



Mergers & Acquisitions

SHIPPING INDUSTRY

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1. Overview

This document presents my master thesis in the framework of my syllabus in the MSc program “Shipping Trade and Transport” of the University of Aegean, Department of Shipping trade and Transport. My intention was to handle and analyze a subject involving both the shipping industry and the financial analysis. As we know the shipping industry is an international market and furthermore is an extremely up to date topic, with incredible activity to nowadays and a corporate strategy which offer robust growth to companies. On the other hand, my academic background in financials and accounting gives me the opportunity to analyze any subject of the shipping environment from the financial point of view. To this end, the subject of my master thesis is Mergers and Acquisitions (M&As) in Shipping Sector.

Mergers and acquisitions are an integral part of the global strategic and financial business landscape. Although fluctuating widely from periods of peaks and troughs of M&As activity, M&As continue to be a highly popular form of corporate development as an alternative to internally generated corporate growth. The purpose of this master thesis is to examine if M&As is an approval method for creating value for the companies and how influence the financial ratios of companies especially in shipping industry. We choose this sector because it has observed an increased in M&As activities, the latest years and attracted the interest of market.

Our analysis is structured as follows.

Chapter 1: Initially we analyze the M&As strategy and we refer some of the most successful deals which occurred in 2016. Subsequently, we go deeper in the procedure of M&As, as we intent to present the several types of M&As as well as for the process of M&As step by step. Furthermore, we present the criteria according to how the companies choose the target that they want to be merged or acquired and by which criteria influence the decision for the right choose of the target. In addition, we considered as interesting enough to make a review about the evaluation and the cost which required for activating an investment for M&As strategy. Finally, we present how companies ensuring funds for performing the M&As deals and what is the required post-deal reviews to improve the M&A rate success.

Chapter 2: This chapter makes an overview in shipping sector and analyzes the factors that influence companies which cooperate each other in the industry. We spoke for the four markets of Shipping industry, as Martin Stopford had diverse, which are New Buildings Market, Secondhand Market, Demolition Market and Freight Markets. We analyze these markets and we explain the way that they operate and as we said each market is influenced from another and all from the World trade. We speak for the diversification of the more specific markets and diverse the Transport Shipping Market, to more markets. As Alkiviadis Korres said, shipping market is like baklavas. A reefer cannot transport a dry bulk cargo neither the opposite. Each cargo, may be a specific market as LNG and each vessel is a specific market. Other cargoes are appropriate for Capesizes and other for Handymaxs. In addition, we make a mention, how the mean shipping company is operated and try to examine how each company make decisions,

according to when is the most appropriate time for the company to sell or buy vessels, or which are the most preferable strategy for the company the time charter, the voyage charter or maybe the bareboat charter. How the companies organize their strategy.

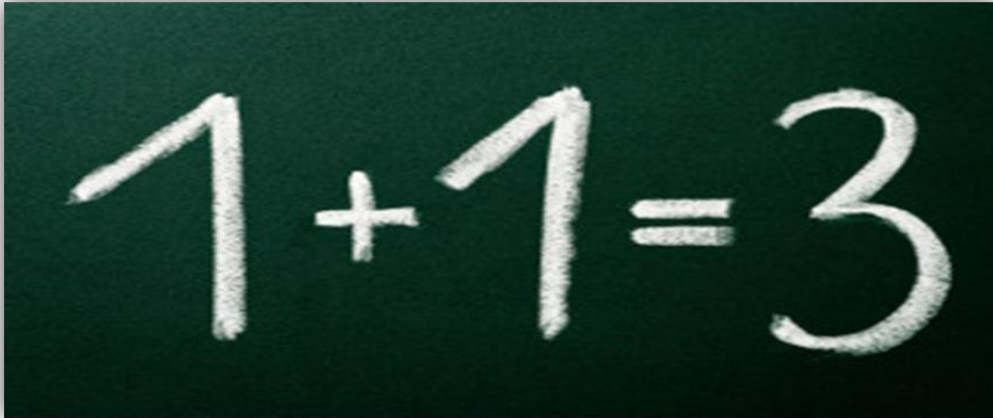
Chapter 3: In this chapter, we will try to make a more practical study and we make a sample of companies to examine. We present some deals which took place in the past in shipping sector. In order to have more accurate results, we study deals by all the shipping industry (bulk sector, specialized sector and liner sector). Initially we make a brief reference in the history of each company to notice the profile and prestige of the companies which take part in M&As deals. Furthermore, in this chapter we will give an econometric analysis on how much these deals influence the market cap of companies in short term period. It was impossible to run the model due to incapability to find the right time-series data that are needed in order to have clear and safe results for quantify how much M&As influence the market cap of company. Finally, we examine some financial ratios which show us the financial health and productivity of each company, which we used as sample, and we notice how much that indexes were influenced from M&As deal. We calculate the indexes from companies' annual reports.

Chapter 4: Finally, we present the results of our assessment and we evaluate if M&As strategy has a positive influence in companies Liquidity, Productivity and Asset management turnover. In the end, we are in position to reply if mergers and acquisitions is a reliable strategy to improve financial ratios of liquidity, asset turnover and productivity of companies in shipping sector or is just a strategy policy which aims at vanishing the competition in the market.

At the end we present the links and data we referred during the creation of the master thesis.

2. Mergers and Acquisitions (M&A)

Mergers and acquisitions (M&A) is a big part of the corporate finance world. Every day, Wall Street investment bankers arrange M&A transactions, which bring separate companies together to form larger ones. Mergers and acquisitions is one of the most common ways for the companies that want a financial growth. When they're not creating big companies from smaller ones, corporate finance deals do the reverse procedure and break up companies through spinoffs¹, carve-outs² or tracking stocks³.



Deals can be worth hundreds of millions, or even billions, of dollars. They can dictate the fortunes of the companies involved for years to come. For a CEO, leading an M&A may represent the highlight of a whole career.

On the other hand, M&As from the viewpoint of the investors means clearly an entrepreneurial strategic movement which improve their profits either by bought and be merged with others, or by split-off or sell parts of their own businesses.

Mergers and acquisitions are especially used in the shipping sector by firms that either want to expand in the global market or just want to maximize their profits. The behavior of companies and generally in market evolves, the situation is very different from the period "Pre- Lehman" bankruptcy and 10 years later. The ways of M&As has changed also, such as M&As is a part of market, is business strategy and by passing of the time board of directors and shareholders have shown that is more reserved in consolidating activities such as Mergers and Acquisitions.

Despite the impressive level of activity, mergers and acquisitions are often misunderstood and misrepresented in the press. Why the public and many managers still believe that most deals in M&As fail? Partly, this is because of the bad reputation

¹ A spinoff is the creation of an independent company through the sale or distribution of new shares of an existing business or division of a parent company.

² A carve-out is the partial divestiture of a business unit in which a parent company sells minority interest of a child company to outside investors

³ A tracking stock is a common stock issued by a parent company that tracks the performance of a particular division without having claim on the assets of the division or the parent company

that the press has create, according to Scott Moller and Chris Brady in Intelligent M&As. Some of the main reasons which the M&As finally failed are, the incapacity to deliver the promised gains to shareholders, Management team try to make the deal for personal reasons, it is not guaranteed that if one deal is succeed then the next one will be. Timing, all deals has a momentum, the deal doesn't start after the Merger or the Acquisition exactly there is the point where is the most difficult stage for that.

Also, most companies that have grown into global giants used M&As as part of their growth strategy and without that would not be the size that they are today. So, can a company become a global player without mergers and acquisition strategy? Without mergers or acquisitions where is the top level where a company can finally be in global or national market?

Thus, a company which has a dynamic profile and want to be leader in the market, or a firm which has as goal to differ from the average size companies be a leader in the industry has to answer in some questions, what the company itself is capable to achieving with the resources which are available? and what the competition is doing and where the market is moving? By answer in that questions the company path its strategy, to stay in the first option and the only risk is to lose the market's needs or to take the risk of acquisition, which is a riskier option, and may finally create the strategy which offer robust development.

Subsequently, it would be useful to give attention to the companies which involved in these M&As. It would be interesting to refer some of the tops M&As, which occurred in 2016, that give as a better view for the amounts of money which negotiate in M&As and made us clearer the importance of the issue and some of the purposes that corporates decide to involve in M&As as well as the reason that we introduce with this research.

Table 1 Top 5 M&As in 2016

Marriott International - Starwood	March, billion	\$13.6	Sector: Service
After several months of bidding, the two companies agreed to merge, becoming the world's largest hotel chain in a cash and stock deal. The merger would give to the combined company the advantage to reduce the competitors and increase the market region. Its new size would also allow the company to achieve better deals with online booking sites.			
Johnson Controls - Tyco International	January, billion	\$16.6	Sector: Auto Parts
Johnson Controls and Tyco International, which is an Ireland-based company and involved with security systems maker agreed to merge in a deal that would help Johnson Controls to avoid the 35% corporate tax rate in the U.S. by moving headquarters to Ireland. The deal will lead to at least \$500 million in savings			

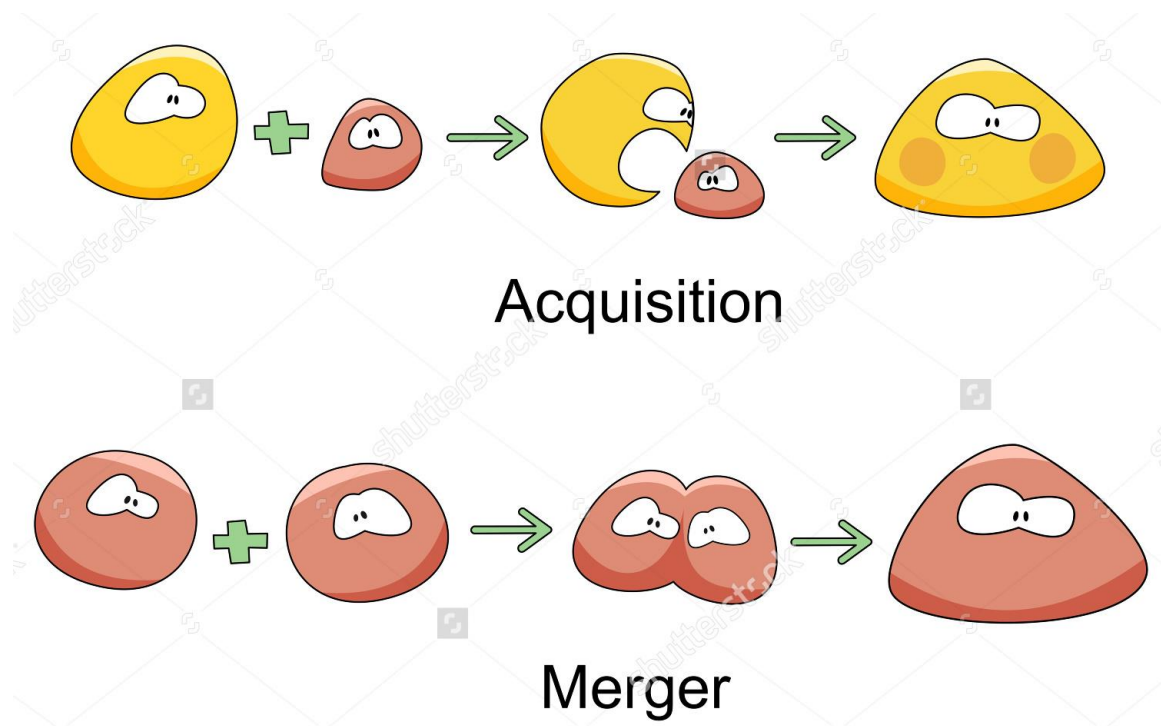
in the first three years, and at least \$150 million in annual tax savings, the companies said			
Microsoft - LinkedIn	June, billion	\$28.1	Sector: Tech
“The LinkedIn team has grown a fantastic business center on connecting the world’s professionals together we can accelerate the growth of LinkedIn, as well as Microsoft Office 365 and Dynamics as we seek to empower every person and organization on the planet.” CEO of Microsoft, Nelson Nadella said.			
Abbott Laboratories - St Jude Medical	April, billion	\$30.6	Industry: Medical Appliances and Equipment
Abbot Labs announced plans to buy St. Jude Medical for \$25 billion in a cash and stock deal, and assume or refinance St. Jude's net debt of about \$5.7 billion. This year was very tense for mergers and acquisitions in the healthcare space, the combined company will have a stronger medical-devices business in an increasingly competitive market. Increased scale will also give Abbot Labs more pricing power in the market.			
Shire – Baxalta	January, billion	\$32	Industry: Pharmaceuticals
London-based drug maker Shire announced plans to buy Baxalta in a \$32 billion cash and stock offer, giving Shire a better foothold in treating rare diseases. The planned acquisition will boost Dublin-based Shire’s position in the market for rare-disease treatments, which is projected to grow by more than 60 percent over the next five years to \$176 billion, per market researcher Evaluate Pharma. The combined company would generate more than \$20 billion in sales by 2020.			

Source: Lucida Shen’s article 2016 which published in magazine fortune

We would think that it would be useful to analyze all the procedure of M&As in general. May that will help us to recognize the difficulties which management team often need to cope with in a more practical level.

2.1 SEVERAL TYPES OF M&AS

Here we are going to analyze the for the diverse types of M&As. Initially, by the meaning mergers and acquisition, when we said acquisition we refer to one company which acquire another company, when that done the buyer becomes a larger company in case that is successful and remains a legal entity, and the target company does not exist anymore. On the other hand, when we said merger we refer to the procedure that the two companies come together to create a new, but the two companies still exist.



There are 3 main types of mergers and acquisitions which differ according to the different goals that they have as purpose to achieve.

✓ Horizontal Deals

The deals take place between competitors or in other words in the same industry. The most consolidating deals in the mobile telecommunications industry in recent years is in this category.

Characteristics of that type of deal is that one side of the deal know a lot for the other deal. There are more possibilities for the deal to be successful such as the companies share the common clients, suppliers and the business process.

These deals frequently described as synergies and offer cost savings, such as there is reduction in the expenses which came from factory or staffing and revenues expenses.

✓ Vertical Deals

Vertical deals are between companies within the same industry but operate in dissimilar stages of the same industry. There is often less knowledge between the 2 companies in vertical deal, however may have a small number of the same clients or suppliers.

✓ Conglomerate Deals

Conglomerate deals are between companies which are unrelated, they operate in different industries. Conglomerate deals do not have strategic purpose. The main reason is to diversify the entrepreneurial risk. That deal is characterized by risk and is riskier than the others M&As types.

2.2 TYPES OF DEAL PROCESS

There are three types of sale process in M&As and each one has different advantages and disadvantages which can offer in the seller and depend on the strategy which has decide to follow.

✓ Public and Open auction

This type of selling process is used, when there are important and valuable assets, which are attractive to many buyers and can achieved a high price for the shareholders of the company. On the other hand, it is possible for the buyers to fail to find an appropriate price for the company and final the deal fails, which this scenario is not in favor of company reputation and it is possible for competitors to see information which it would be preferable to keep confidential.

✓ Limited private auction

Small number of parties, and relatively of buyers. It is a preferred route for the major investment banks. The advantage of this type of selling approach is that usually they used a preferable level of confidentiality, by this way the results from a possible failed deal is minor than in Public and Open auction. However, a high level of skills is required to get the highest price and an experienced advisor should be able to generate this interest and avoid the risk of limited private auction.

✓ Bilateral discussions

Bilateral discussions are useful, where highly confidential such as strategic targets of company issues. In M&As we called deals with limited number of potential purchasers, or when speed is required. These kinds of discussions usually have reduced effects in customers, employees and suppliers but the buyer avoid most of the time high prices of companies.

2.3 PROCEDURE OF M&AS BY STEP

We should take as standard, that each merger or acquisition is a different deal. Here we want to involve with some general steps which happens in most of the cases. We will differ the steps from the side of acquirer and from the side of target.

