the process of restructuring/downsizing, the effects of HJS' demise might be less severe when considered in this changing context.

The volume processed at the Port of Busan is projected to decrease due to the disappearance of HJS. The Korean CSL contributed with a relatively high volume and ensured that Busan was connected to the members of the CKYHE alliance as well. Although the port has laboured intensively to attract greater (transshipment) cargo volumes to solidify its regional importance (Lam & Yap, 2011; Yang, 2014), it is feared that the new alliances will skip Busan as one of their main call ports in the aftermath of HJS' demise (Vodgrup-Schmidt, 2016). This could have large consequences as the port already faces problems with

overcapacity and not to mention that Busan could become a feeder port instead, due to the proximity to other main calling ports in e.g. China and Japan, which would create a difficult situation for Korea for political reasons. It would also prolong the lead time, regardless from the cargo's final destination which could make Korean products less attractive. Of course, it would also result in longer delivery times for Korean customers. To avoid letting Busan become a feeder port, it can be argued that the competitiveness of Korean CSLs has to substantially increase and that rapidly.

Although Korea was very dependent on HJS, its own legal framework was one of the main contributing factors to the bankruptcy. It will thus be interesting to see if, and how, Korea is going to change its standpoint in order to ensure the survival of HMM. As HMM has received several vessels under advantageous terms, it could be a sign of a more supportive stance by the KDB, i.e. the government as well. The question regarding state aid has been established, however, HMM presumably needed this assistance due to its own financial troubles and the currently poor reputation of Korean CSLs. Its collaboration with the 2M alliance is very strategic as several respondents expressed their belief concerning the importance of having good market coverage. As HMM has a less developed network compared to what HJS had, it will take time until the surviving CSL will be as competitive as the major players in the international container shipping industry and it remains to be seen how the carrier will fare in the future.

The findings suggest that East Asian countries need at least one national CSL. This argument can be upheld by the event of merging the country's largest CSLs into one mega-carrier, which has already occurred in China and is likely to take place in Japan, the Taiwanese shipping fund and the respondents' strong belief that Korea needs to have a national carrier. For the case of Korea, it was expressed that domestic manufacturers will lose price competitiveness against foreign manufacturers if the country does not have any national carrier. This scenario might be the case for China and Japan as well. Hence, if any of the East Asian countries loses its national CSL, this would further accelerate the already existing shift of manufacturing from the Far East to other low-cost countries. However, the method to ensure keeping a national carrier needs to be investigated further, e.g. merger to one mega-carrier, shipping fund or something else.

5.2.3 Effects Related to the International Shipping Industry

The international container shipping industry has increasingly become more consolidated as a result of HJS' disappearance and several M&As during recent years. The industry already had oligopolistic characteristics before these events (Álvarez-SanJaime et al., 2013; Sys, 2009), suggesting that the market concentration progresses towards a true oligopoly. These developments indicate that smaller CSLs struggle in the even more challenging environment today, which either forces market exits or M&As with other carriers. However, there are too many affecting variables to clearly state how many CSLs will remain when this consolidation process ends.

The fact that former independent actors such as Evergreen and MSC have joined alliances indicates that the importance of alliances has continued to grow stronger but as previous research points out, alliances generate both benefits and disadvantages. In line with the statement that CSLs should not become too dependent on governmental support; it can be argued that carriers should neither rely too much on their respective alliance structures. In particular, as CSLs are more inclined to prioritise their own well-being on the behalf of the alliance's (Song & Panayides, 2002). Thus, it can be claimed that carriers need to have a solid internal foundation in order to remain competitive in the container shipping industry. This paper has not studied the developments of the three new alliances, 2M, the Ocean Alliance and THE Alliance, in detail. One interesting aspect, however, is THE Alliance's decision of creating an emergency fund whereas the other two alliances have expressed that such a fund is not necessary. If it will only work as a safeguard against increased costs in dire times or if it will provide a competitive edge compared to the other two alliances remains to be seen. Nonetheless, the risk of failure is high in general (80% according to Song and Panayides, 2002), so it will be interesting to see how these alliances will develop.

Apart from increasing the firm size and cooperating with other carriers, differentiation has become a key aspect that can determine which CSLs will survive or perish. HJS just followed general market trends (e.g. solely focusing on the most profitable services lanes and investing in VLCS) without taking its own business and conditions into consideration. This could be a valuable lesson for other CSLs to be more careful and less eager to carelessly follow market trends. Unfortunately, the current market trends suggest that carriers either have to become very large (which requires substantial financial means) or to become niche players, leaving no room for market followers.

