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Premature redeliveries of vessels versus the regime of damages : the results in the shipping industry after the global economic meltdown in 2008

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PREMATURE REDELIVERIES OF VESSELS VERSUS THE REGIME OF DAMAGES

The Results in the Shipping Industry after the Global Economic Meltdown in 2008

By

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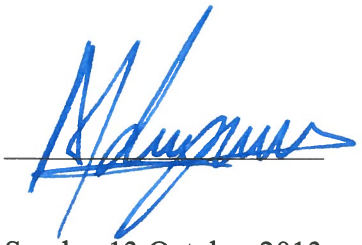
DECLARATION

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

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

(Signature) : 

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ABSTRACT

Title of Dissertation : **Premature Redeliveries of Vessels Versus the Regime of Damages (The Results in the Shipping Industry after the Global Economic Meltdown in 2008)**

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The last five years a significant number of breach of contracts occurred between charterers and shipowners, related to the time charters (T/Cs) and contracts of affreightment (CoA).

The abrupt collapse of world economy in 2008 owing to the "housing bubble", namely an increase in demand of buying houses with the combination of very low interest rates and a loosening of credit underwriting standards.[1] Since there was a run up in housing prices fueled by demand, it led to the gradual rise in interest rates and a tightening of credit interest and finally ending up with diminished demand, caused the housing "bubble" to burst. This fact created a snowball of negative effects, firstly in the world banking system and then in many other sectors of the global economy.

The shipping industry as an immediate receiver and beneficiary of sums of money from banks for its financing could not remain untouched from such a shocking sequence of events in economic level that had been lasting for a couple of years.

[1] The underwriting standards help to set benchmarks for how much debt may be issued to a person, namely whether an applicant has the operational, financial and management resources to repay the debt from cashflow. The underwriting standards include the terms of the loans for a company, how much debt a specific company is willing to issue and what interest rates will be charged. Lending Policies and loan underwriting standards. See : http://www.law.cornell.edu

This dissertation focuses on the problem of premature breach of contracts depicting the impacts from such a breach. When a party not having sources of finance backing or when his clients break their promises then he defaults by his turn the contractual obligations in a charter agreement causing a series of problems to the counterparty. When breach of contracts become a general phenomenon in the shipping market due to exogenous factors then each party immediate or indirect connected to ships business is serious affected.

The repudiation of a charter party (C/P) by itself is not a fulfillment of a promise written on a paper binding the parties who are involved in the contract, as both from the beginning wanted the execution of their contractual obligations. The termination of the contract before the due date of its performance or upon the due date or during the performance is not a professional solution that gives only wrongs and rights to the parties. It injures the trust among people who participate in the global field of the shipping industry and want to be in good faith and their word to be their bond. Contributory results are also the serious ramifications, not only for the participants involved, but also in relation to the broader context of market liquidity and investor confidence.

Although the theme of the topic is focused on the non performance of C/Ps followed by the premature redeliveries of vessels to the owners and the question of damages which the injured parties are entitled to receive, there are matters prior and after the economic crisis broke out in 2008, which are immediately connected with the shipping market. These matters regard the increase and downfall of the global economy affecting merchant shipping, the contribution of banks for financing the shipping industry, ships brokers' forecasts related to the shipping indices, as well as the shipowners' expectations for growth and lucrative maritime business. It is well-known that the shipping market and industry are not severed from the global economy and the development of countries.

The shipping industry is the direct receiver of any increase or recession of the global development as a mode of transportation, which accommodates the commodities of the world. Any change in world development affects the shipping industry.

Moreover, some other matters have to be studied, such as the C/P as a contract and its characteristics, the introduction of hybrid charter in ships chartering, the definition of market and how charterers and shipowners are bound with contractual obligations. The breach of a charter and the quantification of damages for the injured party, the suggestion for mitigation of losses for the party who suffers from breach of contract, they are some further inquiries, which will take into account for further study.

Answering all the above questions through a research will give the spunk for presenting detailed information of this problem combining knowledge and experience from two different fields. There is the economic perspective and the legal consideration. A careful study of both of them provides the theory and practice for those people who are searching for short guidance in shipping matters.

Additionally, the contributory factor of this dissertation will be a compendium of different and useful aspects and interpretations, *inter alia* how the shipping industry can minimize the phenomena of breach of contracts in the future, and what are the consequences from such a turmoil of the shipping market. Furthermore, what the potential innovations must be applied in the field of chartering, ships' operation and solution of disputes between the parties involved in a charter agreement.

This dissertation contributes to the academic literature giving answers to any related question as far as the side effects are concerned of the economic crisis in shipping companies, the number of employed seafarers on ships, and what is the outlook for the establishment of an independent financial institution servicing charter contracts and their risks.

This dissertation can be a further assistance to future researchers who may want to extend the scope of contracts between charterers and shipowners making new proposals for the sake of more flexible collaboration and profitable business.

The most practical and immediate implications are exactly what the shipping industry has been suffering by the global economic collapse, that is, the premature termination of charters brought about financial and operational upheaval to many shipping companies.

In summary, this dissertation is an attempt to predict the revival of the shipping business supporting the view that without trade-off goods the development of economy is fruitless. Moreover, a further target of this study is to indicate the exposure to risks involved in the shipping business, and what should be taken into consideration dealing with this extremely alluring sector of transportation. It will highlight bringing into attention the manifold interests of the shipping industry providing useful and factual data from numerous sources of business activities related to maritime transportation covering an extensive field of the global economy.

Keywords : Global Economic Meltdown, Financing Shipping Industry, Premature Redeliveries of Vessels, Damages Status, Over-the-Counter Market, Cleared Trading.

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LIST OF ABBREVIATIONS

BALTIME	-	The Uniform Time Charter
BCTI	-	Baltic Clean Tanker Index
BDI	-	Baltic Dry Index
BDTI	-	Baltic Dirty Tanker Index
BFI	-	Baltic Freight Index
BIFFEX	-	Baltic International Freight Futures Exchange
BIMCO	-	The Baltic and International Maritime Council
BITR	-	Baltic Exchange International Tanker Routes
BLPG	-	Baltic Liquefied Petroleum Gas
CAGR	-	Compound Annual Growth Rate
CASS	-	Cargo Account Settlement System
CCP	-	Central Counterparty
CGT	-	Compensated Gross Tonnage
CIS	-	Commonwealth of Independent States
CoA	-	Contract of Affreighment
C/P	-	Charter Party
cSt	-	Centistokes
DWT	-	Deadweight
EBITDA	-	Earnings Before Interest, Taxes, Depreciation, and Amortization
ECAs	-	Emissions Control Areas
EU	-	European Union
FFAs	-	Forward Freight Agreements
FFABA	-	Forward Freight Agreements Brokers Association
GENCON	-	The Uniform General Charter Party
GENTIME	-	General Time Charter Party
GDP	-	Gross Domestic Product
GT	-	Gross Tonnage

HR	-	Human Resources
IATA	-	International Air Transport Association
IFO	-	Intermediate Fuel Oil
IMF	-	International Monetary Fund
IMO	-	International Maritime Organization
IPO	-	Initial Public Offer
IRU	-	International Road Transport Union
ISDA	-	International Swaps and Derivatives Association Master Agreement
LIFFE	-	London International Financial Futures Exchange
LNG	-	Liquefied Natural Gas
LPG	-	Liquefied Petroleum Gas
NAFTA	-	North American Free Trade Agreement
NAV	-	Net Asset Value
NYPE	-	New York Produce Exchange Time Charter
OPEC	-	Organization of the Petroleum Exporting Countries
OTC	-	Over-the-Counter
RTKs	-	Revenue Tonne-Kilometres
SPAC	-	Special Purpose Acquisition Corporation
SPC	-	Special Purpose Company
T/C	-	Time Charter
TEU	-	Twenty-Foot Equivalent Unit
UN	-	United Nations
UNCTAD	-	United Nations Conference on Trade and Development
US	-	United States
WACC	-	Weighted Average Cost of Capital
WTO	-	World Trade Organization

CHAPTER 1

INTRODUCTION

1.1 Preamble

This chapter depicts the importance of shipping as a basic human activity servicing the transportation of people and commodities. One of the matters of the topic of this dissertation regards the premature redeliveries of vessels to the owners because the recent economic crisis became an obstacle for many participants in the shipping industry to fulfill their obligations to perform the C/Ps for the carriage of commodities. Moreover, when there is a discussion about trade and vessels, it presupposes the existence of trade and vessels. So, the world economy and development through the carriage of goods and the methods which give the opportunities to businessmen to invest in ships and how they can take advantage of their investment will be analyzed. It is also important to be given an icon of the element, which assesses the situation of the development of shipping markets, i.e. the freight rates. All the matters above are going to be presented in this chapter.