Buyer

- ✓ Corporate strategy development
 - Is merger or acquisition the best move for the company and which are the appropriate candidates for taking over.
- ✓ Organize for the merger or acquisition
 - Select project leader from different teams, identify outside advisors especially if the firm or the product is in foreign market.
- ✓ Valuation negotiation
- ✓ Identifying the final targets, valuation of the target, negotiations.
- ✓ Structuring and approval

- Structuring the deal (arrange financing etc.), approval by the stockholders who owned common shares, file papers and any legal protection.
- ✓ Post- deal integration
- ✓ Post acquire review

Target

- ✓ Corporate strategy development
 - Determine if the company should be sold
- ✓ Organization for the merger and acquisition
 - Select the project team as the buyer above
- ✓ Negotiation with scope to leading in high level the price
 - Here it is interesting to refer, that there is a strategy which increase the price of the company in a very high level than anyone can finally make the deal.
- ✓ Discussions with the protentional buyers
- ✓ "Short - list" stage
 - Due diligence inside the seller
- ✓ Preferred bidder
- ✓ Deal finalization
 - Arrange financing, legal protection, close the files with necessary approvals, close the deal

2.4 CHOOSE OF THE TARGET

M&As is a strategy that, is expensive enough, and for that reason we should be careful with our decisions, since we would not be lead us to unwanted results. One of the most major decision which board of directors and shareholders should take is which company should be merged or acquired. We could say that, it is a managerial decision, it is very important to determine accurately where they should act in the present and gain in the future.

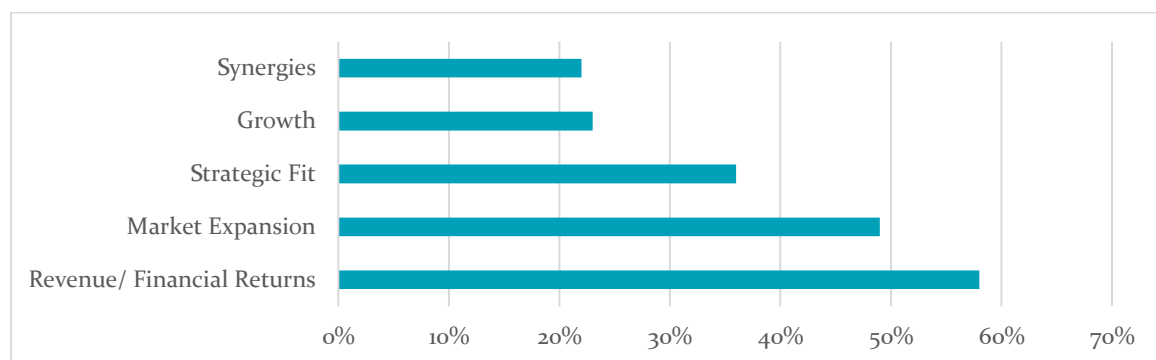
The reasons for doing an M&A deal are clearly dependent on the business, the dynamics of the environment, the prospects, and the personal motivation of the strategic management. Some companies for example they need to acquire in order to improve their market share, others for expanding quickly in new markets or to gain access in raw materials resources, to keep up with their competitors or to reduce the number of their competitors.

All M&As should be based on the corporate strategy. It is noticed that M&As happens all the time. May the intense is different but always happen so I think that we can distinguish 2 kinds of M&As the strategic and the opportunistic deals of M&As. Both types of acquisition can be successful or unsuccessful, often depending on how the deal is completed.



Business is a combination of war and sport, a quote of Andre Maurois ⁴ which represent enough the strategy of M&As. Management role is important to the amount of success that can be achieved in a deal. The management should be able to judge choices based on informed, flexible and expertise, then chances are that success will be more forthcoming. Undoubtedly, the management should be able to separate and finally to choose the target. A management consulting firm, Mercer, identified the top 5 factors before M&As deals.

Table 2 Top 5 Factors in Defining Rationale



Source: Mercer, management consulting firm. Intelligence M&As

Let's start with a benchmark, that the M&As is for the accelerate of growth. The company ought to identify the holes that cannot be filled by organic growth and must be filled by acquisitions or mergers. Thus, we should combine M&A deals with organic investments to achieve the strategic goals while at the same time taking into account companies capabilities and shareholders' goals. That goals identify the strategy of the company; thus, they should be detailed to allow to the management team measure in terms of, market share, client impact and product development. The main factors which play key role in this selection are:

⁴ André Maurois was a French author.

- ✓ industry and the target's position in it
- ✓ size of business,
- ✓ strategic capabilities
- ✓ profitability and others financial factors
- ✓ risk exposure
- ✓ asset type
- ✓ intellectual property
- ✓ management quality
- ✓ current ownership
- ✓ culture and organizational fit

There are some aspects that the company should consider and give special attention in order to have a succeed M&A deal.

The workable strategy, many times in this part there are a lot of mistakes, because many times the strategy focused on the target and not in the combined firm and give attention in a static analysis and do not try to foresee the future of industry or the reactions of competitors, customers and suppliers.

Pricing, the acquirer must set a price limit, this is not standard such as pricing and changed as the market conditions change, and a significant factor that price changing is the quantity and the quality of data which are available.

Cultural compatibility, without the ability of operation as a unified firm, the deal will be failed. Even the general strategy is approval. There must be a plan of cultural integration of the two companies. Otherwise the result may not be preferable.

Potential problems, we should to prepare a risk assessment to identify the potential risks and create a plan of alternatives to mitigate those risks.

Key management, one of the vital mean factor for the succeed of a M&A deal is who will be responsible for the administration of the new entity. The identification of management skills for the team companies and final the selection of the more capable is vital for the new company.

Implementation plan, it is real important for the future of the new firm, the plan for the new unique company. The M&A bet has not completed when the deal finish, on the contrary, that is the most difficult point where the 2 companies have to operate as one and finally to achieve in a predefined period to pay back the cost for the deal.

In this part, we tried to analyze some of the factors which influence our decision for the selection of the capable target. Our conclusion is that each decision should have as driven the strategy of the company and what goal try to achieve by a M&A move, market share, decrease of their operated cost, rivalry movement etc.

In continue we will try to identify some of the aspects which a company should take into account for conclude in which target is the most appropriate for her strategy and its culture, such as we refer previous is vital means that the companies to have the ability to operate as a united entity.

2.5 VALUATION, PRICING AND FINANCING OF M&AS

In this chapter, we identify some practical issues which are really interested in a process of M&As. That is the valuation of the firm, we will buy a firm, but as we have said we buy today but our thought is in the future. What is the value of the company? Which is going to be the value of the company in the future? Also, a crucial factor is the price, how much is going to cost for our company to acquire another company? Finally, which are the source that is going to finance our strategy plan? We know that the source of our company are same and foreign capitals, that we should conclude at the right capital mix with the lowest cost of our company and finally finance our investment, which is the process for the bank to identify who is appropriate for loan and who is not.

2.5.1 Value vs Price

Let's start this chapter by giving some definition about what is the value of the company and what is the price of the company.

Value of the company, is the amount of money that a target company is worth to the bidder. That means the initial price plus any additional expenses. Also, we should consider the time value of money. Except the financial data, there are also non-financial factors that we should consider and finally identify the value of the target. By this way any buyer, should not pay more for a firm than it has calculated it is worth.

Price of the company, is the figure in which the deal can be transacted. It is related to the value, neither the acquirer pays more than the value which believed has the company nor the target sell the company less than the value which feels the company worth. It is although, the market price which buyer and willing seller would agree. Value is may the drive whether the buyer or seller can agree the price, but the price is an independent calculation typically based on similar recent deals

2.5.2 Methods of pricing and valuation

The traditional corporate finance and private equity methods of valuation are not typically applicable on their own, as M&A strategy valuation must include the impact of combining two companies.

For example, when a company wants to make an investment and need liquidity, the (IPO) Initial Public Offering offer a discount to the investors. That's because the firm should give a push to the investors to buy all shares, such as remaining shares are threat for the prestige and image of our firm. Contrary in M&As strategy the initial potential investors must pay much more than the current price of company share, to avoid the public offering, fact which may have unpreferable results such as increased of the share price and general increased for the cost of acquirer.

There many ways to calculate the appropriate price for companies in a M&A situation. Let's discuss about them briefly below.

Liquidation Value is the value when the business terminated, and the assets are sold off. Liquidation value is usually a reasonable floor price for firm.

Comparable Market Multiples is a way which we use similar deals that have done. Depending on the company and the industry where the target and the acquirer operate, by this way we can use,

- **Financial statement multiples** based on a deal value multiple with earnings or sales or book value.
- **Production and Business activity multiples** where deal value is a multiple of units produced or reserves or any other relevant business factor

Cost of M&A deal, is the amount of money which shareholders ought to spend for the integration of the deal, the cost can be significant, and many times may the reason that the deal has not happy end.

Subsequently, we will present a formula which help us to calculate the full cost of an M&A deal. Initially we need some data, how much the target shareholders will need to be paid to part with their holdings, which includes the acquisition premium. Then there are the easily calculated “known” expenses, which are conclude, payments as fees of investment bankers, lawyers, accountants etc. and the expenses of taking over the new company including loan debt. Opportunity cost and post-deal cost integrations is not possible to quantify accurately even from the most expert. However, that must not be an excuse and we ought to make some assumptions.

$$FC = [V_T + P] + E + OC + IC$$

$$FC = DC + E + OC + IC$$

Where, FC is the full cost of purchasing the target firm, V_T is the value of the target pre-bid, P is the premium to existing market value of the target (average around 20-40%), DV is the deal value, E is “cash” cost or the expenses of the acquisition process (investment banking fees, accountant’s fees, interest fees on debt) up to the time of deal closing. This especially range 3-5% of DV, OC is the “opportunity cost” we speak about the negative reactions that may come. This cost is difficult to quantify, but are clearly not zero so should not be ignored, IC is the cost of post deal integration such as cuts of payments, training, plant closing etc., these costs usually rage is 10-15% of DV, with the cost spread over 2-3 years.

2.5.3 Finding Funds for M&As

In this part we explain how the companies are financed, as we know, the machine of companies for survived from the rivals is investments. Investments which either reduce their operating expenses or allow them to introduce a new product or service in the market (innovation). M&As is a kind of investment and as all of investments, we need money for accomplishment of them. The only way for a company to collect funds is either from equity or foreign capitals.

The first option is not preferred from the shareholders, that are already in the company, because they afraid a possible dilution of their rights in the company. Thus, they suggest the option of external finance which at the most time is banking loans. But how banks

decide if a company is appropriate for a loan? In this section, we try to examine the way which banks approve or reject their loans applications.

Banks can use their own estimated risk parameters to calculate permissibly capital. This is known as the 'Internal-Ratings-Based (IRB) ⁵approach to capital requirements for credit risk. The IRB approach relies on a bank's own assessment of counterparty credit quality and risk exposures to calculate capital requirements for credit risk. However, only banks meeting certain minimum conditions, disclosure requirements and approval from their national supervisor can use this approach in estimating capital for various risk exposures.

The IRB approach requires from banks to create risk categories, based on reporting of an individual score for each obligor (borrower) and an estimated individual probability of default (PD)⁶. Obligors that share the same credit quality should be assigned into the same risk category. Following obligors' grouping in respective risk buckets, a pooled bucket PD should be then calculated, considering that this represents obligors' risk within the group in practice, this is basically a credit risk rating system⁷. By this way, it is easier for the bank to score the credit capacity and the probability of default of each borrower.

There is a variety of tools and procedures which the bankers can use to analyze, estimate and control credit risk, such as credit risk analysis, collateral assets, covenants in the loan agreement and granted loan monitoring. Credit risk analysis focuses on assessing the probability of the repayment (or default) of a loan. The construction, testing and evaluation of credit rating models can provide instrumental signals on borrowers' credit quality, support the assessment of PD and lead to the efficient management of bank loan portfolios. The model assumes an IRB framework to implement a credit rating methodology on the bank's corporate obligors. For our assignment, we will examine the shipping firms. Bank shipping lending is an issue which has not been adequately studied.

There are two researches, from Antoniou, Thanopoulos, and Grammenos (1998) and Dimitras, Petropoulos, and Constantinidou (2002) which they concerned with certain aspects of bank credit risk in shipping, but they use a different empirical approach. The first study ranks in priority a number of credit factors, on the basis of respective weights derived from a sample of 12 financial institutions. The second study uses the UTADIS⁸ method to group a sample of shipping loan facilities in homogeneous classes and investigates, subsequently, the impact of selected risk factors and credit criteria for bank financing decisions. The credit rating and quality model which is related to the categorization of key credit criteria (UTADIS) is perceived to be of most critical importance for borrower rating and loan quality. The selection of these credit criteria relies on the empirical output of a global bank survey, designed for this purpose and addressed to top credit managers in a sample of shipping banks. Furthermore, a robust credit scoring system is outlined based on UTADIS, a multicriteria quantitative

⁵ (IRB) Internal-Ratings-Based

⁶ (PD) Probability to default

⁷ (Segoviano and Lowe 2002).

⁸ Utility and Discrimination (UTADIS) (proposed by a financial consulting firm)

optimization framework to financial classification and outranking decisions, employed in the field of operational research and decision support systems. A limited number of past empirical studies have discussed a diverse range of criteria that can be incorporated in credit rating and quality evaluation of loan facilities in the shipping industry. Sloggett (1998), for instance, employs standard financial appraisal criteria and factors (such as net present value and internal rate of return, foreign currency and taxation) to formulate a credit analysis framework and an evaluation process. Stokes (1997), furthermore, discusses several critical factors in a shipping firm, such as market position and management quality. A bank can take these factors into consideration, jointly with financial ratios, to set up a robust shipping loan evaluation and decision-making process.

Creating and operating a solid, flexible and reliable credit rating model offers the opportunity for the bank, to monitor closely and accurately the borrower's credibility and risk profile shifts. Shipping sector which is characterized as a highly risk sector, the borrower's credit rating is playing a critical priority role for the lending bank. A vital banking credit process is not only to build a reliable borrower track record but to rate appropriately and classify the quality of the bank loan portfolio as well, such as a creation of an internal mechanism of internal auditing which is rating the possibility the bank cope with liquidity problems in the future.

Previous we explain an approval mechanism which is used by banks to identify if a borrower is capacity to cope with his liabilities or is possible fault. Except that it constitutes tool for measuring their clients a create a safe loan portfolio, furthermore is the way that banks take decisions according to if a loan must be approved or reject.

2.6 POST-DEAL REVIEW FOR M&AS

It is very important for companies to have a review in the M&As that have already done. Not only M&As which they have taken part, but by second hand by studying transactions of other firms. Thus, they can lead to an improvement in M&As success rate. Such as, companies by this way can built a reputation for being a successful acquirer, companies for sale will seek out such buyers, knowing that they will be treated better post-deal.

Mc Kinsey ⁹released in early 2013 ¹⁰argued that most successful acquisition strategy in terms of shareholder returns is to carry out what it calls a “programmatically approach”. This is when the acquirer executed several smallish deals that in total make up 19% or more of the companies' market cap. By the completion of deal companies should have a review of them, initially to avoid the same mistakes and for improve their reputation and learning for next deals.

Subsequently we will refer an article which we will use it as example of M&As review and state to a company which involved in shipping industry, and has a very active role in M&As. Maersk Line which in the demand in the container shipping market and the need for a rapid expansion of its capacity, Maersk choose to grow via acquisitions and

⁹ McKinsey & Company is the trusted advisor and counselor to many of the world's most influential businesses and institutions.

¹⁰ Cristina Ferrer is a consultant in McKinsey's Boston office, where Andy West is a partner; Robert Uhlener is a partner in the San Francisco office. M&A as competitive advantage

not organically. With the purchase of Royal P&O Nedlloyd (PONL) in 2005, it became the world largest carrier, and could achieve economic of scale, such as its second competitor has almost the half of its fleet capacity. In decade of 90s, there was an expansion of international trade, in the container sector where Maersk is involved, in response to this growth, business integration of companies in the shipping industry from alliances to that had begun from 70s and 80s, to pool costs, revenues and marketing. Alliances, Mergers and Acquisitions raised the market share of top 20 carriers from only 26% in 1980 to 58% in 2003, according to Review of Network Economics in 2004.¹¹

Maersk line is a Danish shipping company which is part of the AP Moller-Maersk Group, and tracing its origins from the beginning of the 20th century. In 1990, the collaboration with P&O Nedlloyd PONL on vessel employment was established and the synergies were significant. Then in 1993, it acquired a smaller Danish shipper (Eac-Ben), from which profitability was rapidly achieved at a time when most carriers were unable to show a profit.