HJS' collapse had a wide range of direct effects that dissipated relatively quickly the farther removed actors were from the carrier's activities. The impact was greatest on the CKYHE alliance members and their customers, grew smaller for the Korean economy and was even less significant for the international shipping industry. Whereas several aspects have been determined for the collapse of HJS, predicting future events is more difficult but some potential patterns have been distinguished. The following and final chapter of this paper will present all these factors in a more concise manner.

6. CONCLUSIONS

The purpose of this study was to find and explain the reasons behind the bankruptcy of HJS as well as the impact of the collapse on several other actors that have a stake in the shipping industry. The answers have been established through a range of conducted interviews with parties that have ties to the aforementioned industry and through cross-examination of the obtained findings with the previously presented material from the literature review.

This chapter first presents the conclusions in a condensed form before providing a more detailed explanation in the following sub-section. The answers have been established with a reasonable degree of certainty.

RQ *What were the reasons behind the bankruptcy of Hanjin Shipping?*

From the research it can be concluded that although there were many contributing aspects, HJS' managerial decisions, as a result of external factors, were the main causes. The carrier's operational, investment and financial strategies were all intertwined but the greatest issues derived from its financial decisions.

SQ1 *How were the CKYHE members and customers affected?*

Both alliance members and customers were affected due to the issues with containers on HJS' vessels and ships of various other operators, i.e. extra costs and delays. Nonetheless, the collapse did not have any lasting consequences.

SQ2 *What is the potential impact on the Korean economy?*

HJS' collapse will have negative effects on the Korean economy as a whole, however, it is difficult to measure their full extent at the current point in time. The shipbuilding and port industry will be affected most but it can potentially affect manufacturers as well.

SQ3 *How is the international container shipping industry affected in the immediate short term?*

HJS' collapse intensified the uncertainty in the international shipping industry that has resulted in individual cases in the establishment of financial safeguards to prevent future carrier collapses. The Korean carrier's market share was redistributed between the existing CSLs and the bankruptcy has sped up the formation of the new alliances.

6.1 Main Conclusions

HJS' collapse in 2016 is unprecedented in terms of magnitude and has been highly debated. Both the literature review and the findings from the interviews, however, suggest that HJS' bankruptcy did not entirely come as a surprise. The external problems the carrier had to face, largely came from worsening conditions in the market environment which started after the global financial crisis in 2007/2008. Hiking fuel prices, a continuous state of overcapacity and sluggishly growing demand culminated in historically low freight rates that forced carriers to become increasingly more competitive and strategic in their planning in order to survive. It was also this environment that made the mistakes of HJS' internal decisions more pronounced as it impacted the CSL's *operational*, *investment* and *financial strategies*.

The low-rate environment that was the result of the economic struggle of all main target regions along HJS' central trade lanes highly impacted the CSL's *operational strategy* as it limited the services the carrier could offer. HJS was unable to charge substantial above-market premiums for its services and was continuously forced to rationalise its network in order to cut costs. The membership in the CKYHE alliance surely had its advantages and perhaps even saved the carrier from too fierce cut-downs but was neither providing any game-changing benefits. The resulting financial strain from a lack of profit combined with the alleged ineptitude of HJS' top management also affected the carrier's *investment strategy*. Leading global carriers perpetually engaged, even after the global financial crisis, in the introduction of larger, more capital-intensive vessels; a trend even HJS could not detract itself from without having to fear to lose market share. Given the nature of relative unpredictability of the shipping industry, these and other investments HJS made as well as their timing, can be questioned but it is undeniable that they played a relevant role in the CSL's mounting problems over the years since the crisis.

The carrier's *financial strategy*, highly intertwined with its operations and investments, and in compliance to Korean legislation, showed early signs of flaws that should prove fatal for the CSL in the end. HJS had struggled to actively control its debt-to-equity ratio which was well above the industry average for more than two decades. The lasting reliance on the Korean financial sector that included the government-controlled KDB as the single most important creditor as well as the appropriation of short-term debt instruments to fund and operate HJS' assets, are signs of an improper approach to financial risk management. It remains unclear whether or not this dependency was a conscious choice from HJS' management or the result of ignorance to the risks and uncertainty of the shipping industry, or perhaps a combination of both.