Merchant shipping since ancient years has consisted of and is supported by three pillars, interacting so intense among each other that a breach in this tight connection can be enough not only to shake the bond but also to break the whole function of maritime operations. The ship, the people and the goods are the stakeholders of this strong mechanism, as they accommodate and provide their services in the global trade. Shipping offers to those who have the desire and courage to set up a shipping business in order to make a profit.

The shipping industry is probably the most globalized field of human activity with many players to participate, to invest their assets, to get ships built, and to make companies aiming through all these efforts to leave their mark with successful results. Here is the key point of the alluring endeavour, i.e. the undertaken venture by someone who anticipates considerable gains predicting the market of goods in the global chessboard. The wrong movement by one who takes part together with other participants in a common effort does not result in a zero sum game but in the derailment of the shipping industry. The key point of this common venture is found, because shipping is not a "one man show". Sometimes misleading optimism influences crucial decisions for shipping business planning.

1.2 Historical Overview

Before proceeding to the extensive analysis of the matters mentioned above a short historic overview of the importance of shipping and its contribution in world trade is given.

Shipping is a "fascinating" business. The reason for such a characterization stems from the ability and expectation of humans to cross the oceans since thousands of years ago to do trade until today. This is probably why it has so many ups and downs (giving glorious moments in one's day life) but can also lead to an unexpected economic abyss. Merchant shipping goes along with the human needs, with the global development in general and with the eternal rule of the market of supply and demand. Reference to Adam's Smith[1] book *The Wealth of Nations*, published in 1776, in chapters II, III citing the below extracts :

[1] Adam Smith, 5 June 1723 - 17 July 1790, was a Scottish moral philosopher and a pioneer of political economy. Smith is named as the "father of modern economics". Adam Smith is best known for two classic works : *The Theory of Moral Sentiments* (1759), and *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776).

"It is necessary, though very slowly and gradual, consequence of a certain propensity in human nature which has in view no such extensive utility; the propensity to truck, barter, and exchange one thing for another".[2]

"As it is the power of exchanging that gives occasion to the division of labour, so the extent of this division must always be limited by the extent of that power, or, in other words, by the extent of the market".[3]

"The extent of their market, therefore, must for a long time be in proportion to the riches and populousness of that country, and consequently their improvement must always be posterior to the improvement of that country".[4]

"The nations that, according to the best authenticated history, appear to have been first civilized, were those that dwelt round the coast of the Mediterranean sea".[5]

The importance of exchanging goods among people is clearly stated. The heft of exchanging them divides the labour and therefore the extent of the market. The development of the country is the aftermath of the extent of the market and the punch line of all is that the countries established close to sea are the most developed.

Regarding Adam's Smith book there are four basic principles that have never ended to play the major role in shipping, such as the exchange of goods, the market and the improvement of a country and finally a nation surrounded by sea, which significantly influences the extroversion in a country's progress.

[2] Adam Smith, An Inquiry into the Nature and Causes of The Wealth of Nations, The University of Chicago Press, Chicago, 1976, p. 17.
[3] *Ibid.*, p. 21.
[4] *Ibid*., p. 23.
[5] *Ibid.*

Starting from the last feature it is known that the Greeks, the Phoenicians, the Chinese, the Indians, the Portuguese, the Spaniards, the Dutch, and the British among other nationalities, have based their dominance in the conquest of seas for trading their products or exploiting and exporting raw material from their colonies and sending them back to the original countries.

The improvement in a country's standard of living is impressed on the macroeconomic and microeconomic scales. As far as the development is concerned, it has manifold repercussions in many sectors of market activities *inter alia* in the extroversion of a country, namely the needs of people living in its territory increase and the immediate result is the number of imports to show a significant growth.

Instant connection with the above description will lead the country to make investments as the country passes from the pre-industrial phase to the transitional stage where raw materials are demanded for its industry. This in turn has a continuation to making industrial products, which are exported.

It is made clear that the shipping industry more than ever will continue to play a leading part in the global economy as it is the most immediate, convenient and cheapest link among nations. The above historic overview is evidently linked to the topic of this study, because through the passing of time the importance of ships in a country's development, exchange and carriage of goods by sea become comprehensive.

1.3 Global Economy

The shipping industry does not remain aloof in the global economy neither does it remain untouched from the world development. On the contrary, its participation is a determinative and booster factor in the global commerce. For this reason reference is made to the global economy, especially for the countries that play an important role in trade and regulate the supply and demand of commodities.

In retrospect, looking back a few years ago the annual Global Domestic Product (GDP)[6] has been increasing steadily with anticipation for the next seven years from 2013 as a reference point that the percentage of investments, exports and imports are the main economic tools taking into consideration for reckoning that the GDP will mark further remarkable expansion.[7] As a starting point the decade of the 80's the GDP was 1.86 percent in 1980, afterwards the years that deserve to mention as peaks of the GDP were in 1984, 2004, 2006 and 2007 with the average rate reaching 5.43 in the latter.

The benchmark annual review in the thirty years that the GDP marked down a significant fall was in 2009. It was under zero more specific -0.59 percent, meaning the growth yielded in that year, the total amount of products in a currency, commonly the United States (US) dollar ($) showed a minus difference in comparison with the previous year.

[6] GDP is the total market value of all final goods and services produced in a country in a given year, equal to total consumer, investment and government spending, plus the value of exports, minus the value of imports. See : http://www.investorwords.com

[7] 10659 : Annual GDP World : Historical Data and Forecasts for future years are sourced from the IMF. See : http://www.clarksons.net

Emphasizing the importance of the global economy, it will be more comprehensible to sort out the world economy into geographical areas or major countries since this appropriation seems to be the most practical and reliable tool for measuring the present growth of GDP and making predictions for the future.

The European Union (EU) consists of twenty-seven countries has shown a significant growth with the year of 1988 and 2000 to be the most productive with 4.05 and 3.96 percent, respectively. In 2009 the percentage of annual production appeared to be down under zero, since 1980, recording a rate of -4.20 percent.[8] The US has witnessed a stable development with minute vicissitudes in the past thirty years with more productivity in 1984 and 1999; the percentage of GDP was 7.18 and 4.82. Correspondingly, the annual negative report with a considerable recession in the growth was in 2009 with -3.06 percent.[9] In addition, there is China, the rising power to be the leader more than thirty years in terms of economic progress. China has been demonstrating an astonishing upward increase as far as its development is concerned almost in all fields of economy. According to the data provided by International Monetary Fund (IMF) it can be noticed that there is not even a year during the last three decades for the GDP of China sliding less than 3.39 percent.[10]

[8] 10660 : Annual GDP EU : Historical Data and Forecasts for future years are sourced from the IMF. See : http://www.clarksons.net

[9] 10653 : Annual GDP USA : Historical Data and Forecasts for future years are sourced from the IMF. See : *Ibid.*

[10] 10661 : Annual GDP China : Historical Data and Forecasts for future years are sourced from the IMF. See : *Ibid.*

China has exercised a stability of growth transforming the country into a giant of the economic market, producing and exporting products, and importing raw materials in bulk in huge quantities. Operating in this way, the Chinese economy created endless aspirations in the shipping industry and even more between ship owners and charterers. Unfortunately, this furious rhythm of growth had a short deadlock resulting in the world merchant shipping suffering from the consequences.

Regarding the growth of GDP since 1980, a few other countries, such as Japan, South Korea, Australia, Brazil, India, Russia and South Africa cannot be overlooked as their participation in the global economy are not negligible.