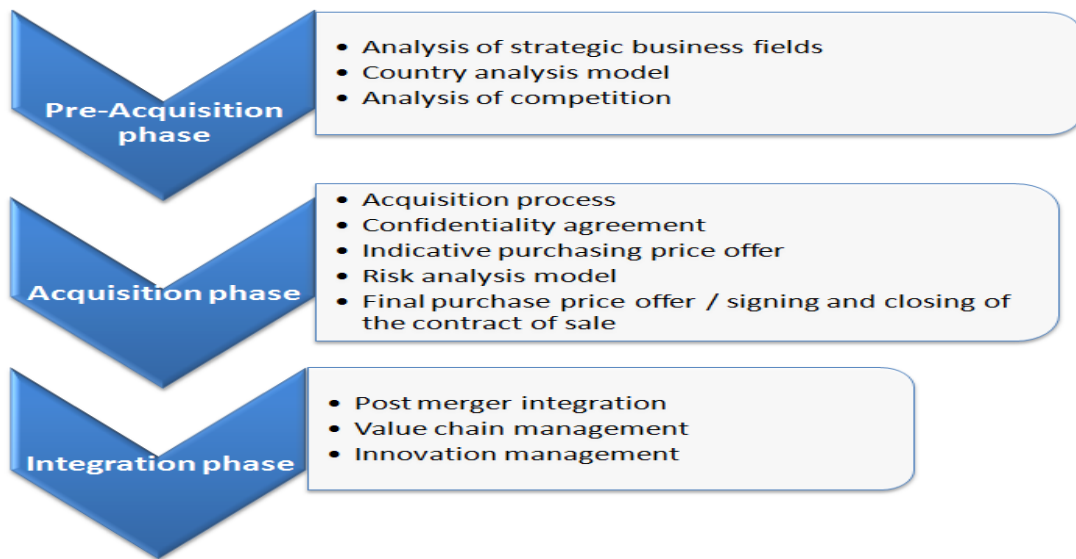
Two years later in 1995, Maersk formed an alliance with Sea-Land American firm and the largest carrier at the time. Maersk acquired Sea-Land at the mid-1999 and adopt new business practices in the industry- such as the isolation of two types of business, logistics activities and ocean carriage. According to several then current and former employees at Maersk, interviewed shortly after the acquisition, because of its experience with its earlier acquisitions, the company had been preparing for its next acquisition. Management had identified the need for additional ship capacity and, in May 2005, it offered to purchase PONL at a premium of 40.6%

Prior to the completion of the deal, Maersk management had set up a monitoring team and program to follow up customer contributions, according to their volume commitments, to ensure that expected revenue enhancement synergies were realized. From its previous acquisitions, Maersk Line had learned that effective and frequent communication with both customers and employees was necessary in order to avoid loss of key customers and key employees.

2.7 CONCLUSIONS FOR M&AS

In this chapter, we will speak for the process of M&As, we go deep in the analysis of how that work. Our conclusions are that M&As is strategy and that many companies do to improve their market cap. We tried previous to give a series in how that work in more practical level. In continue we will present a picture that help us to understand better how it works.

¹¹ Review of Network Economics Editor-in-Chief: Grzybowski, Lukasz



As we have already said, investments are vital issue for companies. If a company does not growth, then it is leaded by accuracy in the end of its operation. Thus, companies decide which parts should be improved by investments and identify which of them is going to do through organic growth and which via Mergers and Acquisitions.

In continue, they identify the right target, which is approval in cost and quality in order to capture the disadvantage of the company and final to offer a robust improvement in company's performance, condition and general capacity. Subsequently as we have said, is going to do a valuation, such as neither the investor is going to pay more than that the believe that company value nor the shareholders of the target are disposed to take less than they think that the company cost. In addition, we refer the process of how the deal done.

Finally, with the integration of the deal, is the most difficult point for the M&A investment, such as we are going to see after that if the deal is profitable for the company and is going to offer returns in the investors or rather than that is a failed deal the bring losses for the company and costs for the reputation and the value of the company.

In the next chapter, we will speak for the shipping industry. We will go deep in how that industry works and, we will see that is concluded by more industries that depends for the distance, the quantity and the entity of cargo that should transport.

3. Shipping Industry

The shipping industry is a global market with many investors and stockholders. There are many cracks in the legislation about the taxation and tax deduction in the maritime transportation industry worldwide and therefore the shipping companies are flexible because by using the advantage of the flag, shipping companies has the right to change their flag whenever they want to get their convenient legal environment. On the other hand, that conclude risk for the potential investors, especially in M&As where as we refer the amount of investments are huge and that is an additional risk. For these reasons, there are fewer M&As in the shipping sector all over the world, comparing to the other industries. In this chapter, we analyse the shipping market in general. We refer instantly the 4 markets and we will try to explain them and subsequently we make a segmentation in the shipping market rely on the cargo and the ship. Finally, we refer some names of companies which they merged or acquired.

3.1 FOUR MARKETS OF SEA TRANSPORT SERVICES

Markets play a significant role in the operation of the international sea transport business that we must start by clarifying what the market is. Nowadays sea transport services are influenced by four closely related markets, each trading in a different commodity and which are.

- Freight market trades
- Sales / Purchases market trades second-hand ships
- The Newbuilding market trades
- The demolition market deals in ships for scrapping.

In continue, we will try to present how the four-market environment operate. For this reason, we create a picture to illustrate the framework of how the market works. Because the same ship-owners are trading in all for their activities are closely correlated.

The freight market, provides freight revenue, the main source of revenue for shipping companies. This market is separated in 3 different sectors of market,

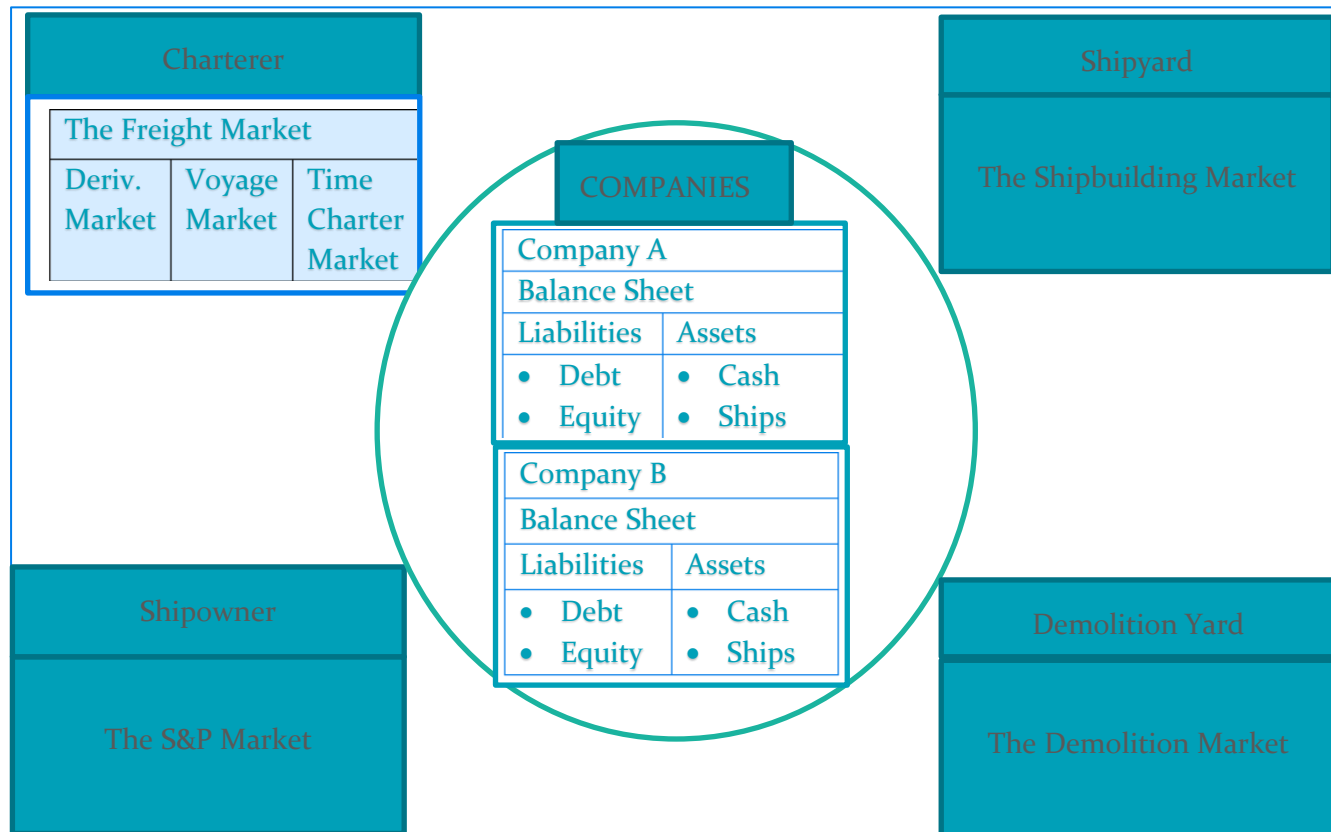
- ***The Voyage Market***, which trades transport for a single voyage
- ***The Time charter Market***, which hires out the ship for a defined period
- ***Freight Derivatives Market***, which forward settled against an index

The sales and purchases market, is involved with the second had ships and general is a transaction between a shipowner and an investor, such as usually the other person is also a shipowner and believe that the market is going to be profitable enough for the specific period. In this market for every winner there is a loser.

The new buildings market, cash spent for the creation of new ships which added in the world fleet and subsequently increase the supply for seaborne transport. The flows of money that spent in this market is outflow of the shipping industry such as shipyards use that money for raw materials, operate costs and profit for themselves.

The demolition market, a cash inflow for shipping companies is the demolition market, that's the market where the old vessels which are not capable to be profitable for their companies and they offer them the last amount of money by sell them for destroy them and be recycled as raw materials.

Figure 1 Stopford 4 Markets



Source: Maritime Economics, Martin Stopford.

The scheme above, based on the four markets which prior refer, we will try to explain how the shipping sector operate. The freight market is the core of the whole market. Her condition affects to other markets. For example, it has been observed that if the freight index increased then increased orders for new buildings, new ships and there is increase of activity in the Sales / Purchases sector. On the other hand, it is remarkable the decline of the ships demolition (scrapping). By this way, the world fleet, fleet productivity etc. increased and the supply of transport service by sea, overwhelm the demand and that has as a result many fleets be chartered in the limits of operating costs or even with losses. So, these facts are occurred contrary in possible of decrease on freight index.

The maritime economy is complicated. Many reason can influence the freight index, according to “maritime economics”

Martin Stopford, the major factors which affecting the demand for the sea transport and the supply, is presented in the following table.

Table 3 Factors influence Demand and Supply for Sea transport.

Factors Influence Demand and Supply for Sea transport¹²

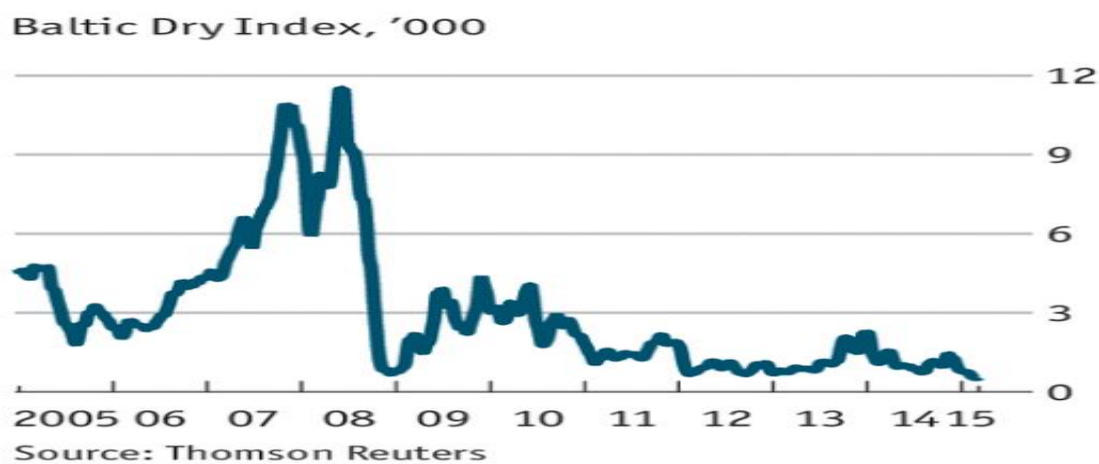
Demand	Supply
The world economy	World fleet
Seaborne commodity trades	Fleet productivity
Average haul	Shipbuilding production
Random shocks	Scrapping and losses
Transport costs	Freight revenue

Source: Maritime Economics, Stopford Martin

It would be useful to see how the freight market moved the latest years. Baltic Dry Index (BDI) constitutes a general Index which in other words present the situation in Maritime market. As we can notice below the BDI “gold years” period is between 2005 and 2008, fact which combined with the bankruptcy of Lehman Brothers Holdings Inc ¹³, when the index falls in low levels which cover only the operational expenses of shipping companies until now.

BDI Baltic Dry Index¹⁴

Figure 2 Baltic Dry Index



Because of increased demand for shipping services, was to create a large order book for new build vessels, sometimes second-hand vessels worth higher prices since they could be used immediately, without the construction time requirements. The high freight rates, offered the ship-owners large amounts of wealth and as the tough competition

¹² Maritime Economics “Martin Stopford ed.3” page 136

¹³Lehman Brothers Holdings Inc was the fourth-largest investment bank in the United States (behind Goldman Sachs, Morgan Stanley, and Merrill Lynch), doing business in investment banking, equity and fixed-income sales and trading (especially U.S. Treasury securities), research, investment management, private equity, and private banking.

¹⁴ <http://www.economist.com/>

evolved rapidly, some of them expanded their businesses utilizing M&As. Since this industry is highly capital intensive, shipping companies' intent to rationalize activities, create significant economies of scale, reduce costs and thus minimize financial risks. All of which, in order maritime corporations to meet customer demands, cope with worldwide demand for products and establish themselves as major market players.¹⁵

3.2 DIVERSIFICATION OF THE SHIPPING MARKET ACCORDING TO CARGO AND QUANTITY.

In the previous chapter we are trying to make a superficial analysis of how shipping industry work and we present the four-market system based on Stopford "Maritime Economics" research.

In this chapter, we will try to present the variety and the differentiation of markets which they operate in shipping industry. The markets are varied according to the size of the vessel and the cargo.