In the end, the limitations of state aid as well as the perilous state of the entire Korean maritime sector in 2015/2016 should prove to be too challenging for Korea's biggest CSL. Unable to fully comply with creditor demands and unwilling to adapt to current predicaments, HJS filed for receivership in late August 2016 and was finally declared bankrupt in early 2017. Given the high profile nature of HJS' demise, the government's involvement through the KDB in HJS' debt-restructuring process is highly debated but

currently it can neither be proven nor disproven that corrupt practices and/or political ill-will towards HJS were the reasons that ultimately caused the carrier's demise. Attention has also been drawn to the differences in cultural and business practices between the West and the Far East (China, Korea and Japan) which provide some explanation for the course of events that led up to HJS' bankruptcy.

The results also indicate that HJS' collapse affect a multitude of other actors. Members of the CKYHE alliance had to face limited, increased operational costs and delays in the immediate aftermath of HJS' demise but were little affected beyond that. Customers and shippers, however, not only have fewer options to choose from in regard to the number of available carriers but have also slowly begun to give greater attention to risk mitigating measures in response to the Korean bankruptcy.

The second group of actors encompasses the Korean economy as a whole. Although, it is difficult to estimate the full extent of the ramifications of HJS' collapse on the country, it is clear that at least the maritime sector will be affected. A potentially smaller order volume from Korean CSLs will leave its marks on the shipbuilding sector while the reorientation of the current alliances has the ability to threaten Busan's status as a hub-port. Korean manufacturers and customers in turn might suffer then from a reduced degree of connectivity and potentially higher costs in the future. However, much is open to speculation as events continue to unfold.

The impact of HJS collapse on the international shipping industry is perhaps the smallest when compared to the first two groups. The establishment of the three new major alliances has been sped up in response to HJS' collapse and carriers have begun to give greater attention to safeguards in order to lessen the potential effects of another bankruptcy. However, HJS' collapse, when considered in the light of industry developments, can also be described to be the natural cause of events as the shipping industry has seen significant consolidation activities over the last two years. Carriers also need to re-evaluate their supporting structures, be it governments or other alliance partners, as too much dependency on any specific partner might prove fatal at some point.

All in all, it can be claimed that HJS' bankruptcy was a combination of different factors, both external and internal, to the carrier. The Korean CSL enjoyed an excellent reputation in the industry and failed nonetheless, which highlights the carrier's inability to successfully manage its weaknesses in other areas. This can be a lesson for other CSLs to re-evaluate their overall strategies in relation to current and future market conditions.

6.2 Limitations

Although the analysis mainly focused on the container shipping sector, sometimes it could not be avoided that some sources refer to the shipping sector at large, i.e. including the bulk trade. Moreover, some sources did not differentiate between HJS and Hanjin Group either, which might skew the results presented in this study.

Unfortunately, it was not possible to gain access to information or data directly provided by HJS employees which limited the depth this study could provide. Other sources that are assumed to be able to give a more detailed or perhaps qualitative better account of the bankruptcy have not been accessible due to existing language barriers (Korean source material) or simply unavailable due to a lack of funding (information sources with subscription).

Lastly, this study highlighted the fact that HJS' bankruptcy was caused by various factors and that some of the long-term effects will first become visible over the course of the coming years. In acknowledgement of the complexity of the issue and the constraints imposed by the available time, it was not possible to cover all these factors in great detail. It provides, however, a starting point for future research.

6.3 Future Research

Many contributing factors to HJS' bankruptcy have been determined but this study has only build the foundation for further research as different actors could benefit from in-depth studies about several aspects. For example, a more comprehensive analysis of the CSL's charter strategy would be useful for both Korean financial institutes (e.g. better assessment of risks when financing BBCHP) and other carriers (e.g. recommendations about a suitable ratio of owned and chartered vessels to optimise financing and mitigate risks at the same time).

The collapse of HJS did occur relatively recently, which makes it difficult to estimate its impact in the long run and especially for its home country. It has been established that the Korean economy will most likely suffer some consequences, with the port and shipbuilding industries at the forefront. A study about how these industries will develop without its main CSL could be very useful for the nation as a whole. To further elaborate, research about the development of the Korean shipbuilding industry would thereby provide an interesting opportunity for future research as parallels have been drawn to the developments of the Swedish and Finnish shipbuilding industries (Håkansson Säll, 2017; Mr B, 2017).