Japan as an old and strong maritime nation with many shipyards trying to compete with her neighbor countries, China and South Korea, has showed a positive factor of growth in her GDP with the most remarkable numbers in 1985 and 1988, with 6.33 and 7.14 percent, respectively. In 2009, the GDP was far worse than any other year before in the Japanese economy when the growth fell -5.52 percent. The benchmark problem of Japan in terms of growth is that it has many vicissitudes with slow growth, recession and depression.[11]

South Korea, the rival against the Japanese economy, is almost a stable economy with no great changes in GDP with the best annual growth in 1986, 1987 with 12.24 and 12.26, respectively. A noticeable decrease happened in 1998 with the growth of - 5.71 percent in comparison with the previous year. The data forecasts that there will be a continuous increase of the GDP for the next five years.[12]

[11] 10654 : Annual GDP Japan : Historical Data and Forecasts for future years are sourced from the IMF. See : http://www.clarksons.net

[12] 10668 : Annual GDP South Korea : Historical Data and Forecasts for future years are sourced from the IMF. See : *Ibid*.

As far as Australia is concerned, which exports million of tonnes of coal and grains in bulk, the two most significant years that the growth of GDP is remarkable high are in 1995, 1988 with an average rate of 5.10 and 5.60, respectively. In 1983 the GDP dropped with -2.30 percent.[13]

Brazil presents a smaller increase of GDP in terms of growth in comparison with Australia, but her economy has generally exercised well-stabilized development the last three decades. In 1980, 1986 the growth was 9.10 and 8.00 percent, but in 1981 the growth fell -4.40 percent.[14]

India as one of the fastest growing and largest emerging market economies has been showing a flourishing growth of GDP since 1980, with almost not any year of negative sign in her development. The annual GDP in 2007, 2010 was 10.07 and 11.22, respectively. The year with the slowest rate in development was in 1991 with 2.13 percent.[15]

The other two countries which belong to the group of the fastest and largest developing markets are Russia and South Africa.[16] The former with great vicissitudes since 1990. In 1992 and 1994 the GDP was -14.50 and -12.60 percent, because in those years many political upheavals affected the Russian economy. The year with the best performance in the growth of GDP was in 2000 with 10.00 percent, followed in 2007 with 8.50 percent.[17]

[13] GDP Statistics from the World Bank. See : http://www.knoema.com
[14] GDP Statistics from the World Bank. See : *Ibid.*
[15] 10662 : Annual GDP India : Historical Data and Forecasts for future years are sourced from the IMF. See : http://www.clarksons.net
[16] BRICS : The acronym of the emerging economies Brazil, Russia, India, China and South Africa. See : http://www.american-choices.hubpages.com
[17] GDP Statistics from the World Bank. See : http://www.knoema.com

South Africa has proved to have slowest growth but these are positive signs, except in 1991 and 1992 with -1.00 and -2.10 percent. In 1980 and 2006 the country displayed a significant annual growth of GDP with 6.60 and 5.60 percent.[18]

Making a vignette of the most important global economies, the countries and the geographical regions which are the yardstick of development and the steam engine of world trade, the following chapter will describe basic merchandise, either as raw materials or products ready for use which are the proof of economic growth.

1.3.1 The Export of Goods

The carriage of merchandise at sea is divided in two main categories in solids and liquids. Furthermore, there is another subdivision of solids, in bulk cargoes and general cargoes. The bulk cargoes, either solids or liquids, are loaded on bulk carriers, tankers, combined carriers and specialized bulk vessels.[19] The general cargoes are transferred by container ships, multipurpose vessels and Lift-on/Lift-off.[20]

The liquid cargoes are the crude oil and its products, the liquefied natural gas (LNG), the liquefied petroleum gas (LPG); in contrast, the solid bulk cargoes are divided in major bulk cargoes and minor bulks.

The major bulks are the grains, the coal segregated in coking coal and steam coal, the iron ore, the phosphate and the bauxite. The minor bulks include the salt, the sugar, the cement, the products of timber, the products of steel and aluminum and the gypsum.

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[18] GDP Statistics from the World Bank. See : http://www.knoema.com
[19] Martin Stopford, Maritime Economics, Third Edition, Routledge, London, 2009, p. 69.
[20] *Ibid.*

The seaborne trade as related with the categories of goods which are carried, also shows the global development and the rule of supply and demand. It has been noticed as far as the grains are concerned that in 2000 the total amount of grain trade by ships was 259.81 million tonnes. The respective amount twelve years later was 369.90 million tonnes, jumping to 42 percent. The seaborne coking coal trade in 2000 was 171.09 million tonnes, in 2012 235.43 million tonnes, an increase of 37 percent. The world seaborne steam coal trade was incredible astonishing, as the amount of this type of coal from 336.45 million tonnes in 2000 reached 823.07 million tonnes in 2012, an increase of 144 percent. Parallel connection with the above was the tremendous demand of iron ore. China is the key player in this equation. In 2000 the total quantity was 450.17 million tonnes; on the other hand, in 2012 it was 1,109.49 million tonnes, an increase of 146 percent.[21]

The other two major bulks, i.e. the phosphate and the bauxite had different routes in terms of demand. The former remained stable in million tonnes; in 2000 the amount was 30.18 and in 2012 it was 30.10, the latter not only noticed a slight increase but its demand can compare with those of steam coal and iron ore. It reached the total increase from 2000 to 2012 of 104 percent. The minor bulks play a vital and essential role in a country's economy and generally in the welfare of society. Their quantity increased from 890.31 million tonnes in 2000 to 1,405.05 million tonnes in 2012, an increase of 57 percent.[22]

As far as the world seaborne crude oil trade is concerned, it shows a different view. In 2000 the quantity of crude oil was 1,675.81 million tonnes and twelve years later the total amount was 1,892.43 million tonnes, a slight increase of almost 12 percent.[23]

[21] 98797 : World Seaborne Trade. See : http://www.clarksons.net
[22] 98800 : World Seaborne Minor Bulk Trade. See : *Ibid.*
[23] 98801 : World Seaborne Crude Oil Trade. See : *Ibid*

As regards the LNG trade, the demand for LNG reached new heights in 2012 since 2000.[24] The total amount of seaborne trade from 103.62 million tonnes in 2000 reached 239.11 million tonnes in 2012, an increase of 30 percent. There are many cumulative reasons for justifying such an increase from many countries. The tragic earthquake hitting Japan in March 2011 forced the Japanese municipalities/local authorities to temporarily shutdown all the 54 nuclear power plants leading the country to rely on LNG to fill its energy vacuum.[25]

Additionally, facing the problem of the green house effect from pollutant sources of energy, many countries have decided to usher in a new era of friendly energy to the environment. For these mentioned reasons and as far as the matter of the cost is concerned, the ports that export and import LNG increased the last five years.[26]

Even the LPG products[27] derived from crude oil their demand noted an increase further than the crude oil during the last twelve years. From 38.84 million tonnes in 2000 to 43.90 million tonnes in 2012, an increase of 13 percent, it could be considered as a slight boost to more consumption of these products.[28]

Lastly, there is the container trade as the major index of general cargo and one of the fastest and most development branch of merchant shipping. In 2000 the total amount was 605.72 million tonnes and in 2012 it was 1,473.54 million tonnes, an increase of 143 percent.[29]

[24] 98804 : World Seaborne LNG Trade. See : *Ibid.*
[25] World LNG Report, 2011, p. 3. See : International Gas Union (IGU) - www.igu.org
[26] *Ibid*., p. 4.
[27] Propane (C_3H_8), Butane (C_4H_{10}), Propylene (C_3H_6), Butylene (C_4H_8). See : http://www.iea.org
[28] 98803 : World Seaborne LPG Trade. See : http://www.clarksons.net
[29] 98805 : World Seaborne Container Trade. See : *Ibid.*

In conclusion, the data has proven through the data the continuous demand and supply of the world seaborne trade the last decade. An analysis of banking finance, which is the inevitable tool for shipbuilding in a prolific world shipping environment, follows in the next chapter.

1.4 Ships Financing

1.4.1 The Inquiry of Financing

Having such development at a global level the last decade it comes under practical and essential importance by whom and how the huge amounts of commodities can be transported around the world. There is no doubt that this task is going to be taken over by shipowners and their ships.