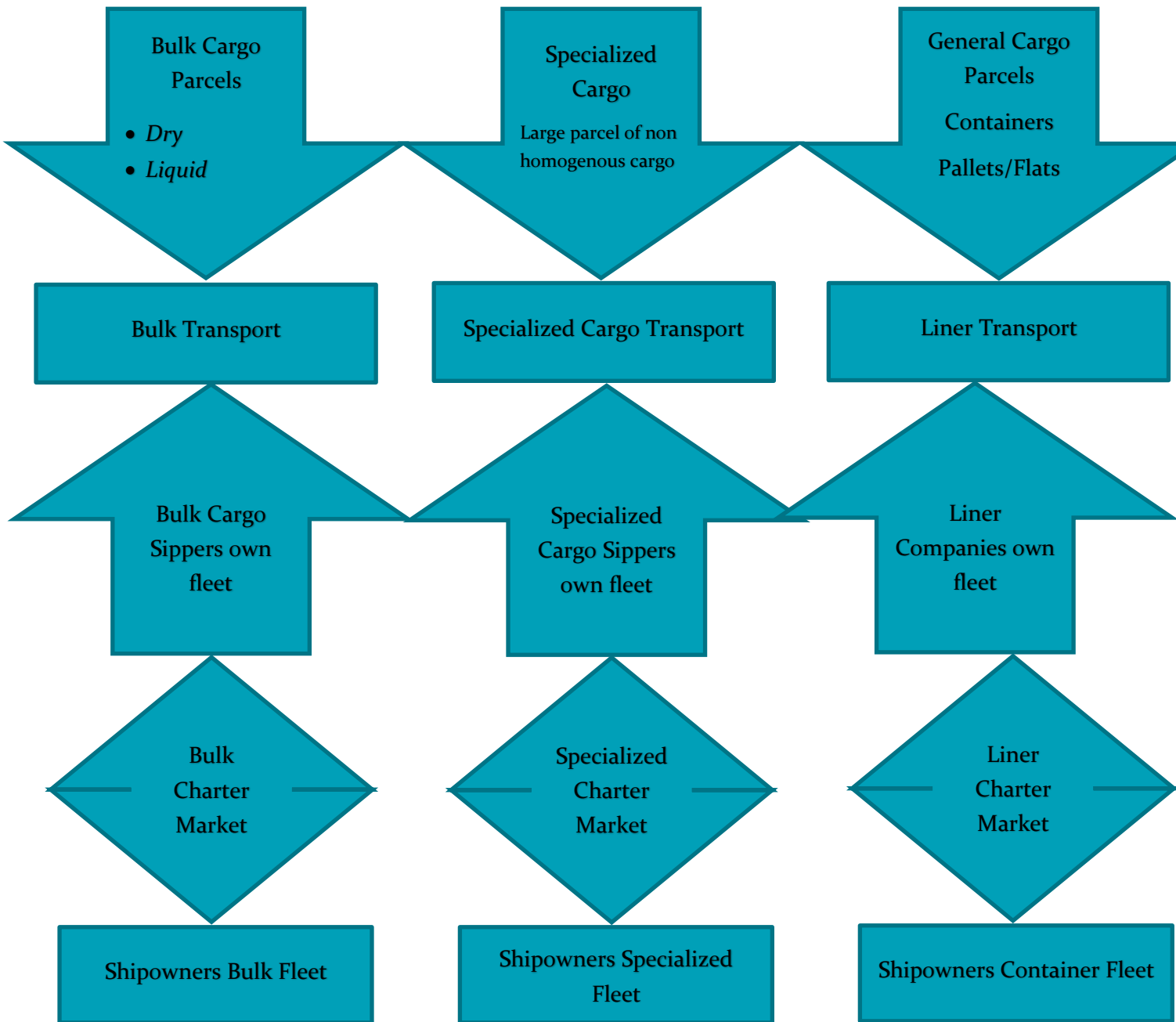
The main shipping sectors are Bulk carriers sector (Dry Bulk, Liquid Bulk Carriers), Specialized cargo sector such as L.N.G., L.P.G., Chemicals e.t.c. and Liner Transport. Subsequently, there is a scheme which help us to understand better how we make this diversification. Although these markets belong to shipping industry but each one has different characteristics.

In continue, we analyse each sector more particularly and we try to go deeper in the operation of a shipping management company.

¹⁵ Mergers And Acquisitions In The Shipping Industry Andreas G. Merikas, University of Piraeus, Greece Dionysios Polemis, University of Piraeus, Greece Anna Triantafyllou, Deree College, Greece



Seaborn Trade Transport



3.3 BULK CARRIERS SECTOR

In bulk shipping, the main strategy that has been around for millennia is cutting transport cost by carrying cargo in shiploads. The main fleets of Bulk sector are tankers and dry bulk carriers.

Dry bulk carriers or bulkers are vessels designed to carry bulk solids such as cereals, coal, ore and cement. Bulk carriers make up more than a third of the entire merchant fleet in the world. They are ranging from small vessels of under 500 DWT to huge carriers of 365,000 DWT. Bulk carriers must be carefully designed and maintained because they may carry cargo that is very dense, corrosive or abrasive.



Tankers are merchant ships designed for the bulk transport of oil. There are two basic types of oil tankers: crude tankers and product tankers.

- Crude tankers, move massive quantities of unrefined crude oil from its point of extraction to refineries.
- Product tankers, generally much smaller, are designed to move refined products from refineries to points near consuming markets.

Oil tankers are often classified by their size as well as their occupation. The size classes range from inland or coastal tankers of a few thousand metric tons of deadweight (DWT) to the mammoth ultra large crude carriers (ULCCs) of 550,000 DWT. Tankers move approximately 2,000,000,000 metric tons of oil every year.



Table 4 Bulk carrier fleet.

Tankers Fleet		Bulk Carriers Fleet	
Seawaymax	10,000 to 60,000 DWT	Handysize	10,000 to 35,000
Panamax	60,000 to 80,000 DWT	Handymax	35,000 to 59,000
Aframax	80,000 to 120,000 DWT	Panamax	60,000 to 80,000
Suezmax	120,000 to 200,000 DWT	Capesize	80,000 and over
VLCC	200,000 to 315,000 DWT		
ULCC	320,000 to 550,000 DWT		

Source: MarineWiki.com

Also in bulk carrier fleet, there are categories in bulk carrier fleet occur in regional trade such as

Kamsarmax Maximum length overall 229 meters refers to a new type of ships, larger than Panamax, that are suitable for berthing at the Port of Kamsar (Republic of Guinea), where the major loading terminal of bauxite is restricted to vessels not more than 229 meters.

Newcastlemax Maximum beam 50 meters, and maximum length overall of 300 meters Refers to the largest vessel able to enter the port of Newcastle, Australia at about 185,000 DWT

Setouchmax About 203,000 DWT, being the largest vessels able to navigate the Setouch Sea, Japan

Seawaymax length overall approximately 226 m max, 7.92 m draft. Refers to the largest vessel that can pass through the canal locks of the St Lawrence Seaway (Great lakes, Canada)

Malaccamax length overall approximately 330 m, 20 m draft, 300,000 DWT, refers to the largest vessel that can pass through the Straits of Malacca.

Dunkirkmax Maximum allowable beam = 45 m / LOA 289 m. max (175,000 DWT approx.) for the eastern harbor lock in the Port of Dunkirk (France).

3.3.1 Mergers & Acquisitions in Bulk Sector

Subsequently, we present a table with some names which they consolidated by the process of M&As in the period 2007-2008.

Table 5 M&As examples in bulk sector shipping industry 2007-2008

M&A examples in bulk sector shipping industry 2007-2008

Announced Day	Target Name	Acquirer Name
29/1/2008	Quintana Maritime Ltd	Excel Maritime Carriers Ltd
6/8/2008	Arlington Tankers Ltd	General Maritime Corp
5/2/2007	Kleimar NV	Navios Maritime Holdings Inc
26/6/2007	Multiple Targets K-Sea	Transportation Partners LP
14/3/2008	M/V Nord Wave	Star Bulk Carriers Corp
30/4/2007	Woodlawn Pipeline Co Inc	Martin Midstream Partners LP
9/7/2007	Saunders Engine and Equipment Co Inc	Kirby Corp
30/6/2007	Mega Lubricants Inc	Martin Midstream Partners LP
20/6/2008	Teekay Petrojarl ASA	Teekay Corp
15/10/2007	Chembulk Tankers LLC	Berlian Laju Tanker Tbk PT

Source: Author

3.4 CONTAINER SECTOR

With the beginning of the previous century, it was important for the companies to produce as much as they could, on purpose to reduce the cost per unit and use economies of scale as a strategy to cope with the rival and create an empire in the market. With the passing of time the quantities of products increased and many times there was surplus of supply. For this reason, created stores and companies that involved with the storage and better handling of products, raw materials etc., recent years the major number of companies absorb a new mode that reduce the cost and caused a change in corporate strategy and create new companies and chances in the market. "Just in Time" is an inventory strategy companies employ to increase efficiency and decrease waste by receiving goods only as they are needed in the production process, thereby reducing inventory costs. Thus, it is created a need in the market for vessels which is appropriate for carrying variety of cargoes in low quantities and parallel helps in integration of supply chain.

Containerization, which is an international standardization, played a key role in the container shipping industry. Without these factors, globalized intermodal networks would not be possible. Container shipping is different from conventional shipping because it uses 'containers' of various standard sizes - 20 feet (6.09 m), 40 feet (12.18 m), 45 feet (13.7 m), 48 feet (14.6 m), and 53 feet (16.15 m) - to load, transport, and unload goods.



As a result, containers can be moved seamlessly between ships, trucks and trains. The two most important, and most commonly used sizes today, are the 20-foot and 40-foot lengths. The 20-foot container, referred to as a Twenty-foot Equivalent Unit (TEU) became the industry standard reference so now cargo volume and vessel capacity are commonly measured in TEU. The 40-foot length container - literally to TEU - became

known as the Forty-foot Equivalent Unit (FEU) and is the most frequently used container today. The container ship fleet is operated by liner shipping ¹⁶companies. These companies may not own the vessels, but they operate them in order to provide regular containerized shipping services. The top ten liner companies operated 50.2% of the container ship fleet in 2009) and 51.6% in 2012.



Intermodal container shipping comparison

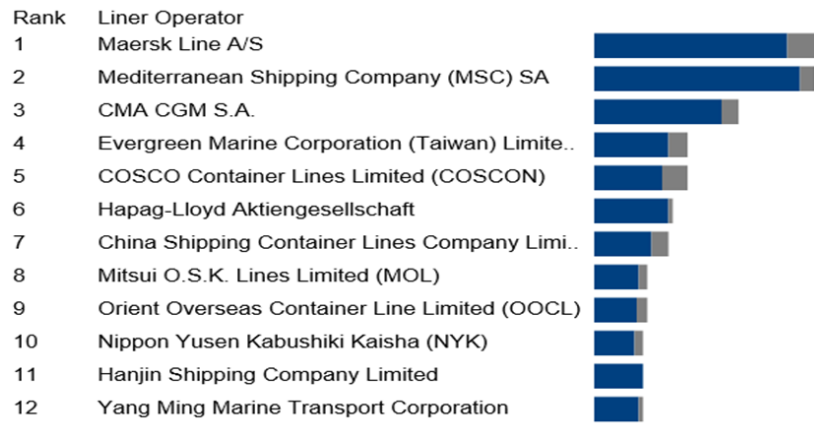
The container shipping industry has been hit hard by the economic crisis like other industries. The downturn in trade has directly led to a rapid decline in demand for transport and related services. During the decline in demand, the major operators tended to reduce their chartered-in tonnage by returning vessels to their owners. However, there is not an automatic mechanism for setting supply to the decrease of demand immediate. Despite the economic crisis, new deliveries in 2009 grew by 42% over 2008 because of ships having been ordered prior to the drop-in demand. The resulting oversupply of tonnage then led to a surge in the demolitions of older tonnage by more than 300%

¹⁶ A liner service is a fleet of ships, with a common ownership or management which provide fixed service, at regular intervals, between named ports, and offer transport to any goods in the catchment area served by those ports and ready for transit by their sailing dates. A fixed itinerary, inclusion in regular service, and the obligation to accept cargo from all comers and to sail, whether filled or not on the date by a published schedule are what distinguish the liner from the tramp. (Martin Stompford 3rd edition, page 512)

Containerships Top Operators¹⁷

Table 6 Containers Top Operators

Top Operators



Source: Loydslistintelligence.com

As we can notice above the top operators in containers shipping, the blue part of the chart is the live fleet of companies and the grey part is the orderbook. Thus, we expected the level of freight price to maintained in levels that we have at the present.

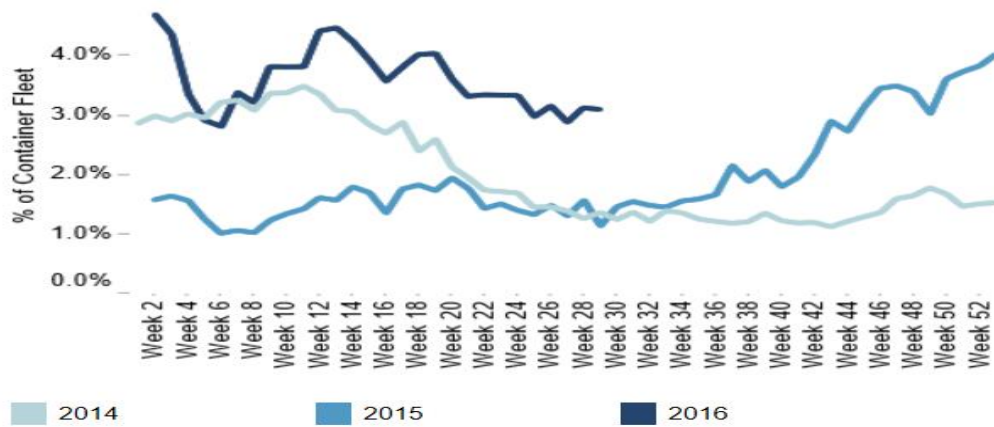
At the beginning of 2010, the world merchant fleet reached 1,276 million deadweight tons, an increase of 7% over 2009. The oversupply of containers carrying capacity has led to a significant drop in container freight rates, which is decreased by one third between the end of 2008 and the end of 2009. The low freight and charter rates, combined with the downturn in trade volumes, have led to historical financial losses for shipping firms. Maersk Line, the world's largest container shipping company, had a loss of \$568 million in 2006 and \$198 million in 2007.

Subsequently, we will present a chart that shows the percentage of idle fleet, those which have been inactive. And as we can notice every year the proportion increased. That's means that the crisis influenced until now the sector of container shipping.

¹⁷ <http://www.lloydslistintelligence.com>

Idle fleet¹⁸

Table 7 Containers Idle fleet



Source: Loydslistintelligence.com

Finally, crisis except of a period, which companies cope difficulties and some of them lead to bankruptcy although is a chance for companies to grow up and become empires of the market. Most of the times, companies with better liquidity can survive and acquire some of their competitors.

Subsequently, we present a table which contained M&As activities that happened from 2000 until 2016.