The findings also imply that Asian and Western CSLs are different, which could provide an interesting baseline for another study. The importance of a national carrier for countries in the Far East could form a great opportunity for future research as well, as this paper suggests that one national CSL is advantageous for the country's economy but fails to address to what extent it is needed. Moreover, governmental officials would benefit from an investigation about the most appropriate solution to support the carrier.

As pointed out, governmental involvement in the maritime industry can be questioned. On the one hand, several researchers (Gong et al., 2013; Lee et al., 2012) and respondents view governmental support in a positive light as financial aid by the state can e.g. rescue a CSL from bankruptcy. Yet, as Song (2017) pointed out, external support provides less incentive to internally generate a competitive advantage if the carrier expects to be assisted by the government. As a result of these contradicting standpoints, it would be interesting to conduct an in-depth study about the advantages and disadvantages of governmental support for CSLs.

HJS' collapse can have shortened the transition time for the three new alliances (Ocean Alliance, THE alliance and 2M) to form. The structures of these alliances have changed considerably compared to the previous alliances (G6, CKYHE, Ocean Tree) and it will be interesting to see how they will work, both within their respective alliances but also with other alliances, which gives the potential for another study.

The competitive market conditions were one of the reasons HJS went bankrupt as the current surrounding settings have made it more difficult for CSLs to survive. Differentiation has been a recurring topic and although it goes against the industry's tradition, it would be interesting to investigate if differential pricing strategies could turn around the situation. Both carriers and customers would benefit if a good pricing strategy could be developed since following the standardised freight rates, which do not necessarily cover carriers' costs, would eventually force other CSLs into insolvency and further consolidate the market, i.e. fewer options for customers.

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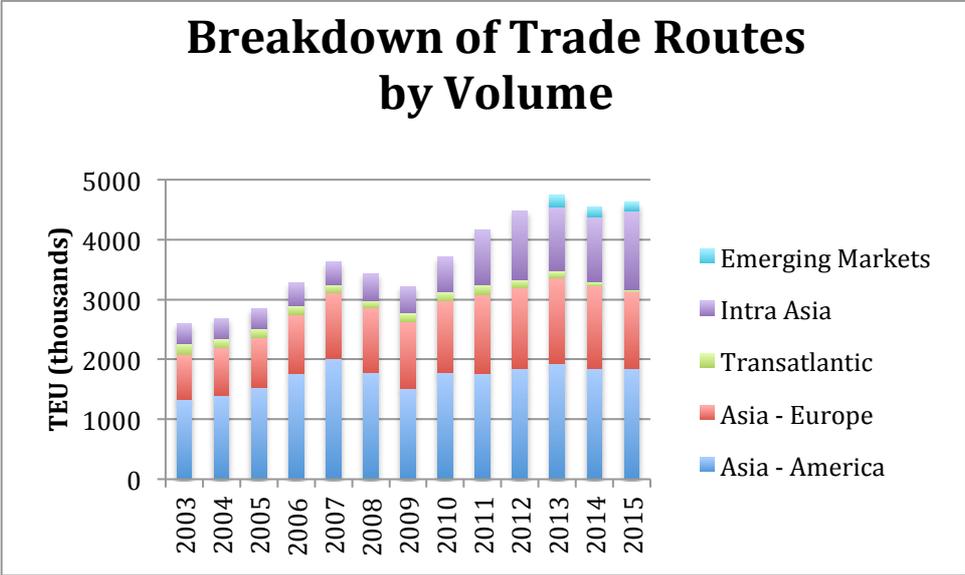
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Appendix 1

Alliances in 2015			
	Members	Country	Capacity (TEU)
G6	APL	Singapore	545 850
	Hapag Lloyd	Germany	732 656
	HMM	Korea	399 791
	MOL	Japan	599 772
	NYK	Japan	494 953
	OOCL	Hong Kong	520 328
	Total		3 293 350
CKYHE	COSCO(N)	China	854 171
	K-Line	Japan	397 623
	Yang Ming	Taiwan	487 771
	HJS	Korea	640 490
	Evergreen	Taiwan	954 280
	Total		3 334 335
Ocean Tree	CSCL	China	751 507
	CMA CGM	France	1 502 417
	Total		2 253 924
2M	Maersk	Denmark	2 526 490
	MSC	Switzerland	2 483 979
	Total		5 010 469

Source: Adapted from UNCTAD (2015, pp. 37-38.)

Appendix 2



Source: Adapted from Hanjin Shipping (2004-2016).