The next question follows as a derivative result of the former and has to do with the number of ships, namely whether the pre-existed vessels have the capacity to accommodate the transportation of goods.

Another important question related to the previous is the constructional status, *inter alia* if the pre-existed ships comply with the new environmental regulations, for instance the demand for double hull tanker ships.[30] Furthermore, another query is the method for someone who is interested to invest in new shipbuilding or purchase from the second-hand market. Since all the above questions are related to the new ships or purchase the issue, which is going to be studied and answered in the next paragraphs has to do with financing.

[30] In 1992 the double hull requirement was adopted and entered into force on 5 April 2005 for ships above 5,000 tons deadweight and for ships between 600 tons deadweight and above but less than 5,000 tons deadweight not later than 2008. See : http://www.imo.org

1.4.2 Methods of Loans for Ships Financing

During the trade boom the last decade, shipowners considered whether there was a shortage of tonnage in the world fleet or there was an opportunity for more profitable businesses so they forged ahead with ship orders or with purchase of pre-existed vessels from the shipping market.

A shipowner needs financial resources for purchasing ships. The most common practice in shipping is a combination of bank loans and personal assets. It must be reported that in 2007 the various institutions lending to the shipping industry had loan portfolios ranging in size from $1 billion to $20 billion.[31] The method of financing ships through bank loans available to a shipowner can have three different types : i) the mortgage-backed loans, ii) corporate loans, and iii) the loans made under shipyard credit schemes. There are some general principles for an applicant, i.e. the shipowner, who must follow and present relevant data to the bank upon the bank's request for ships financing. The format of the principles is based on :

- Historical analysis of shipowner's company activities.
- Familiarization with the group which is immediately connected with the first principle, *inter alia* the shipowner must show how successful he is in shipping field.
- Financial analysis, namely a blueprint of the shipowner's financial situation.
- Cash flow, the amounts of cash instantly available for ship's order or purchase.
- Loan analysis, i.e. the specific periods for withdrawal of money from the bank.
- Fleet structure.
- The upside outlook of the shipowner for the segment of the market in which he is going to operate his vessels.

[31] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 286.

Proceeding now to the first method of ships financing, it must be said that as far as the mortgage-backed loans are concerned, they rely on the ships' mortgage for security, assignment of insurance and earnings (from freight) to the lender. These securities must not only be taken into consideration but also be appointed prior to the agreement and loan transaction between the lender (bank) and the borrower (shipowner) in case things go wrong for the creditor.

Finally, before a firm offer can be made to the lender, the bank officer must get the credit approval from the bank's credit department and this credit approval will depend on the evaluation of the following risks : i) the prospects of the shipping market, ii) operational plan of the shipping company, iii) minimum acceptable yield, iv) portfolio distribution and allocation.

1.4.3 Corporate Bank Loans and New Building Ships Financing

Corporate bank loans against the company is a method of ships financing which is preferable for large shipping companies with well-established financial structures and these companies often prefer to borrow as a company making use of its balance sheet as collateral than borrowing against an individual ship. The disadvantage of borrowing against an individual ship can be that any change in the company's large fleet is time-consuming for loan transactions.

Regarding the financing of newbuildings is a matter of an alternative method for a shipowner to get new ships built with the said shipbuilding credit scheme. There are two problems which need to be overcome. The first has to do with the fact that the capital cost of a new ship is really high relatively to the spot market earnings, so it might be forbidden for a shipowner to amortize within a period of 5-8 years the loans given by a commercial bank from the cash flow from the spot market.[32] The second problem has connection with the fact that the finance is needed before the ship is built, so there is an intervening period without any ship's delivery but a part of the loan has already been drawn.[33]

Mostly all shipyards follow the pre-delivery finance. In other words, the shipyards require from their customers to make payment arrangements by stages. First, an amount is needed for the shipyard to cover the costs of labour and materials. Then the balance of the finance is divided in stages that is to say the keel laying, the engine delivery, launching and finally ship's delivery.[34]

The pre-delivery stage payment presupposes the first payment to be made by the purchaser from his own capital assets. But this a risky movement from the lender's side because in the case that the shipyard goes bankrupt or civil or political disturbances prevent the completion of ship's delivery, the lender will be in economic troubles. To avoid such kind of investment risk, in some countries the government guarantee is particularly valuable, since the purchaser can feel safe for his investment.

[32] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 294.
[33] *Ibid*.
[34] *Ibid.*

1.4.4 The Mezzanine Finance

Among others, except the mentioned ways of ships financing, another method of financing must be added, which is less popular and usable, i.e. the mezzanine financing.

The mezzanine financing is a hybrid between debt and equity.[35] There are independent firms, known as investment firms, which take actions in financing of a company in exchange of getting shares of the company. These firms get a part of capital property of the company.

The mezzanine lender has a warrant enabling him to convert the security (the very high interest rate of 20 percent returns and up) into equity at a predetermined price per share if the loan is not paid on time or in full. Despite the apparent generosity of investment firms, this kind of financing has very little interest for shipowners and especially for family shipping companies.

1.4.5 Financing Ships by Public Offering

Ships financing for big shipping companies, *inter alia* with more internal diversion of their departments follows a different method. There is a division responsible for all activities associated with the acquisition and operation of the vessels. In addition, there are a divisional board for day-to day decisions, and a division for ships purchase and sale; the vice president is responsible for planning and submitting an annual corporate planning to the board for approval. There is also the financial division for financial forecasts and proposals.[36]

[35] *Ibid.*, p. 296.
[36] *Ibid*., p. 86.

These large shipping companies have issued shares and are listed in a stock exchange. So, when a shipping company needs additional assets either for ships purchase or shipbuildings or other business activities, then it must make an initial public offer (IPO). In short, shares are offered listed on a specific stock exchange where they will be traded.

As a conclusion, for the pricing of shares given by a shipping offering there are three factors[37] which affect the price :

• The company's net asset value (NAV), i.e. the value of assets minus the liabilities and goodwill.[38] The company's NAV is calculated daily by dividing the company's net value by the number of outstanding shares.

• The enterprise value based on the company's earnings before interest, taxes, depreciation and amortization (EBITDA).[39]

• The yields in relation to comparable public companies.

1.4.6 Issuing Bonds for Ships Financial Backing

The other way of financing is by issuing bonds. A bond is a debt security redeemed on a specific date, for instance after 10 or 15 years.[40] The issuer, in the concrete case a shipping company, sells bonds to bondholders and pays them an interest (named as the coupon). At the end of the term the capital is repaid to the bondholder.

[37] *Ibid*., p. 299.
[38] NAV. See : http://glossary.reuters.com
[39] EBITDA. See : http://www.investorwords.com
[40] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 300.

The bank handles the whole process, the research of the bond market, the placement and finally, it deals with a list of matters as follows :

- Overview of the company and its strategy.
- The terms of note.
- Risk sectors relating to the company and the industry.
- Description of the company's business, operations.
- Overview of the company's market and regulatory environment.
- The indenture and summary of financial data.[41]

When all the above are completed, then the investment bank and shipping company's officers are ready to make presentations to institutional investors. The bonds are a debt but can be considered more advantageous than a bank debt, as they are offers with long term extension. In addition, the capital is not repaid until the bond matures, so the cashflow remains in the company.

1.5 Shipping Indices

1.5.1 The Key Points on Forecast for Shipping Markets

One of the matters mentioned in the abstract that gives a general view of the expansion or diminution of a shipping market and tendency to change freight rates has to do with the shipping indices. Before presenting an icon of indices the last decade, it should be explained briefly what the indices are and how the shipbrokers forecast them. Shipping indices are the financial tools for monitoring the variability of the freight market.

[41] *Ibid*., p. 301.

They sort out according to the type of cargo, for example dry bulk cargoes, liquid cargoes and specialized cargoes, the type of ship, *inter alia* handymaxes, panamaxes, capesizes, tankers, containers, the period of chartering, and finally, the geographical area in which the ship performs her operation.