¹⁸ <http://www.loydslistintelligence.com/>

Table 8 M&As in Containers 2000-2016

YEAR	M&A ACTIVITY
2016	<ul style="list-style-type: none"> • Maersk Line on Dec. 1 announced it will acquire Hamburg Süd and retain its brand. Maersk Line anticipates to close the deal (subject to regulatory approvals) by year-end 2017. • "K" Line, MOL, and NYK Line agreed on Oct. 31 to establish a new joint-venture company to integrate the container shipping businesses (including worldwide terminal operating businesses excluding Japan) of all three companies subject to regulatory approvals. The establishment of the new joint-venture company is planned for July 1st, 2017, with the planned business start date of April 1st, 2018. • Hapag-Lloyd and United Arab Shipping Co. sign a business combination agreement with support of their stockholders on July 18. However, some contractual and regulatory approvals are still required prior to the merger closing, previously anticipated by year-end 2016. • CMA CGM Group acquires majority share of Neptune Orient Lines, (NOL) and its principal operating brand APL on June 9, and closes its voluntary general offer to remaining NOL stockholders on July 18. NOL became a wholly-owned subsidiary of CMA CGM Group following the completion of a compulsory acquisition process with the then-remaining NOL stockholders from July 19 forward that was concluded on Sept. 5. • King Ocean acquires the services of Interocean Lines and Trinity Shipping Line on May 1. • Cosco and China Shipping officially restructure and merge effective Feb. 18, and later rebrand as China Shipping.
2015	<ul style="list-style-type: none"> • Crowley Maritime completes the purchase of SeaFreight Line, SeaFreight Agencies, and SeaPack, liner and logistics companies serving Florida, the Caribbean and South and Central America on Nov. 2. • Hamburg Süd acquires the container liner business of Compañía Chilena de Navegación Interoceánica S.A. (CCNI) upon closing on March 27, 2015. Hamburg Süd will continue the CCNI brand and operations in the west coast of South America trade with Asia, Europe and North America. • Pacific International Lines acquires Mariana Express Lines on March 11, 2015. • Matson acquires Horizon Lines including its Alaska operations in late May 2015 upon the completion of the sale of Horizon's Hawaii operations to The Pasha Group. Separately, Horizon Lines terminated its Puerto Rico liner operations at year-end 2014.
2014	<ul style="list-style-type: none"> • Saltchuck acquires Tropical Shipping from AGL Resources, which merged with Nicor in 2011. • Baltic Reefers acquires NYKCool from NYK Reefers Ltd. The name changed to Cool Carriers AB; its 25 vessel fleet will remain independent. • The merger of Hapag-Lloyd with the container business activities of CSAV was completed Dec. 1 upon approvals from competition authorities.
2007	<ul style="list-style-type: none"> • CMA CGM Group acquires U.S. Lines Ltd. (not related to the original U.S. Lines), CoMaNav and CNC Line. • Hamburg Sud takes over liner operations of Costa Container Lines to the Mediterranean, South America East and North Coast, Central America and the Caribbean.
2006	<ul style="list-style-type: none"> • CMA CGM Group acquires Delmas, OT Africa Line, Setramar, and SudCargoes. • Hamburg Sud acquires FESCO's cross-trade activities from Australia/New Zealand to Asia and North America
2005	<ul style="list-style-type: none"> • A.P. Moller-Maersk acquires P&O Nedlloyd Container Line. The Maersk Sealand and P&O Nedlloyd names were changed to Maersk Line in February 2006. P&O's Farrell Lines subsidiary becomes part of the U.S.-flag Maersk Line Ltd. business unit. • Hamburg Sud acquires 100 % of Ybarra Sud y Cia. Sudamerica S.A. (Ybarra Sud), up from its 50% stake in 1989. • Hapag-Lloyd's parent TUI AG acquires CP Ships, previously traded on the N.Y. Stock Exchange as TEU.
2003	<ul style="list-style-type: none"> • Hamburg Sud acquires Ellerman services to the Mediterranean and to India/Pakistan; and takes over Kien Hung liner services between Asia and South America.
2002	<ul style="list-style-type: none"> • A.P. Moller Group acquires the liner division of the Danish Torm Lines and integrates it into both Maersk Sealand and Safmarine. • CMA CGM Group acquires MacAndrews. • CP Ships acquires Italia di Navigazione from d'Amico Societa di Navigazione. • Sea Star Line acquires U.S.-flagged Navieras de Puerto Rico/NPR Inc. from Holt Group. • Seaboard Marine acquires Haiti, Jamaica, Dominican Republic services from Tecmarine Lines. • Tropical Shipping acquires Eastern Caribbean and Guianas service from Tecmarine Lines.
2001	<ul style="list-style-type: none"> • Grimaldi Group acquires Atlantic Container Line (ACL).
2000	<ul style="list-style-type: none"> • CP Ships acquires Christensen Canadian African Lines (CCAL). • CSAV acquires Norasia.

Source: www.fortune.com/2016/06/13/12-biggest-mergers-and-acquisitions-of-2016/

3.5 SPECIALIZED SECTOR

In the previous chapter we analyze the liner transport, in this chapter we will speak about markets where the cargo is not homogeneous, and either cannot be in the normal atmosphere condition or even can be alive, such as chemicals, L.N.G., L.P.G. and passenger transport.

Based on the differentiation that Martin Stopford give as in his book “Maritime Economics” in the Specialized Market Sector, we will separate five groups categories which of commodity trade which involved in this category.

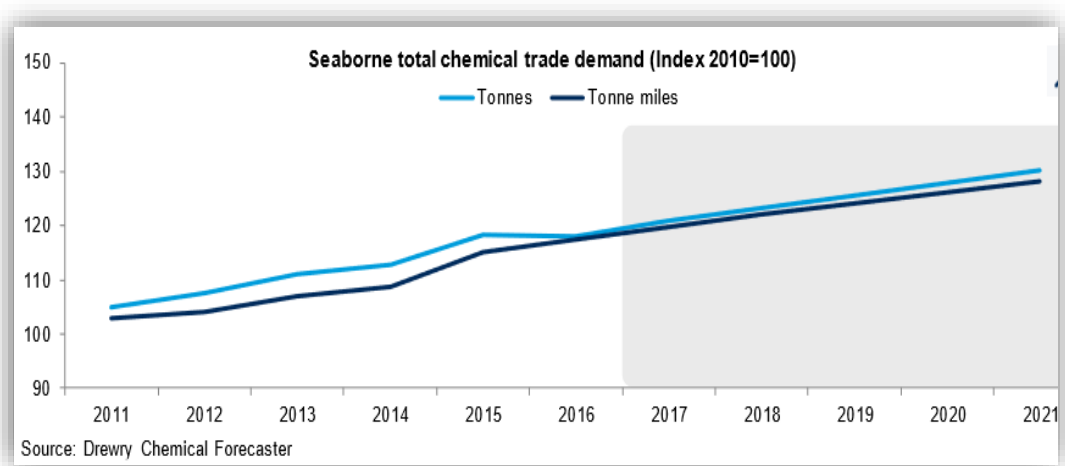
- **Chemicals**
- **Liquefied Gas**
- **Refrigerated Cargo**
- **Unit Load Cargoes**
- **Passenger Shipping**

Subsequently we will speak for each category of them particularly

3.5.1 Chemicals Transport

A chemical tanker is a type of tanker ship designed to transport chemicals in bulk. As defined in MARPOL, chemical tanker means a ship constructed for carrying in bulk any liquid product listed in chapter 17 of the International Bulk Chemical Code¹⁹. As well as industrial chemicals and clean petroleum products. Ships also often carry other types of sensitive cargo which is required high standard of tank cleaning, such as palm oil, vegetable oils, tallow, caustic soda, and methanol. Subsequently, we present some forecasts for the future of the market.

Table 9 Chemicals Cargoes



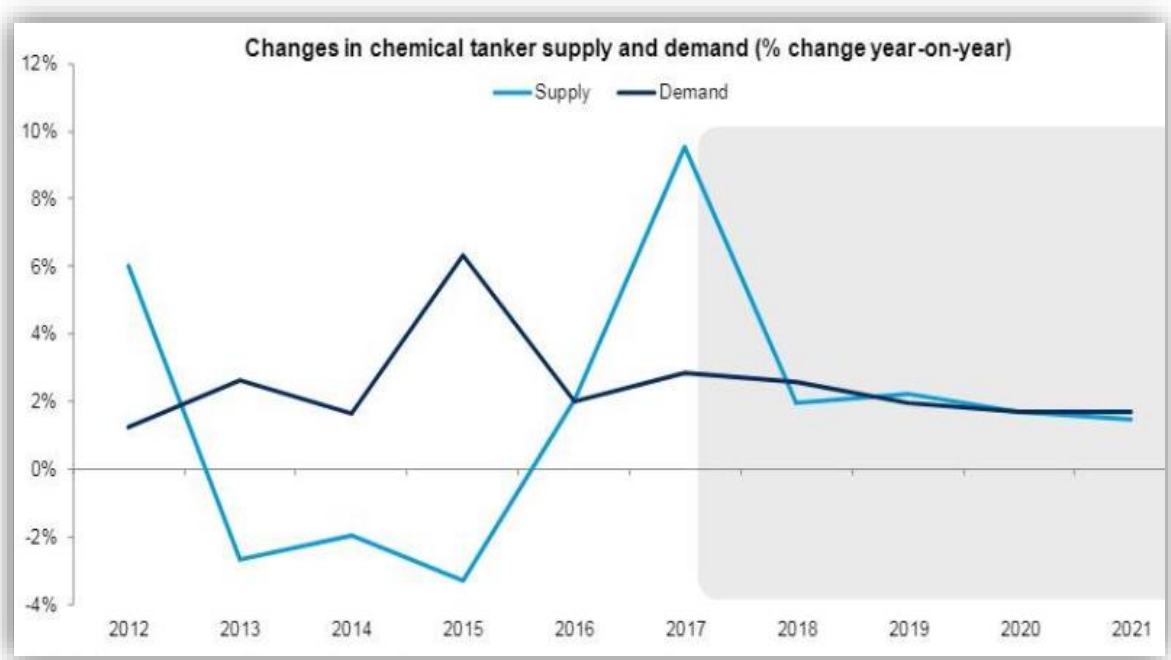
¹⁹ The International Bulk Chemical Code (IBC-code) is a standard governing the construction and equipment of ships carrying dangerous chemicals in bulk. The IBC Code applies to all chemical tankers constructed after 1 July 1986 and stipulates that bulk chemicals must always be carried in tankers that comply with the requirements of the code.

The shipping fleet trading in chemical and vegoil markets is expected to accelerate at a much faster pace than demand, weakening earning prospects, according to the latest edition of the Chemical Forecaster, published by global shipping consultancy Drewry.

Drewry estimates that tonne-mile demand will grow at 2.9% in 2017, and the fleet trading in chemicals/vegoils will expand by 9.5% by the end of this year, the highest fleet growth observed in recent years.

The chemical shipping market is facing severe oversupply because of new deliveries and swing tankers returning to the chemical/vegoils trade and seeking employment in this market. The orderbook still contains 9% of the existing capacity to be delivered by 2021.

Table 10 Chemicals Market Demand & Supply Growth



Source: Global shipping consultancy Drewry.

3.5.2 Liquefied Gas

Liquefied gas is a gas that has been turned into a liquid by cooling or compressing it. The main liquefied gas which are traded by sea are liquefied natural gas, and liquefied petroleum gas.

Liquefied Natural Gas is natural gas that has been liquefied for the purpose of storage or transport. The liquefied gas is then transported through tankers with special airtight compartments. When the tanks are opened, and the liquid exposed to atmospheric pressure, the liquid boils off from the latent heat of the air or its container.

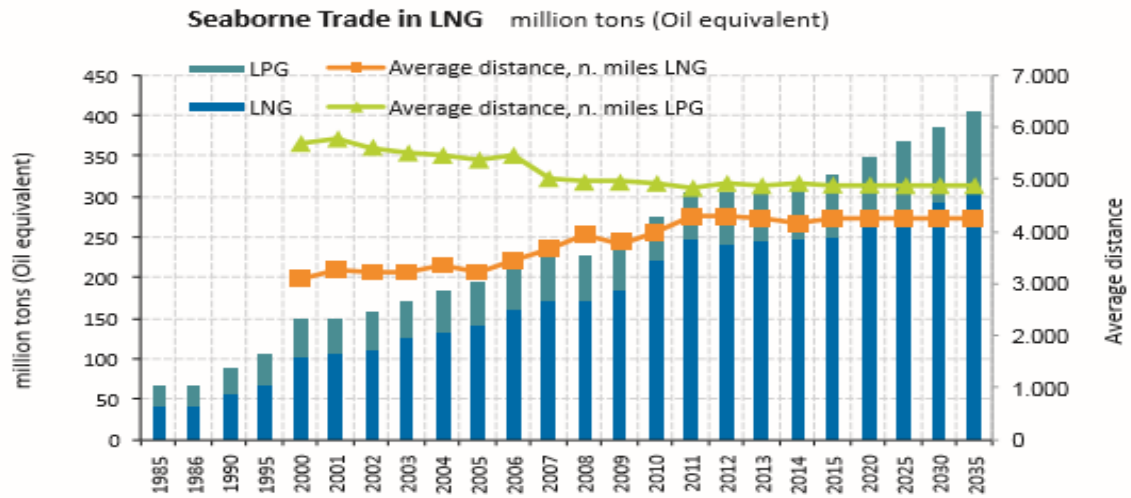


Liquefied Petroleum Gas has a very wide variety of uses, across many different markets as an efficient fuel is used in the agricultural, construction, sailing, fishing sectors etc... It can serve as fuel for cooking, central heating and to water heating and is a particularly cost-effective and efficient way to heat off-grid homes.



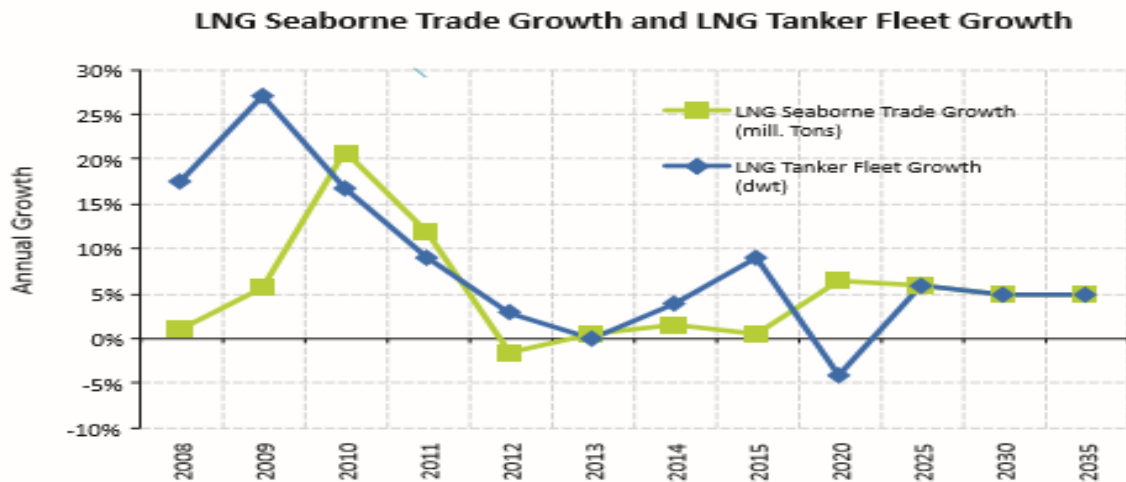
Between 2001 and 2014, the robust growth in LNG transport demand and high gas prices led to an increase in the orderbook for LNG and LPG vessels. However, the fall in the price of natural gas and oil reduced freight prices, with the result that orderbook fell to the lowest levels of the last 10 years. In 2015 only 28 units of LNG were contracted, and we have only 6 units in 2016, compared to 70 LNG contractors in 2014 and 41 in 2013. The 2035 forecasts estimate growth of seaborne trade in LNG of 1.8% p.a...

Table 11 LNG Seaborne Trade



Source: SEA Europe.

Table 12 LNG Seaborne Trade Growth



Source: SEA Europe.²⁰

In the last 5 years, the LNG carriers fleet grew more than gas seaborne trade, generating fleet overcapacity. The projection to 2035 shows that due to this overcapacity, the LNG tanker fleet will grow less than LNG seaborne trade. We expect the LNG carrier fleet requirement expands at a rate of 0.9% per year in terms of DWT. In contrast to the previous decade, LNG carrier fleet grew at a rate close to 10% per year in terms of DWT. In the period 2015-2035, LNG carrier new building requirement, according to Shipyards

²⁰ SEA Europe, the European Ships and Maritime Equipment Association is the voice of the European maritime technology industry. SEA Europe promotes and supports European business enterprises which are involved in the building, construction, maintenance and repair of all types of ships and other relevant maritime structures, including the complete supply chain of systems, equipment and services

and Maritime Equipment Association of Europe forecasts, has a mean of 15 units per year.

3.5.3 Refrigerated Cargo

A reefer ship is a refrigerated cargo ship; a type of ship typically used to transport perishable commodities which require temperature-controlled transportation, such as fruit, meat, fish, vegetables, dairy products and other foods.



The conventional reefer sector went through difficult years, but compared to containers it seems to have arrived into calmer waters, and a proof of this is that when we see M&As Table 13.

Table 13 Conventional Reefer M&As

Conventional reefer sector M&As last year		
Buyer	Target	
Eimskip	Nor Lines	including one conventional reefer ship
Samskip	Silver Green	7 small conventional reefers (fish)
Fruit trader GF Group	Glenata Food	no ships involved

Source: www.hellenicshippingnews.com

If considering rates, however, the conventional reefer seas were extremely rough, again. Annual average 2016 Time Charter Equivalent (TCE) for the 270,000 cft²¹ benchmark was the lowest since 2010;

By 2020, seaborne reefer cargo will reach 120 million tonnes, increasing by an average of 2.5% per annum, according to global shipping consultancy Drewry. While future

²¹ cft - The cubic foot is an imperial and US customary unit of volume

seaborne cargo growth levels are lower than those of the last decade (3.1%), such increases are expected to have a direct effect on both container lines with reefer capacity and specialized reefer operators.

With over 400 containerships with reefer capacity yet to be delivered, and possibly more still to be confirmed, Drewry believes that reefer will be useful and will improve because of the increased seaborne cargo volumes and rising market share for the reefer containership mode.

It would be useful to have a look in the reefers market, for this reason we present the top 10 companies which are involved in the specialized market of reefers. As we can recognize the top 10 companies get the largest piece of the market share pie up to 53.5%. So, the reefers market is oligopolistic competition market.

Table 14 Conventional Reefers Market Operators

Top 10 conventional reefership operators				
Ranking	Operator	Ships	Cft capacity	Share
1	Seatrade	56	29,538,000	14.7%
2	Baltic/Cool	42	24,785,000	12.3%
3	Frigoship	33	11,581,000	5.8%
4	GreenSea	36	10,537,000	5.2%
5	Network Shipping	19	8,760,000	4.4%
6	Star Reefers	10	5,733,000	2.9%
7	Great White Fleet	9	4,925,000	2.4%
8	Africa Express	8	4,470,000	2.2%
9	Maestro	6	4,079,000	2.0%
10	Boyang	14	3,225,000	1.6%
Top 10		233	107,633,000	53.5%
Other operators		386	93,450,000	46.5%

Source: www.hellenicshippingnews.com

On the other hand, Drewry on last Reefer Shipping Market Annual Review and Forecast said that by reduce specialized reefer fleet, except from the decrease in cargo volumes the Market Share will reduce every year.

In additional, reefer capacity on the containership fleet is expected to increase by 22% over the next five years, at the expense of a declining specialized reefer fleet, according to Drewry's latest Reefer Shipping Market Annual Review & Forecast. Reefer box capacity is expected to grow from 1.6 million 40ft slots in 2013 to 1.9 million slots in 2018. However, this fleet growth is not expected to have negative impact in vessel utilization levels thanks to strong cargo growth. Overall seaborne perishable reefer trade will increase by 17% between 2013 and 2018, providing an additional 16.5 million tonnes of cargo. The specialized sector's continuing market share decline was reinforced by leading operator Seatrade's recent order for two 500 feu container vessels.

3.5.4 Unit Load Cargoes

There are many large physical units such as bales of pulp, spools of paper, motor vehicles and heavy lift cargoes. In this part of market, we speak for specialized vessels which are built to transport specific cargoes.

We will not go deeper in this market and we will make only a mention in some of these special vessels.

- ***Deep Sea Ro-Ros***

Roll-on/roll-off (RORO or ro-ro) ships are vessels designed to carry wheeled cargo, such as cars, trucks, semi-trailer trucks, trailers, and railroad cars, that are driven on and off the ship on their own wheels or using a platform vehicle, such as a self-propelled modular transporter.



- ***Open hatch bulk carriers***

The open hatch bulk carrier, often mentioned as OHBC or conbulker, is designed to offer direct access to the hold through hatches which extend the full width of the vessel. As a result, large cargo units can be lowered into place. If it is possible, the holds or hatches are designed around standard cargo unit sizes. Sometimes a gantry crane is fitted. There is special attention for cargo-handling shipping gear. These conbulklers are expensive because there is extra steel necessary to widen the hatches. This is crucial to provide strength. The open hatches are useful for forest products, such as pre-slung timber and logs. The heavy units are easier to handle than in a conventional bulk carrier



- **Heavy lift**

A heavy-lift ship is a vessel designed to move very large loads that cannot be handled by normal ships. They are of two types:

Semi-submersible ships that take on water ballast to allow the load—usually another vessel—to be floated over the deck, whereupon the ballast is jettisoned, and the ship's deck and cargo raised above the waterline.



Project cargo ships that use at least one heavy-lift crane for handling heavy cargo and sufficient ballast to assure stability and sea-keeping properties.

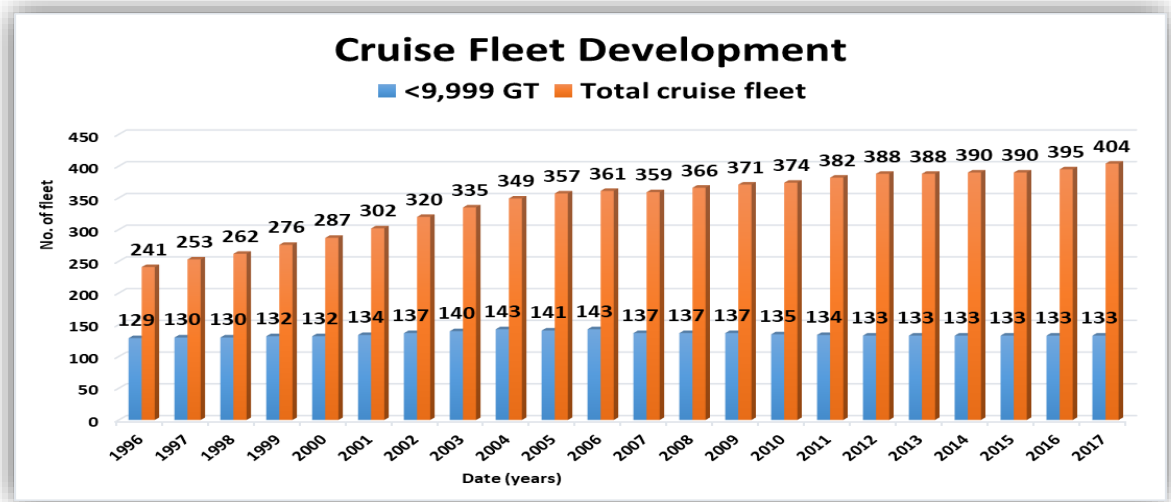


3.5.6 Passenger Shipping

The cruise industry has gone through significant changes from the days of transoceanic transportation and tropical vacations only available to the domain of society's elite, to the modern multimillion tourism and leisure industry that offers an affordable vacation option and a level of comfort difficult to match for the average citizen, with many people cruising that seems to grow every year in the world.



Table 15 Cruise Market Fleet Growth



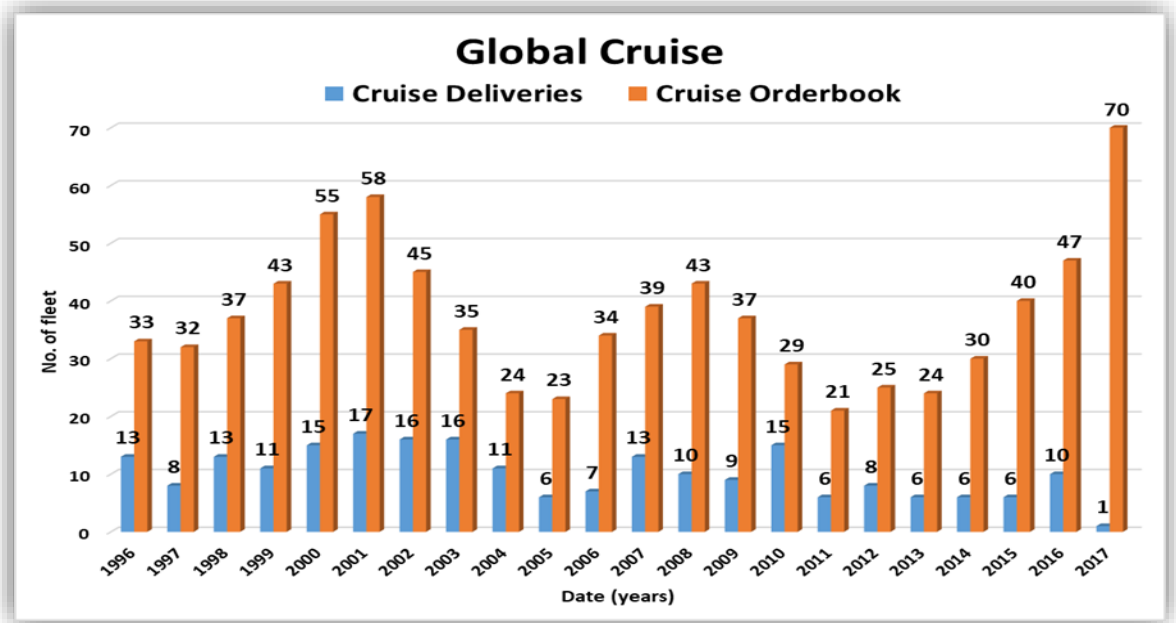
Source: www.cruisemarketwatch.com/market-share/

As we can see in the Bar - Chart above, the total cruise ship fleet increases steadily for the last 2 decades, showing that from 1996 to 2017 the cruise market has increased 40%. Analytically, from 1996 to 2006 there is a clear upward trend as the total cruise fleet has increased 33%. From 2006 to 2007, the number of total cruise fleet fell slightly 0,5%. From 2007 to 2017 the number of cruise fleet once again has a growth of 11%.

Generally, the number of cruise fleet under 9,999 GT, during the last twenty – one years did not represent a notable change; the only change that we can mention is that until 2006 there had been an increase and afterwards there had been a decrease, staying for the last six years steadily.

The bar – chart below illustrates the number of cruise ships that has been delivered (orange color) and the number of cruise ships that had been ordered (blue color). A useful information that we should highlight is that the orders need at least two to three years to be delivered, that’s one of the reasons why the deliveries are less than the orders. Secondly, the other reason is that companies canceled their orders because they cannot afford the high cost of a newbuilding cruise ship

Table 16 Cruise Market Supply



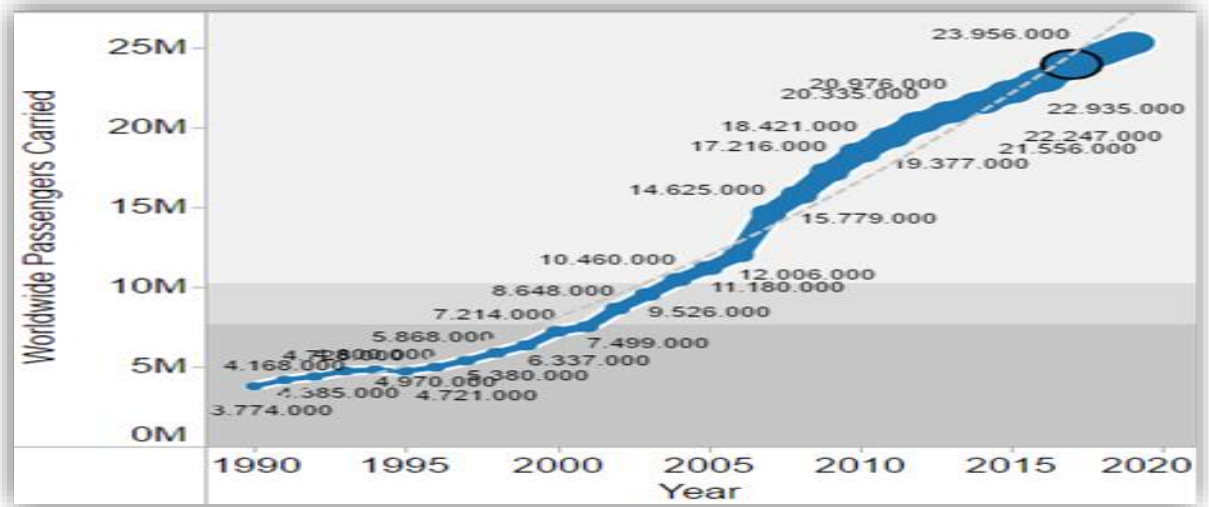
Source: www.cruisemarketwatch.com/market-share/

As we can notice from Bar - Chart above, cruise deliveries and orders had sudden ups and downs during this whole period (1996 – 2017).

We can divide the whole period of the order book into three circles. The first circle (1996 – 2004) had a highest point of 58 cruise ships and a lowest point of 24 cruise ships. The second circle (2005 – 2011) had a highest point of 43 cruise ships and a lowest point of 21 cruise ships. And the third circle (2012 – 2017), that we believe that it has not completed yet, we suppose that until now the highest point was 70 cruise ships and the lowest point was 24 cruise ships.

The number of fleet that had been delivered, follows the same variation as the orders. Concerning the first peak of the deliveries only the 30% had been delivered, as for the second peak only the 24% of the orders had been delivered and as for the third peak it cannot be estimated yet because we are still going through this year (2017). During the last twenty – one years the minimum number of cruise ships that has been delivered is six ships, without considering 2017.

Table 17 Worldwide Passengers Carried Growth



Source: www.cruisemarketwatch.com/market-share/

The Cruise Industry Competition

A relatively reduced number of cruise companies compete for world market shares in different ways, developing innovative commercial strategies and investing multi-million dollar budgets in the research and development of state-of-the-art vessels able to combine the elegance of high quality living spaces with the cutting-edge technological concepts needed to provide stability to these new floating hotels, pushing the boundaries of naval construction and design to the limits for exceptional navigation performance and live board comfort while maintaining the highest standards for safety and environmental management systems. The volume of the cruise ship market is relatively small, with important barriers both to entry and exit associated with the extremely high cost of purchasing or selling a single cruise ship, and the high investment needed to maintain and manage a cruise line, which has a decisive influence on diverse aspects and strategies related to organizational and management issues.

Such a reduced number of companies allows them to watch closely for potential commercial threats in a constant competition for a clientele influenced by general economic conditions and with other vacation alternatives, such sightseeing vacations, land-based resort hotels, thematic parks, etc. A situation that has given place to diverse strategies and plans to identify and specialize in the specific areas within this business framework, resulting in a division of the cruise industry into well-differentiated sectors or market niches – luxury, premium and contemporary – that offer diversified and targeted cruise products and services to satisfy both mass consumer markets, interested in budget packages, and a distinctive clientele seeking the exclusive environment onboard small ultra-luxury ships.

Marketing, innovation and brand image are therefore vital elements in such a competitive commercial environment, and key factors to succeed in a sector in a

constant effort to find new sources of income and new strategies to maximize economic performance and profit.

The Cruise Industry Consolidation

Renaissance Cruises was the first company to file for bankruptcy on 25 September 2001, followed by American Classic Voyages and other four companies reflecting ten well-known brand names, ceasing operations and leaving the market wide open for the largest cruise companies – Carnival Corporation, Royal Caribbean Cruise Limited and Star Cruises – to consolidate in a process of purchasing and merging of companies giving birth to enormous corporations that control about 80% of the cruise market worldwide.

Cruising in period 1996-2002 faced an M&As wave which has as result the rehabilitation of market share. (Bjornsen, 2003). In the picture bellow, we could notice some of the most important companies which they were involved in M&As process that period.

Table 18 M&As in Cruises Market 1996-2002

	<i>Consolidation by merger or acquisition</i>						
	<i>Year</i>						
	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>
Carnival		Buys Costa (in part)	Buys Cunard	Buys Seabourne	Buys Costa (100%)		Merger P&O Princess
RCCL		Merger Celebrity					
P&O Princess					Buys Aida		Merger with Carnival
Kloster	Renamed NCL			Buys Orient Line	Bought by Star Cruises		
Cunard			Bought by Carnival				
Chandris/Celebrity		Merger RCCI					
Costa		Bought by Carnival					
Epirotiki		Forms Royal Olympic with Sun Cruises	Majority bought by Louis Cruises				

Source: Philip Gibson Cruiser Operation Management 2003

Subsequently, it would be interesting to have a look in the cruise industry market share. It would be characterized as an oligopoly market. As we can see bellow, the largest piece in the pie of the market has the Carnival Cruise Line Group, second comes the Royal Cruise Line Group and third is the Norwegian Cruise Line Group. Thus, the 3 largest group in the market capture the 76.7% of the Market share and all other groups and companies capture the 23.3%

Table 19 Market Share in Cruises Market

Share of World Wide Passengers and Revenue		
Group	% of Passengers	% of Revenue
Carnival Cruise Line	48.1%	42.2%
Royal Cruise Line	23.1%	22.1%
Norwegian Cruise Line	10.4%	12.4%
All Others	18.4%	23.3%

Source: www.cruisemarketwatch.com/market-share/

In the picture below, we can see the market share before the historical wave of M&As and we can see easily the influence in the Cruise Market.