The first freight index for bulk cargoes was the Baltic Freight Index (BFI).[42] It was set in 1985 and replaced by Baltic Dry Index (BDI) in 1999.[43] The BDI is a combination of mean terms of freight indices for handymax, panamax and capesize ships for specific shipping routes and a concrete period of time. The BDI is also used for container ships. The indices for liquid bulk cargoes is based on the tanker freight scales, the Worldscale. The extensive analysis of the above shipping indices is out of the scope of this dissertation. The relevance, the research and the rationale are the three principles which applied by the decision-makers, in this case the ship brokers, for making their study of the shipping market and finally to reach the point for assessment of the freight rates.[44]

The relevance has to do with the right information from different sources *inter alia* shipping banks, and the shipbroker estimates since he obtained the information that will probably be the development of the shipping market on specific types of ships. It might happen in specific trading routes or in a wider geographical area. Eventually, the rationale is confirmed by the previous factors and he can reach conclusion that the shipping market will increase and will result in an increase of freight rates. Following this order of things, the ship brokers may be in position to estimate the rise or fall of shipping indices and people who take into consideration ship brokers' estimations, so in this case the shipowners can act.

[42] K. Giziakis, A.I. Papadopoulos, E. Plomaritou, Introduction in Chartering, First Edition, Stamoulis, Athens, 2002, p. 266.
[43] *Ibid*.
[44] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 703.

However, the description given above is a short outline of how the ship brokers reckon the fluctuations of shipping indices. There is also a contributory factor which plays a significant role in determination of such calculations and enforces the actions taken by the main players in the shipping industry, i.e. shipowners and charterers. The matter of time, and the estimations of freight indices concern the present and future but their consequences can stretch out much more in the future. What does it mean? The equilibrium point, the short run equilibrium and long run equilibrium are factors to be involved in with time and without failing this equilibrium is connected with fluctuations of freight rates.[45] A brief description on the type of equilibrium will give an understanding of its impact in the configuration of freight indices.

Supposing that in specific period of time there are fifty ships for chartering and on the other hand there are fifty charterers who are interested in chartering these ships, then the freight rate will have a concrete index based upon the agreements between shipowners and charterers. At this point there is momentary equilibrium and the ships are all well operated. In case that there are not enough offers to cover the number of ships, for instance from the charterers' side, then if the shipowners are not satisfied with the freight rates, they can lay off their ships or to operate them, if they have this alternative solution, in different markets. They do so, until the point the demand for ships triggers the rise of freight rates. In this case there is short run equilibrium.

The period in which long term contract agreements are not performed or are not in demand, then the shipowners have the choice either to sell their ships for scrapping or to remove them permanently from the market converting them in different kinds of use, for instance supertankers for oil storage. They do it in order for the surplus tonnage to be reduced to a significant level.

[45] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 709.

When the shortage of ships pushes up freight rates, the operation of ships will be financially viable and then the shipowners can re-activate their ships or new building ships to be delivered. This period is called long run equilibrium and can last five to seven years.

1.5.2 Background of Freight Rates

The most indicative numbers in the scale of BDI, starting from January in 2003 where the index for bulkers and containers was in 1,694 units.[46] One year later, in January 2004 the index noted a significant increase reaching 5,229 units. The respective average earnings for bulkers were $30,631 and containers $17,471 per day.[47] On the other hand, for the same period, the Baltic Exchange Dirty Tanker Index was in 2,113 units and the earnings $48,807 per day.[48]

In January 2005 the index was in 4,502 units for bulkers and containers and for dirty tankers was in 1,521 units. The average earnings were $29,409 for bulkers and $28,273 for containers per day. There was a slight fall in the earnings for bulkers, but it was not the same for container ships where their earnings were well increased compared with 2004. In the field of dirty tankers, the average earnings reached $42,436 per day for the same period.

In December 2007 the index of BDI reached a record point since January 1985, with 10,543 units with the average earnings for bulkers and containers $64,601 and $20,815 per day, respectively. The market of bulkers was without a doubt the most fruitful in comparison with the container ships. On the same way the market of dirty tankers followed. The index was in 1,934 units and the earnings reached $61,051 per day.

[46] 10806 : BFI. See : http://www.clarksons.net
[47] 97730 : Clarksons Average Bulker - Containership Earnings. See : *Ibid.*
[48] 97726 : Clarksons Average Tanker Earnings. See : *Ibid.*

The year graven in the memory of the shipping market would be in December 2008. The index of BDI reached at 747 units, the lowest point since January in 1987. The average earnings for bulkers were $5,036 and containers $7,307 per day. The dirty tanker market index reached the lowest point, since August in 1998, five months later compared with the BDI. In May 2009, the index showed 478 units and the average earnings were $9,708 per day.

Finally, in January 2013 the BDI was in 771 units, one of the lowest index since the crisis in the shipping market started. The average earnings for bulkers were $4,761 and containers $5,824 per day. The respective market of dirty tankers was in 647 units and the earnings were $15,594 per day. This description of freight indices will be a helpful guide to record and construe the outcome of such growth in terms of new ship orders by shipowners.

1.6 Shipbuilding Boom

The exponential growth of freight rates led by the increase of supply and demand of commodities together with the shortage of tonnage offered the ground for shipowners to make new building ship orders or to choose the purchase of second hand vessels.

The numbers, which appear since 2000 show a continuous growth in ship contracts on a world scale. In 2000 the deadweight in million tonnes were 68,727,418,[49] three years later in 2003 the increase was 68 percent, namely 116,140,286 million tonnes and in years of good earnings for all type of ships, i.e. in 2006, 2007 the million tonnes of deadweight under construction were 186,519,479 and 273,410,070, respectively.[50]

[49] 50768 : Contracting by Region World : During Period Specified. See : http://www.clarksons.net
[50] *Ibid*.

It is an evident fact that many shipyards were overbooked and shipowners had focused on accumulation of surplus tonnage where in few years later they would entered in a spiral of extended slump with negative consequences for many shipping companies and shipyards.

CHAPTER 2

REVIEW THE FACTORS OF THE ECONOMIC CRISIS

2.1 An Introduction of the Economic Crisis to Alternative Modes of Transportation

This dissertation even if it has a topic which focuses on the serious and manifold matters of premature redeliveries of vessels after the repudiation of C/Ps and the regime of damages for the injured party, it also wants to depict a wider view of the impacts of the recent economic crisis in other sectors of transportation. This is done because the shipping industry and vessels particularly are not standing alone in the global transportation of people and commodities. It is a combination and attempt among all the modes of transportation to accommodate their role, i.e. the global needs for supplying commodities. It is necessary for a reader when he keeps in his hand a study to have a general view of the economic climate to allied sectors of the main issue. This is because the reader's knowledge and conclusions are becoming spherical and more pragmatic.

The first part of this chapter presents an analysis of transportation modes, i.e. the air freight, the rail freight, the transport by road and the effects of economic crisis on these sectors. The linkage among them can be recognized on the fact that there are common side effects in the shipping industry with the other modes of transport in the era of crisis. They cannot be segregated in independent fields of economic activity; on the contrary, they must be considered as a whole entity of domestic, international and interregional trade.

A contributory factor is that transportation has been called one of the four cornerstones of globalization, along with communications, international standardization, and trade liberalization.[1] Globalization of transportation can be determined by the recognition that resources and goods are not found and collocated with the populations that desire them, and therefore global transportation services are needed.[2]

Global goods movement is a critical element in the global freight transportation system that includes ocean and coastal routes, inland waterways, air freight, railways, and roads.[3] In some cases, the freight transportation network connects locations by multiple modal routes, functioning as modal substitutes. Furthermore, in the current globalization of transportation and economy, there are competing factors such as time, cost, and reliability of delivery, which affect the growth of each mode. Connecting *inter alia* the above factors with goods that are going to be transported, it can be concluded that low cost modes may be less preferred than faster modes if the cargo is very sensitive; however, slower, lower cost modes often carry much more cargo and, with proper planning, these modes can reliably deliver larger quantities to meet just-in-time inventory needs. The above mentioned apprise the basic features of competition among transportation modes, and an outline will be attempted of them in this chapter.

The second part of this chapter focuses on sectors, which beset the vessel, as they are correlative conjunctions to the main issue of the topic, i.e. the vessel. These conjunctions either affect the vessel for her operation, such as the bunker costs or are affected by the recession of vessel operations, such as the shipbuilding industry and seafarers.