Table 20 Market Share in Cruises Market 2003

<i>Cruise Customer Statistics (market share second quarter 2003)</i>		
<i>Cruise Line</i>	<i>Customers (in 000s)</i>	<i>% of total customers</i>
Carnival Cruise Line	723	36.2
Royal Caribbean International	510	25.5
Norwegian Cruise Line	186	9.3
Princess Cruises	156	7.8
Celebrity Cruises	153	7.6
Holland America Line	141	7.0
Disney Cruise Line	101	5.1
Cunard Line	13	0.6
Costa Cruises	8	0.4
Crystal Cruises	7	0.3
Total	1,998	100

Source: Anon. (2003, Oct/Nov 2003), Top 10 lines see numbers climb 9% in the first half. Lloyd's Cruise International.

3.6 Decisions in Shipping Industry

In this chapter, we explain the way that shipping industry operate and make a mention in the diverse shipping markets from the basis “four markets” to more complicated “Specialized cargo, bulk carriers, containers etc..”. Closing this chapter, we will try to illustrate some of the problems which every shipping company should cope with in daily basis briefly. In other words, we will deal in this chapter with the decision which should be taken by Cargo Shippers or the side who want to transport a cargo and from the side of Shipping Investors who have the means of production “vessels” to meet the needs of Cargo Shippers.

3.6.1 CARGO SHIPPERS DECISIONS

There are many factors which influence decisions of a cargo shipper, we can separate them to expectable and non-expectable. For example, the most usual expectable factor is the transport cost of the cargo and an unexpectable factor is random shocks or events which happened by chance.

Transport cost of a cargo

By the mean transport cost, we mean how much is going to cost for the cargo shipper to transport the cargo from a port to another port. That cost is the freight, and depends from the contact that they have with the shipping investor. For example, in a time charter contact the cost is fix per day for the years which referred on the contract, in voyage charter the cost depends on the shipping investors and cargo shipper deal and in derivatives which confirm in a price which is related with a shipping or finance indices.

Random shocks

When we said random shocks, we are referred to events such as financial crisis, wars and general to events which are difficult to forecast or to apprehend. The exports of products are characterized by risk, especially if these exports are addressed to other countries and continents. For these factors, companies except from the forecasting tools has create some tools such as risk assessment to quantify the risk which every investing movement includes

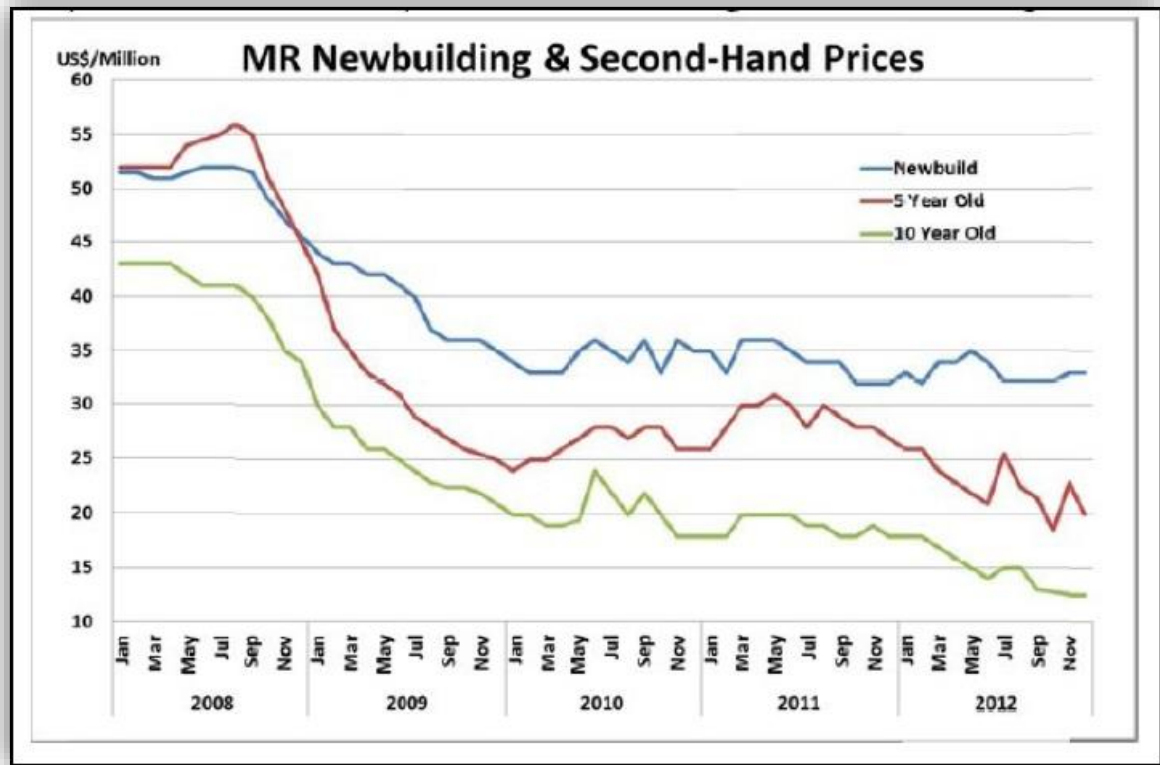
3.6.2 SHIPPING INVESTORS DECISIONS

Similar, there are many factors that they can influence the decisions of shipping investors (shipowners, shipping management companies) or in other words from them who have the mean of productions to cover the need for transport of cargo shippers. The main factors are, the freight revenue, sales and purchase market, the fleet productivity, the intragroup issues and results such as cash flows, balance sheet or productivity of business.

Sales and Purchase

A shipping investor should decide the right time to buy or to sell a vessel. Asset play is a Greek strategy tool which is responsible for the growth of many Greek shipping companies, as they sell their vessels in really high prices in the peak of market period and they bought them back at the leak of the market in very low prices.

Figure 3 New buildings & Secondhand Prices



Source: BIMCO, Clarkson

As we can see in the graph above which we use it as an example, before the Lehman Brothers bankruptcy and in the gold years shipping period the secondhand vessels of 5 years were more expensive from the brand new and that because there is not time for construction them, they could to bring profits at the time. In a period of 3 years, the price of these vessels was decreased from 55 million dollars to 20 million dollars.

Intragroup management

Another factor that plays a key role in shipping investors decisions is the intragroup health, profits, debts, liabilities, assets of the company and how the combination of revenues and losses are viability. Some tools that help as to check if our business has the preferable finance health is the financial statements (balance sheet, cash flows and income statement) of the group

Freight Revenue

Freight revenue are driven up and down by the market, but according with the condition that the market is the shipping investor should take different decisions for the fleet of the company. For example, if the freight revenue is high then the shipping companies prefer the voyage chartering to take the advantage of market growth, on the other hand when the freight revenue is low they prefer the time chartering to limit the risk.

4. Econometric analysis in M&As

Previously, we will refer some information regard to M&As in general and we will try to go deeper by analyzing in more practical level, what is M&As and why is so usual in the business landscape. Furthermore, we will make a briefly report in shipping industry. We tried to analyze how shipping industry operate and referred important chapter of shipping operation, such as four-markets, how a shipping company make a decision and how is the market after the last economic crisis.

In this part of our assessment, we will make a mix and we will refer a method which is not decide only if a M&A process is profitable for the company but also to quantify how much profitable is, by measured how impact the value of the new company and especially in shipping industry.

4.1 SHARE PRICE ANALYSIS

We consist that the abnormal returns to shareholders is the most capable to measure the value creation in M&As context. Thus, the process for data research is done in four steps.

1st step

Initially we should try to calculate their expected market return. The expected market return is an important concept in risk management because it is used to determine the market risk premium. The market risk premium, in turn, is part of the capital asset pricing model, or CAPM, formula. This formula is used by investors, brokers and financial managers to estimate the reasonably expected rate of return on a given investment. M&As are a kind of investment as we referred previous. The formula which calculate the expected market return is,

$$R_{it}^* = \alpha_i + \beta_i^* R_{mt} + \varepsilon_t (\varepsilon_t \sim N(0, h_t))$$

We refer that, where, R is the return of stock i in period t. where return is measured as $[R_{it} = (P_{it} - P_{i(t-1)})/P_{i(t-1)}]$, where P is the share price of the security i for event day t.. Thus, R is the observed expected return of the security i in the event day t., a is mean return of security i and b is beta coefficient (sensitivity/risk) of the security i and e is the statistical error. In other words, we use a capital asset pricing model (CAPM) in order to notice the M&As' effect which is reflected immediately in the asset prices. For R_{mt} where is the return of the market which influence the return of company we could use market indexes, in this case such we examined the M&As in shipping industry it would be preferable to use BDI²² Baltic Dry Index or in case that we would

²² The Baltic Dry Index, a composite of the Baltic Capesize, Panamax, Handysize and Supramax indices. The index is designed as the successor to the Baltic Freight Index and was first published on January 4 1985 at 1000 points.

like to go in a specific sector for example in containership we could use SCFI²³ Shanghai Containerized Freight Index. The market model will give us the expected return of the market, and that if the corporate event is not taking place.

2nd step

In continue, we should make the equation of abnormal returns. Abnormal return is a term used to describe the returns generated by a given security or portfolio over a period of time that is different from the expected rate of return. The expected rate of return is the estimated return based on an asset pricing model, using a long run historical average or multiple valuation. In our case we could use as we refer previously the CAPM (capital asset pricing model) and the formula for our abnormal returns is,

$$AR_{it} = R_{it} - R_{it}^* = R_{it} - [\alpha_i + \beta_i^* R_{mt}]$$

Where R_{it} is the real return and the R_{it}^* is the expected observed return which we calculate from the market model which we referred previously.

3rd step

In addition, Cumulative Abnormal Returns to shareholders in acquiring and target firms served as a measure of the market's value creation expectations for any given M&A transaction. Realized value creation was subsequently measured by the absolute increase in the value of merged firms' capital. That was given by the formula below,

$$CAR_{[T_1 T_2]} = \prod_{i=T_1}^{T_2} [(1 + AR_i) * (1 + AR_{i-1}) - 1]$$

Cumulative Abnormal Returns focusing only in separate corporate entities, (target or bidder firm) may provide as a not clear enough view of the market reaction to the takeover bid announcement.

4th step

Finally, Combined Cumulative Abnormal Returns of the joint firm, indicate total combined value for shareholders gain or lose after the takeover bid and given by the subsequent formula.

²³ The Shanghai Containerized Freight Index (SCFI) represent the freight rate for export container from Shanghai. The SCFI gives a clear trend for the global container freight rates

$$CCAR = [(V_{ib} * CAR_{ib}) + (V_{jt} * CAR_{jt})] / (V_{ib} + V_{jt})$$

Where in V_{ib} is the value of the bidder company and V_{jt} is the market value of the target company. Thus, with the combined cumulative abnormal return, we could have a clear view for the influence of M&As in corporate value.

4.2 INDEXES ANALYSIS

Because of the incapability to find data which related with the timeseries of corporations share price. We cannot operate the econometric model which we refer previously. In order to have a clear view in how M&As influence shares value in companies. We will use some financial indices and we will notice how much these indices are influenced after the deal had completed.

The indices that we will use are going to help us to make some analysis and make some conclusions according to how M&As influence companies in shipping sector. We are going to make Liquidity Analysis, Asset Management analysis and Profitability analysis.

4.3 LIQUIDITY ANALYSIS

Liquidity ratios measure a company's ability to pay debt obligations and its margin of safety through the calculation of metrics including the current ratio, quick ratio and operating cash flow ratio. Current liabilities are analyzed in relation to liquid assets to evaluate the coverage of short-term debts in an emergency. Bankruptcy analysts and mortgage originators use liquidity ratios to evaluate going concern issues.

The current ratio is a liquidity ratio that measures a company's ability to pay short-term and long-term obligations. The formula for calculating a company's current ratio, then, is:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

4.4 ASSET MANAGEMENT ANALYSIS

Asset management analysis has to do with, activity ratios which measure a firm's ability to convert different accounts within its balance sheets into cash or sales. Activity ratios measure the relative efficiency of a firm based on its use of its assets, leverage or other such balance sheet items and are important in determining whether a company's management is doing a good enough job of generating revenues and cash from its resources

Asset turnover ratio is the ratio of the value of a company's sales or revenues generated relative to the value of its assets. The Asset Turnover ratio can often be used as an

indicator of the efficiency with which a company is deploying its assets in generating revenue.

$$\text{Asset Turnover} = \frac{\text{Sales or Revenues}}{\text{Total Assets}}$$

The higher the asset turnover ratio, the better the company is performing, since higher ratios imply that the company is generating more revenue per dollar of assets.

4.5 PROFITABILITY ANALYSIS

Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings compared to its expenses and other relevant costs incurred during a specific period of time. For most of these ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well. Profitability ratios are the most popular metrics used in financial analysis.

Some examples of profitability ratios are return on assets (ROA) and return on equity (ROE), which subsequently we refer the calculated formula of these indices.

$$\text{ROE} = \frac{\text{EAT Earnings after Taxes}}{\text{Equity}} \quad \text{ROA} = \frac{\text{EAT Earnings after Taxes}}{\text{Assets}}$$

Return on Assets

Profitability is assessed relative to costs and expenses, and it is analyzed in comparison to assets to see how effective a company is in deploying assets to generate sales and eventually profits. The term return in the ROA ratio customarily refers to net profit or net income, the amount of earnings from sales after all costs, expenses and taxes. The more assets a company has amassed, the more sales and potentially more profits the company may generate.

Return on Equity

ROE is a ratio that concerns a company's equity holders the most, since it measures their ability of earning return on their equity investments. ROE may increase dramatically without any equity addition when it can simply benefit from a higher return helped by a larger asset base. As a company increases its asset size and generates better return with higher margins, equity holders can retain much of the return growth when additional assets are the result of debt use.

4.6 COMPANIES SELECTION

4.6.1 Overseas Shipping Group (OSG)

OSG operates 137 vessels, a U.S. Flagged Fleet which requires vessels operating in American ports to be domestically built, owned, and operated. Investors would be getting exposure to both domestic and foreign tanker, dry bulk, and LNG needs.

OSG employs its services in a variety of ways. Their crude tankers are primarily employed in spot markets in commercial pools. In pools, groups of similar vessels with different owners are put under one manager. This arrangement allows for economies of scale and higher prices for their participants. On the other hand, OSG's international product tankers are primarily chartered. These contracts are for the use of a vessel for specific voyages at specified rates. This business is much more stable for OSG, but historically pays at a much lower rate than spot market employments.

Growth and diversification has led to big gains in revenue over the past four years. In 2005, OSG spent \$1.35 billion to acquire Stelmar Shipping Ltd., receiving many product carriers. In 2006, OSG entered into the liquefied natural gas transport market. At the end of that year, OSG bought Maritrans Inc. for \$506 million and secured a lead role in the U.S. Flag market. While these acquisitions have been the cause of OSG's recent growth, they are also very risky. There is uncertainty in acquiring a fleet of ships whose quality could be in question.

4.6.2 Maritrans (TUG)

Maritrans was formed by group of managers from the SONAT Marine Company. These eleven partners included some individuals who had worked for the Interstate Oil Transportation Company since the 1950's. Maritrans had begun to consolidate its business by the mid 1990's by first backing out of the black oil trade and carry only petroleum products and petrochemicals. In 1993, Maritrans was incorporated, and formed as a Delaware corporation. And, the company became publicly traded and was listed under "TUG" on the New York Stock exchange. In 1994, three of the original, founding, eleven partners retired. In 1998, Maritrans began to thin their northeast fleet.

4.6.3 Stelmar (SJH)

Stelmar Shipping was founded by a 24-year-old Stelio Hagi-Ioannou who was taken his first steps as an entrepreneur. At first blush, the prospect of a neophyte using a tanker company as his first start-up venture appeared odd, but Stelios Hagi-Ioannou was no ordinary 24-year-old. The second son of an immensely wealthy Greek shipping family, Hagi-Ioannou made his start in the business world with vast financial resources at his disposal. Stelmar Shipping represented the first business venture started Stelios Hagi-Ioannou the first venture in his career as a "serial entrepreneur".

In 1997, after Stelmar Shipping was formed in January, three more vessels were acquired, increasing the company's Panamax and Aframax tonnage. By the end of 1997, Stelmar Shipping was generating \$33.6 million in revenue from its fleet of nine vessels, from which the company earned \$5.1 million in net income.

In the last two years of the 1990s, Stelmar Shipping continued to emphasize increasing the number of its larger vessels. In 1999, another Panamax tanker, was acquired, bringing Stelmar Shipping's fleet to 12 vessels and doubling revenue volume from 1997's total to \$68.5 million by the end of 1999.

In July 2000, Stelmar Shipping signed an agreement with Korea-based Daewoo Shipbuilding to build four Panamax tankers, which were scheduled for delivery during

the first half of 2002. Less than a year after signing the agreement with Daewoo, Stelmar Shipping positioned itself for further expansion by completing its initial public offering (IPO) of stock. In March 2001, Stelmar Shipping began trading on the New York Stock Exchange, netting \$89 million in proceeds from the IPO. By the end of the year, the company recorded its seventh year of profitability, posting an impressive \$34 million in net income--nearly a sevenfold increase from 1997's total--on \$111.2 million in revenue.

In December of 2003, the company owned and operated a fleet of 31 tankers, including 18 Handymax tankers, 9 Panamax tankers, and 4 Aframax tankers. Stelmar Shipping was formed in Liberia in 1997. The company was formerly known as Stelships, Inc. and changed its name to Stelmar Shipping, Ltd. The company had its principal executive offices in Athens, Greece.

O.S.G. (OSG) – Stelmar (SJH) – Maritrans (TUG)

In this point we will speak for the acquisitions of Stelmar and Maritrans by O.S.G.. We choose these deals because all the companies were activated in the shipping industry but not exactly in same shipping sector, so the strategy goals were the increase the market share of O.S.G. in some shipping sectors, more specific in tankers market by the acquisition of Stelmar and Maritrans. Thus, such as we refer previously O.S.G. was activated in dry bulk and tankers sector of shipping industry.

In 2005 Stelmar Shipping Ltd. was acquired by Overseas Shipholding Group Inc. Stelmar Shipping, Ltd. operated as an international tanker company.

In 2006, the Maritrans Operating Partnership was acquired also by the Overseas Shipholding Group O.S.G. of New York. Maritrans Inc. was a leading U.S. flag crude oil and petroleum product shipping company that owned and operated one of the largest fleets of double-hulled vessels serving the East Coast and Gulf Coast trades.

Subsequently, we refer the financial ratios which we were calculate by the annual reports of O.S.G. shipping. It would be clearer if we had access in annual report of Stelmar and Maritrans, but I consist that we could have some clear conclusions, from the react of some financial indices reactions which present in the table.

Table 21 O.S.G. Financial Ratios Analysis

		2003	2004	2005	2006	2007	2008	2009
Liquidity Analysis	Current Ratio	2.29	2.01	0.96	1.29	0.81	1.03	0.93
Asset Management Analysis	Total Asset Analysis	0.23	0.30	0.30	0.25	0.27	0.43	0.26
	ROA	0.06	0.15	0.14	0.09	0.05	0.08	0.02

Profitability Analysis	ROE	0.13	0.28	0.25	0.18	0.12	0.16	0.03
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Source: Author

As we can see previously, the liquidity of the company was fall, from 2003 until 2005, and that were logical, such as the company spent an important capital for the acquisition of Stelmar. At 2006 we could notice a recovery but next year the company acquired Maritrans also and that had negative effects in the liquidity of the company.

Subsequently, the asset management analysis, show us a positive sign until 2009 were declare the last economic crisis which hit the shipping industry. We can see that there was a stability in the asset condition of O.S.G.. In addition, the peak of the asset condition was at 2008, when in the end of that year, we had the economic crisis.

Finally, in profitability analysis we can say that there was also a stability if we use as a spectrum an 0.1 and we except the last year that conclude the start of the economic crisis. 2004 also is an exception because next years we have shipping golden ages and after that we have an improvement in assets and equity because of the acquisitions of Stelmar and Maritrans. We can conclude that the company after mergers and acquisition had not an impressive short-term change in financial condition and the goal was to achieve an improvement in market share of tanker market in long term period. But, in the end of 2008 we had the last world financial crisis which had negative effect in world economy and in shipping industry also. As we said previously M&As are investments with high risks such as they have return in long term period and there are many changes in economic environment which are difficult to be foreseen.

4.6.4 SEACOR Holdings Inc(CKH)

SEACOR Holdings Inc. is a global provider of marine transportation equipment and logistics services primarily servicing the U.S. and international energy and agricultural markets. SEACOR offers customers a diversified suite of services and equipment, including offshore marine, inland river, storage and handling, distribution of petroleum, chemical and agricultural commodities. SEACOR Holdings Inc. was founded in 1989 on the principles of operational quality, safety, and protection of the environment, SEACOR provides its customers with highly responsive services focused on innovative technology, modern efficient equipment, and dedicated, highly trained professionals.

As the parent company of a global, diversified family of companies, SEACOR has the ability to utilize its subsidiaries' assets to provide customers with the highest level of service within the industries in which it operates. SEACOR also maintains strategic joint venture arrangements in various geographic locations around the world, enhancing its existing business lines while satisfying specific customer requirements with resources such as logistical support, assets, and personnel.

As an innovative company and market leader, SEACOR offers an established network of operating and financial relationships partnering with today's global leaders in the oil and gas, agribusiness, alternative energy and other industries. SEACOR prides itself on

specializing in all aspects of owning, leasing, and managing equipment and partnering throughout its business lines to achieve client objectives. SEACOR's diversified commercial organization, financial flexibility, and operational expertise offer customers the right resources when and where they are needed. Together, SEACOR and its customers thrive on the long-term relationships they have established—solid connections that guarantee productivity and profitability.

4.6.5 Seabulk Int.(SBLK)

Seabulk International, Inc. is a leading provider of offshore energy support services to the worldwide oil and gas industry. Seabulk was also a leading provider of marine transportation services in the U.S. market with a fleet of ten petroleum product and chemical tankers, including five double-hulls. Seabulk's harbor tug fleet is one of the country's newest and largest with a concentration in Florida and the Gulf of Mexico. Headquartered was in Fort Lauderdale, Florida and it have been providing benchmark quality service to their customers since 1958, with safety and reliability of our worldwide operations

4.6.6 ERA Aviation(RDC)

Era Aviation was established and initiated operations in 1948 when Carl Brady flew the first commercial helicopter to Alaska for contract work supporting a mapping project for the U.S. government. Fixed wing aircraft were then acquired by the company in addition to helicopters with rotorcraft being operated in Alaska, California and Louisiana by the Era Helicopters division. After the merger the fleet of ERA Aviation is consisted from 128 helicopters, 16 fixed wing aircraft and 14 operating bases

SEACORHoldingsInc(CKH) – Seabulk Int.(SBLK) – ERA Aviation

On July 1, 2005, SEACOR completed its acquisition of Seabulk through a merger with a wholly-owned subsidiary of SEACOR. The Company's purchase price was approximately \$522.7 million.

Here we examine two companies which both are activated in shipping industry but not at the same sector. Both of them have not a specific kind of ships and were activated in bulk shipping.

On December 31, 2004, the Company acquired all the issued and outstanding shares of Era Aviation, Inc. ("Era") for \$118.1 million. Because of this transaction, the Company acquired 81 helicopters and 16 fixed wing aircraft.

Here we examine a mix of M&As transactions which are not between companies which activated in the same sector and especially the second transaction is between a shipping company and a company which was activated in the air transportation sector.

Table 22 Financial Ratios of SEACORHoldings

		2003	2004	2005	2006	2007	2008	2009
Liquidity Analysis	Current Ratio	2.60	1.51	2.56	2.43	2.78	2.68	3.20
Asset Management Analysis	Total Asset Analysis	0.29	0.28	0.34	0.41	0.38	0.48	0.46
Profitability Analysis	ROA	0.02	0.02	0.09	0.07	0.07	0.06	0.04
	ROE	0.01	0.03	0.22	0.17	0.16	0.15	0.09

Source: Author

In other words, we choose that mix of M&As deals because as we can notice, SEACORHoldings choose to follow a strategy which diverse the risk by invest in an additional industry, which the only common was the transport of goods.

Analyzing the ratios, we can notice that there is a stability in Liquidity Analysis, Current Ratio have not large fluctuations if we except the 2004 year were spent much funds to acquire Seabulk Int.(SBLK) and ERA Aviation.

Subsequently, as regard to asset management analysis we can see a stability in period 2003 and 2004 but we can understand an improvement in this ratio. However, even in periods 2008 when we have the peak of the ratio, we cannot say that the asset management of the company was the preferable such as a preferable ratio for the companies which activated in transportation industry is approximately 1.28.

Finally, in profitability analysis, we can notice also a stability of ratio, but we can notice also an improvement especially in periods which characterized by world economic crisis. In the same time Maersk Line had a negative profitability analysis ratio.

Personal conclusions for that mix of M&As deals is that the strategy of SEACORHoldings diverse the risk by introduce the company in a new kind of transportation sector and achieve to pass the world economic crisis with better financial ratios. Finally, we cannot describe as a succeed, such as Era Aviation was sold again.

4.6.7A. P. Moller-Maersk Group (Danish: A.P. Møller-Mærsk Gruppen)

The A. P. Moller-Maersk Group (Danish: A.P. Møller-Mærsk Gruppen) is an international business, more commonly known simply as Maersk, is a Danish business conglomerate with activities in the transport, logistics, and energy sectors. Maersk has

been the largest container ship and supply vessel operator in the world since 1996. The company is based in Copenhagen, Denmark with subsidiaries and offices across 130 countries and around 88,000 employees. In September 2016 Maersk Group announced splitting into two separate divisions: transport & logistics and energy. The company market cap. is US\$ 35 billion (2017)

At 11 August 2005, A.P. Møller-Mærsk announces that the purchase of Royal P&O Nedlloyd N.V. has been completed. The company will be merged with Mærsk-Sealand. Royal P&O Nedlloyd has a fleet of 162 container vessels with 460,203 TEU. From February 2006, the new company will be named Mærsk Line. P&O Nedlloyd Logistics and Mærsk Logistics will be merged under the name Mærsk Logistics

4.6.8 Royal P&O Nedlloyd (PONL)

P&O Nedlloyd Container Line was an Anglo-Dutch worldwide ocean-going container shipping line, with dual headquarters in London and Rotterdam. The company was formed in 1997 by the merger of the container-shipping interests of Dutch transportation company Royal Nedlloyd (Nedlloyd Line) and the British maritime shipping giant P&O Group (P&O Containers). In 2004, Royal Nedlloyd bought the remaining shares from P&O and the company was listed as Royal P&O Nedlloyd on the Dutch stock exchange.

Maersk Line Royal - P&O Nedlloyd (PONL)

Royal P&O Nedlloyd was acquired by the Danish A.P. Moller-Maersk Group (Maersk) in 2005 and was combined with their existing container shipping business Maersk-Sealand in order to form Maersk Line. We select this acquisition because we have two companies which they are activated in the same industry and at the same time in the same sector. Liner shipping and more specific containers.

Subsequently we will present a table with the change of financial indices and we will try to make some conclusion regard to if the acquisition was profitable for the company or not.

Table 23 Maersk & P&O Nedlloyd Financial Ratios

			2003	2004	2005	2006	2007	2008	2009
Liquidity Analysis	Current Ratio	Maersk Sea-Land	1.51	1.54	1.35	1.49	1.32	0.99	0.93
		P&O Nedlloyd	1.47	1.39					
Asset Management Analysis	Total Asset Analysis	Maersk Sea-Land	0.96	0.88	0.73	0.83	0.85	0.91	0.75
		P&O Nedlloyd	1.10	1.42					
Profitability Analysis	ROA	Maersk Sea-Land	12.75	14.06	7.46	4.72	5.07	5.13	(1.97)
		P&O Nedlloyd	1.65	7.40					
	ROE	Maersk Sea-Land	24.87	24.17	17.18	10.84	11.13	11.11	(4.28)
		P&O Nedlloyd	2.17	15.10					

Source: Author

As we can notice in the previous table two companies, in the golden ages of shipping industry, in period (2003-2008) which finish when we had the Lehman Brothers bankruptcy, have a stable and healthy economic condition, with positive expectable but we cannot recognize an impressive change in the indices the subsequent years. we could say that from 2006 (time period where we are in the core of shipping industry golden age) there was a negative row in the financial health of the unique company especially in 2008 when we can recognize danger for the health of the company such as the current ratio index is not larger from the unit, that means that the company copes difficulties to pay for current liabilities. A preferable asset turnover ratio is better than 0.39 for marine transportation sector and as we can see the management team has achieve this number but after the deal done the numbers were worse, but still better than benchmark.

Finally, we can notice a negative reaction in the profitability analysis ratios which every year they become lowers and especially in the last year where the ratios have negative sign that means that the companies have losses with the operation of their productive factors. Personally, I consist that regard the financial ratios the deal was not succeed, but that is close relative with the timing where the deal take place. As we have referred many times, the most crucial time is not the moment when the deal finished, but the period after that where the investors waiting for the profits of their investments.

5. Conclusions

This chapter presents the conclusions of the master thesis. As presented in Mergers and acquisitions (M&A) is a general term that refers to the consolidation of companies or assets. A merger occurs when two separate entities combine forces to create a new, joint organization in which – theoretically – both are equal partners. Acquisition refers to the purchase of one entity by another (usually, a smaller firm by a larger one). A new company does not survive from an acquisition, such as, the acquired company, or target firm, is often consumed and ceases to exist. Also, its assets become part of the acquiring company.

We use a strategy to identify the right target, when you have identified a suitable target business to acquire or merge with, you will need to register your interest in doing so with the owners or management of that business. There are, however, many legitimate ways to value companies. The most common method is to look at comparable companies in an industry, but deal makers employ a variety of other methods and tools when assessing a target company.

Subsequently, we will analyze and make a refer to the shipping industry as an industry. Initially, is a great market due to, about 90% of world trade is carried by the international shipping industry. Without shipping, the import/export of affordable food and goods would not be possible - half the world would starve, and the other half would freeze.

Finally, we will try to combine the Mergers and Acquisitions with the Shipping Industry and we tried to find some transactions which had occurred between companies which are activated in shipping industry. The most preferable scenario was to find the same number of transaction to each market and try to combine and make a mean for having a clearer view for the side effects of mergers and acquisitions in shipping companies. We examine the financial health of some companies which were involved in Mergers and Acquisitions and we use some financial ratios in order to make:

Liquidity analysis which measure a company's ability to pay debt obligations. In this analysis we used the current liquid ratio. The preferable current liquidity benchmark for marine transportation industry is approximately 1.25. In average all the transactions had 1.65 average current liquidity ratio that means that general that sample of companies had the ability to cope with its current liabilities. We do not notice significant changes in post deal period if we except 2008 when we had the worldwide economic crisis.

Asset Management Analysis which are ratios of a company's sales or revenues generated relative to the value of its assets and give us a clear view according to if the company use its asset with the most appropriate way. The preferable asset turnover ratio was approximately 0.38 for maritime transportation companies. The average asset turnover ratio of the sample was 0.51 that means that companies generate revenues enough relative to the value of their assets.

Profitable analysis that is a class of financial metrics that are used to assess a business's ability to generate earnings compared to its expenses, in other words if the money which are spent the shareholders are profitable or not. In this analysis we use 2 ratios. Return

of Asset ratio and Return of Equity ratio. A Preferable number for the shipping industry is 0.04 for ROA and 0.08 for ROE. The average ROA for the sample which we used is 1.4 and for ROE is 3.2. In other words, the companies that period were profitable and generate earnings for their shareholders.

The ratios show a sample of companies which are healthier financial than the average shipping company in the shipping industry. Also, as we can see the reactions of the ratios are not significant for said that M&As is capable to change in short-term period the profitability and improve the health of each shipping company. Opposite, these strategies are concluded from large amounts of funds, that means that they are risky investments for the companies. Thus, we can say that Mergers and Acquisitions in Shipping Industry which is a mature industry is appropriate for improvement of market share, and we expect an important return of our investment in long term period.

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