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[1] OECD, The Impacts of Globalization on International Maritime Activity, Global Forum on Transport and Environment in a Globalizing World, 10-12 November 2008, Guadalajara, Mexico, p. 4. See : http://www.oecd.org

[2] *Ibid.*

[3] *Ibid.*

2.2 Determinants of Transportation Costs

Before the presentation of impacts on different modes of transport due to the recent world economic crisis in 2008, the determination of transportation costs is important. This is done because the severity of the economic downturn hit the freights intensely for transportation of goods and the administrators of these transportation modes were faced to curtail the prices of freights for survival of their business activities.

The economic importance of transportation costs conduces in considerable degree in the final price of the trade-off products between exporters and importers. In perspective, the transportation costs can be configured and calculated taking into consideration a series of factors that affect the final price of goods. These factors are either predictable and regulated or might come under anticipated developments. The predictable factors are referred to elements that pre-exist in transportation of goods and the people who are involved in the chain of transportation have knowledge of them. Such factors can be the market price of cargo at the place of origin, maritime indices in commodities exchange, or legislation for barrier tariffs in a country. First, the transportation costs are relative to the value of goods being moved; that is, the transportation costs in *ad valorem* terms which are equivalent to the percentage change in the delivered price as a result of paying for transportation. (Button & Vega 2012) Second, the tariff barriers can affect the costs of transport to lower prices by the importers of goods in a country where tariffs are imposed. The importers will try to find economical modes of transportation to import the goods in competitive prices compared with the domestic goods. Third, the distance from one market to another. Its particular gravity in the determination of transportation costs is attempting to measure and explain it in trade flows. Fourth, the time of delivery of goods contributes decisively in the transportation costs.

It has been suggested that the time it takes for goods to get to markets is a better proxy for transport costs than the distance.[4] Another significant factor taking part in the configuration of transport costs is the trade imbalance, especially as this kind of measure applies mainly to seaborne transportation.[5]

An important still determinant of transport cost is the volume of trade. A very good example for this factor is based on the comparison between the cost of shipping $100 of coal (weighing a metric tonne) and $100 of computer microchips (weighing a few grams). The greater weight and bulk of the equivalent value of coal requires greater stowage space and fuel expenses to move, which means that transportation cost is in absolute numbers increases the delivered price of coal relatively to microchips. (Button & Vega 2012) The calculation of transportation costs and the infrastructure work must also be taken into account as these accommodate the delivery and distribution of goods in a country. In sum, the basic elements influencing the configuration of transportation costs and their results are depicted in the price of goods at delivery place.

2.3 Air Transport in the Era of the Economic Crisis

The fortunes of the transport and logistics industry are closely connected to the economic cycle. When economic activity is buoyant, demand for transport and logistics services is equally strong.[6]

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[4] Trade and Agriculture Directorate Trade Committee, Working Party of the Trade Committee, Clarifying Trade Costs In Maritime Transport, TAD/TC/WP(2008)10/FINAL, 29 March 2011, p. 9. See : http://search.oecd.org

[5] *Ibid*., p. 10-11. For instance, in 1998, 72 percent of containers sent from the Caribbean for the US were empty. This excess supply of containers on the northbound route implied that a US exporter paid 83 percent more than a United States importer to ship the same type of merchandise between Miami and Port of Spain. (Trinidad and Tobago)

[6] Transport and Logistics Industry. Air Traffic Looks for Upturn in 2013. See : http://www.qfinance.com

The aftermath of the continuous demand from consumers and businesses inevitably translates into higher fueling for transport and logistics. Moreover, the commercial aviation has undergone rapid and innovative changes since 1955, such as wing design, constructional materials, the adoption of jet engines, and improvements in avionics as well. (Button & Vega 2012) Jet engines installed in airplanes make them faster, fuel efficient, reliable and consequently they require less maintenance compared to piston engines which had been used before the installment of jet engines.

On the other hand, which mode of transport handles how much cargo depends on the relative transportation costs and the value-to-weight ratio of the commodity, i.e. the higher the value per unit of weight, the less significant the cost of transportation.[7] Promptly delivery of goods and reliability of services are considered more important for valuable commodities.

As the economic crisis drags into a fifth year, planes are flying with only 44 percent of cargo space taken up, including belly capacity on passenger jets, with the market essentially stagnant.[8] Volumes of high-value goods, a representative sample of international air freight, have declined as consumers have been reining in spending. The slump in global economic growth that occurred in the second half of 2008 and during the course of 2009 caused global trade volumes to plummet and has a great impact on the transport and logistics industry. The economic downturn of 2008-2009, the worst economic contraction since the Great Depression, dragged down all modes of transport.

[7] Global shipping - a dynamic market. Growth through globalization.
See : http://worldoceanreview.com

[8] Air Cargo Slowdown Puts Squeeze on Specialist Carriers, 14 December 2012.
See : http://www.bloomberg.com

Specifically, the world air cargo traffic fell 12.50 percent between mid-2008 and year-end 2009, the worst ebb since the beginning of the jet transport age.[9] By mid-2009, however worldwide industrial production began to liven up, nudging air cargo traffic toward recovery. Air cargo surged in 2010 as world industry moved to restock depleted inventories. Growth continued during the first quarter of 2011, expanding an average 4.50 percent compared to first quarter of 2010, after peaking at a level not seen since 2007. Worldwide air cargo traffic has grown 2.00 percent per year since 2004, much slower than the 6.70 percent which is a historical growth trend maintained for twenty three years between 1981 and 2004.[10] The decline in growth of world air cargo traffic since 2004 can be attributed to the world economic meltdown of 2008-2009 and the rising price of fuel.

Furthermore, the presentation of profits by International Air Transport Association (IATA) in relation to cargo and passengers transport by airlines will give a clear view in terms of numbers for the prevalent condition in the mode of air transport. The airlines net profits in 2007 amounted to $14.70 billion followed by a disastrous financial year in 2008 with a $-26.10 billion damage, a steep fall of -4.60 percent related to the previous year.[11] In 2009 the decline of profits was still negative in 1.00 percent, in terms of absolute numbers $-4.60 billion. By contrast, in 2010 the airlines profitability peaked at $15.80 billion with a net margin of 2.90 percent, before dipping in 2011 to $7.90 billion for a 1.30 percent profit. In 2012 the airlines profits also showed a significant improvement of $7.60 billion with a net margin of 1.20 percent.[12] In conclusion, over next twenty years, world air cargo traffic will grow 5.20 percent annually with Asia to continue to lead the world air cargo industry in average per year growth rates. Overall, world air cargo traffic will increase from 202.40 billion Revenue Tonne-Kilometres (RTKs) in 2011 to more than 558.3 billion RTKs in 2031.

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[9] BOEING World Air Cargo Forecast 2012-2013, p. 1. See : http://www.boeing.com
[10] *Ibid*.
[11] IATA 2012 Annual Review, p. 1. See : http://www.iata.org
[12] *Ibid*.

2.4 Effects of Economic Recession on Rail Transportation

The advent of the economic crisis after a period of sustained growth has led to an important reduction of international trade, passenger and freight transport. While passenger transport has as mainly been guided the disposable income of consumers, freight transport is particularly dependent on trade activity.[13]

In most of cases GDP is used as an explaining variable for both, but very often it appears with limited explanatory power for giving a sufficient and justified ground between fluctuations of trade which are much higher than fluctuations of GDP.[14] In phases of economic upturn the growth of trade can be double the increase of GDP, and this also holds for the negative direction.[15] Connecting these two figures, GDP and flow of trade can provide in the sector of rail the differentiations between passenger transport and rail freight traffic.

The data given in this chapter afford the picture for rail transportation in particular geographical areas; however, the impact of economic crisis on rail freight traffic is verified.[16] The collapse of the railway freight sector began in the last quarter of 2008 and at the beginning of 2009.

[13] Werner Rothengatter, Yoshitsugu Hayashi, Wolfgang Schade, Transport Moving to Climate Intelligence, Springer, New York, 2011, p. 14.
[14] *Ibid*.
[15] *Ibid*.
[16] OECD Factbook 2013 : Economic, Environmental and Social Statistics, p. 122. See : http://www.oecd.org

The figures of the rail freight traffic have plummeted leading to drops in the economy and consequently in commercial exchanges. In the EU the rail freight transport slowed down towards the end of 2009, amounting to 366 billion tonne-kilometres, i.e. a 17 percent drop compared to 2008.[17] This drop reflects the economic crisis in the rail freight transport which experienced a continuous growth in the past years until the mid-2008. It is also interesting to be noted that the transit transport for rail freight in the EU has been affected during 2008-2009 by a drop of 27 percent while, in national and international traffic, the decline has been less significant, with a fall of 15 percent and 20 percent, respectively.[18]

As far as China is concerned, the rail generally did not benefit entirely from the strong cargo traffic growth rates in the country, and consequently the economic crisis did not affect the rail transportation in China either cargo traffic or passenger. The numbers show that total cargo traffic has increased every year since 2002 and grew with a Compound Annual Growth Rate (CAGR) of 10 percent between 2002 and 2011. It has more than doubled from 2,998 billion tonne-kilometres in 2002 to 7,242 billion tonne-kilometres in 2011.[19]

In Russia the total cargo traffic by rail increased steadily from 1,858 billion tonne-kilometres in 2005 until the economic crisis in 2008, to 2,116 billion tonne-kilometres and then dropped by more than 10 percent to pre-2005 levels, i.e. 1,865 billion tonne-kilometres in 2009.[20] By 2010, cargo traffic still had not recovered completely from the crisis, in absolute numbers 2,011 billion tonne-kilometres. It had, however, completely recovered by 2011 in 2,127 billion tonne-kilometres.

[17] Drop of rail freight traffic slowed down in 2009, 26 April 2011. See : http://www.railwaypro.com
[18] *Ibid*.
[19] Roland Berger, Strategy Consultants, The optimal setup of a rail system - Lessons learned from outside Europe, Munich, 31 August 2012, p. 85. See : http://www.deutschebahn.com
[20] *Ibid*., p. 71.

Finally, in the US from 1992, not only the total cargo traffic, but also the intermodal share of rail cargo traffic has been growing, amounting to 40 percent of all cargo traffic in 2011. In 2008 the total cargo carried by rail was 2,840 billion tonne-kilometres and fell by 15 percent in 2009 in 2,439 billion tonne-kilometres from then there was a steady increase from 2,708 billion tonne-kilometres in 2010 to 2,792 billion tonne-kilometres in 2011.[21]

2.5 Economic Crisis on Road Transport

In today's globalized economy, professional road transport is a mobility tool contributing in economic and social life throughout the world. Road transport is not merely a mode of transport but has become a vital element in the backbone of the real economy participating together with rail, air freight and maritime transport in production and distribution of commodities servicing the human needs.

In 2008 and 2009, the financial crisis which subsequently turned into an economic crisis, resulting in a steep dip of the demand for road freight transport services due to the correlation between economic and transport growth. Specifically, the last quarter of 2008 compared with the situation at the end of 2007 there was a decrease in road freight transport activity up to 50 percent, depending on the country and/or sector of occupation.[22] Furthermore, there was an increase in the number of bankruptcies for companies which were involved in road transport activity by up to 110 percent.[23] A dramatic increase in unemployment, permanent or temporary layoffs, amounted to 140,000 jobs in the EU, 120,000 jobs in the Commonwealth of Independent States (CIS) and 200,000 jobs in North America.[24]

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[21] *Ibid*., p. 35.
[22] IRU Declaration on the IMPACT OF THE ECONOMIC CRISIS ON EU ROAD FREIGHT TRANSPORT, Brussels, 4 March 2009. See : http://www.iru.org
[23] *Ibid*.
[24] IRU Resolution to reduce the impact of the economic crisis on road transport, Geneva, 3 April 2009. See : http://www.iru.org

The International Road Transport Union (IRU) had warned United Nations (UN) governments of the severe impacts of the economic crisis on the road transport industry in most countries.[25] Moreover, comparing the period between January and June 2009 to the same period last year the figures show respectively, the domestic road freight transport output (tonne-kilometres) decreased by 10-20 percent.[26]

One more survey comparing the first nine months of 2010 to the same period last year showed a few signs of economic recovery, although, the "old economies"[27] of the EU will remain at a standstill at a level 40 percent lower than 2008 records.[28] The signs of recovery can identify a 10 percent increase in domestic road freight transport output (tonne-kilometres) compared to a decrease by 10 percent to 20 percent in 2009, an up to 10 percent increase in international road freight transport output (tonne-kilometres) after a decrease of 20 percent to 30 percent.[29]

In summary, the consequences of the global economic downturn in other modes of transportation apart from the maritime transportation are not only measured by monetary units, but also concern the welfare and social status of societies.

[25] The IRU today numbers 170 Members in 73 countries across all five continents. See : http://www.iru.org
[26] IRU Impact of economic crisis on the road freight transport industry keeps worsening, Friday, 11 September 2009. See : http://pr.euractiv.com
[27] The Member States of the EU before the enlargement and accession of ten new Member States in May 2004. See : http://www.publications.parliament.uk
[28] IRU Impact of the economic crisis on road transport. See : http://www.iru.org
[29] *Ibid*.

2.6 Features of Interplay between Growth in Global Trade and Maritime Transportation

Examining the evolution of international trade since the decade of 1990 the convergence of a series of factors is discernible for supporting this substantial growth. These factors are mainly sustained in technological evolution and political decisions, and they can be highlighted as follows :

• Integration process, whereby various forms of regional and global agreements promoted trade as regulatory regime became better harmonized (e.g. tariffs). Examples of these political decisions which giving a new impetus to the international trade is the North American Free Trade Agreement (NAFTA), which came into force on 1 January 1994,[30] the European internal trade in 1993 and the accession of China to the World Trade Organization (WTO) on 11 December 2001.

• Production systems became more fragmented as it became easier to seek global comparative advantages in terms of labor and accessibility to markets notably through globally scattered production sites and global sourcing strategies.

• The international transportation systems, marine terminals and ports saw a significant rate of development, capacity, reliability and connectivity.

• Substantial progress in the transaction of international trade came from the improvement and performance of more sophisticated telecommunications and information technologies.

[30] History of NAFTA : NAFTA covers Canada, the US and Mexico making it the world's largest free trade area, in terms of GDP. NAFTA was signed by President George H.W. Bush, Mexican President Salinas, and Canadian Prime Minister Brian Mulroney in 1992. It was ratified by the legislatures of the three countries in 1993. Between 1993-2009, trade tripled from $297 billion to $1.6 trillion. See : http://useconomy.about.com

Therefore, there is a significant increase of maritime transportation which is strongly correlated with the international trade as maritime shipping and ports. The value of global exports amounted to $1 trillion in 1977 and by 2008, more than $16 trillion of merchandise was exported.[31]

The advent of containerization has been favoured by many factors, such as investments for significant port improvements and facilities, deepening of harbours and creation of said "hub and spoke" port model, automation in cargo operations thereby allowing just-in-time production process to evolve and also infrastructure projects increasing the size and capacity of the canals.[32] These mentioned factors are quite good reasons not only for the increase of tonnage in container ships and minimizing the time lost for loading/unloading operations but also a further step in the evolution of the maritime industry in terms of diminution of costs in maritime transportation.

Generally, the container traffic has been the fastest growing segment in maritime transport and undoubtedly this trend will accelerate as the figures show, taking into consideration that in the early 1990s the tonnes of cargo carried by container ships were one billion tonnes compared with 3 to 4 billion tonnes today and the forecast for container traffic is for 10 billion tonnes in 2020.[33]

[31] Gustaaaf De Monie, Jean-Paul Rodrigue, Theo Notteboom, Economic Cycles in Maritime Shipping and Ports : The Path to the Crisis of 2008, p. 2. See : http://people.hofstra.edu

[32] On 24 April 2006, it was proposed a project for the augment of Panama Canal and on 22 October 2006 approved by referendum the construction of the expansion of Panama Canal. The cost is estimated by the Autoridad del Canal de Panamá (ACP) at approximately $15 to 25 billion. The project is estimated to be completed in mid-2015. After expansion, the Canal is expected to be able to handle vessels up to 12,000 TEU in size. See : http://floridatransportationtoday.typepad.com

[33] Trade and Agriculture Directorate Trade Committee, Working Party of the Trade Committee, Clarifying Trade Costs In Maritime Transport, TAD/TC/WP(2008)10/FINAL, 29 March 2011, p. 28. See : http://search.oecd.org

2.7 Interactive Relations between Maritime Transportation and Finance

The connection between international trade and maritime transportation is immediate, interactive and of vital importance. Marine transportation is an integral part of the global economy, in terms of management and operation of ships. Furthermore, it is an organized network of specialized vessels, the ports they visit and transportation infrastructure from factories to terminals to distribution centers to markets.[34] On the other hand, the shipping industry is not immune from any economic fluctuation, either insurgence and growth of economy or fall and recession on a global level. Financing is the element that takes in hand, amplifies and fuels the undecided "game" for maritime transportation and trade. The links between financial industry and maritime shipping are very old.

Shippers have a long tradition of interaction with the financial industry as funding was required to build ships and purchase trade cargo, while mitigating the risks related to shipping led to the creation of the insurance industry.[35] The traditional role of the financial industry was a more passive one, providing capital and minimizing risk when needed. This capital was often paid back once a voyage was completed and the cargo sold.

Generally, finance was used to leverage the opportunities of international transportation. But this relationship the last decade inverted and resulted in being acute. In other words, transportation became a mean to leverage financial opportunities because transport modes and terminals are very capital intensive.[36] It means that the levels of productivity increased very fast by containerization having as result the need for more capital intensive.

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[34] OECD, The Impacts of Globalization on International Maritime Activity, Global Forum on Transport and Environment in a Globalizing World, 10-12 November 2008, Guadalajara, Mexico, p. 6. See : http://www.oecd.org

[35] Gustaaaf De Monie, Jean-Paul Rodrigue, Theo Notteboom, Economic Cycles in Maritime Shipping and Ports : The Path to the Crisis of 2008, p. 5. See : http://people.hofstra.edu

[36] *Ibid*.

Consequently, the dependency on financing became a fact not only for the acquisition of maritime assets, but also for operations. The fact is that with the booming of international trade, transactions between commercial actors became complex and dependent upon financing. The main form is known as a letter of credit, which is a document issued by a financial institution that provides a promise of payment for a trade transaction, implying that it can be redeemed if certain conditions are satisfied.[37] The reality shows that the global trade transactions are financed about 90 percent by large commercial banks.

A further element in the maritime transportation related to the influence of financing systems in the shipping industry is the derivatives. The maritime and port industry got increasingly interwound with financial institutions. The high volatility in the shipping markets caused by sharp and sudden fluctuations of trade-off merchandise, bunker prices, vessel prices, foreign exchange rates, scrap prices, and the need of emergence and growth of a paper market suitable for risk management on shipping freight had been supported.[38] The shipping market is now making extensive use of these derivatives.

All the above reasons resulted in a tight reliance of maritime transportation on the finance world and consequently the transportation became increasingly perceived exclusively only in financial perspectives due to the fact that the main stakeholders and decision makers of the marine transport were belonging in the financial sector. The volatility that characterizes financial markets and misapprehension for the role of the financial sector in maritime transportation can permeate with wrong conceptions the planning and construction of a competitive and durable shipping industry.

[37] *Ibid*.
[38] *Ibid*.

2.8 Depiction of Impacts of the Economic Crisis on the Shipping Industry

The economic downturn of 2008-2009 induced by the huge toxic debts of financial institutions caused fundamental impacts on international trade. Many explanations can be given to what produced this rapid and unprecedented collapse of the main world economies. Some of the reasons are obvious and less contentious and can be traced in :

• The huge balance of payments deficit of the US and the resulting weakness of the US dollar that was mitigated by large purchase of American debt instruments by foreign financial institutions.[39]

• The deflation of real estate assets as depicted in the first chapter.

• Overstocking induced by cheap credit and generous rebates and the expectation that inflation would sharply rise following massive increases in oil prices.[40]

• Recession delay tactics.

• Creation of excess capacities in many countries and sectors thereby helped by low interest rates available to borrowers, which were part and parcel of the slump delay tactics.[41]

[39] *Ibid*., p. 8.
[40] *Ibid*.
[41] Excess capacity means that insufficient demand exists to warrant expansion of output. It refers to the relationship between actual output that 'is' actually produced with the installed equipment, and the potential output which 'could' be produced with it, if capacity was fully used.
See : http://en.wikipedia.org

As the period of slump still extends, since the beginning the maritime community has been experiencing and suffering great hardships whereby companies are laying off container ships and workers around the world, bulk carriers have also not fared well as exports of dry bulk goods have declined and tanker companies are doing somewhat better in comparison to others.

Back in the fall of 2008, dry cargo staged a remarkable recovery on the back of the Chinese stimulus programme in 2009 whereas tankers, initially supported by storage demands and phase-out, were hit hard from the second semester in 2010.[42] Dry cargo started to feel some pain in summer 2010; in contrast, in 2011, it started very badly for this sector with orderbooks and bankrupty. Conversely, containers after massive losses and a dismal year in 2009 staged a significant recovery in 2010 by slow-steaming as a first step and then a pickup in headhaul Far East export routes, particularly the Asia to the US transpacific routes.[43] In terms of numbers, the crisis 2008-2009 would be proved a tragedy for shipping companies and ships, as the largest declines was in the area of container ships. The unemployed capacity reached at 165 vessels or more with the biggest casualties of ships between 1,000-2,000 Twenty-Foot Equivalent Unit (TEU) capacity. The downturn came at the phase when the total capacity in TEU worldwide was 13 million TEU and the perspective was to hit the limit of 14 million TEU by 2009.[44]

Whereas, the situation for dry bulk carriers is more daunting, especially for vessels with a displacement of more than 160,000 Deadweight (DWT), with the daily freight rate to have fallen more than 90 percent, from $200,000 per day in August 2008 to less than $10,000 per day in November 2008.[45]

[42] Revisiting the impact of the 2008 financial crisis on the shipping industry. See : http://amaliatank.blogspot.se
[43] *Ibid*.
[44] *Ibid*.
[45] *Ibid*.

For big tanker ships carrying more than 2,000,000 million barrels of oil, the average earnings in 2008 surpassed boom times last seen in 2004, amounting to $100,000 per day.[46] The aftermath of ship layoffs, bankruptcies of shipping companies, bottom time charter rates and freight rates led to the shipyards closures and ship orders slump.

2.9 The Key Factors Related to Shipbuilding and the Truth of Numbers after the Economic Downturn

The shipbuilding industry supplies new vessels to shipowners when the freight rates influence the demand for them, and when the second-hand prices increase enough making to give the opportunity for ordering new ships at a better price.[47] Yet, ordering a new ship since her delivery lasts a few months or years means that there are market expectations which attract the newbuilding demand. The above elements are the key factors which influence the demand for shipbuilding orders, by contrast, the shipbuilding supply is influenced from different factors which need to be taken into consideration. First, by the shipyard capacity; in other words, supply depends on how many shipyards are operational, their expected orderbook and how many berths they are willing to sell at prevailing prices. In physical terms, supply means the production facilities and productivity for ships output. Second, there are the shipyard unit costs, i.e. labour costs, labour productivity, material costs and subsidies.[48] Third, the exchange rates are enormously important because they determine the cash the shipyard receives in local currency.[49]

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[46] Oil-Tanker Slump Seen Worsening Amid Record US Crude Growth.
See : http://www.bloomberg.com
[47] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 631.
[48] *Ibid*.
[49] China yards hit by tight credit and currency fluctuations, Friday, 19 July 2013.
See : http://www.lloydslist.com

Shipbuilding is a heavy engineering business, in which large and sophisticated products built in facilities located mainly in industrialized countries with a development economy and know-how are sold. On the other hand, history has taught that the global economy has periods with peaks and troughs or otherwise economic cycles which are caused by world incidents, such as wars, poor harvest of cereals, or economic recession on regional levels. Some of the causes affect the economy of countries with development industry producing goods with high intensive capital and costs. Shipbuilding as one of the high intensive capital industry and simultaneously exposed to global facts does not remain untouched from any incident or decision on a peripheral or global level. Moreover, since the shipbuilding industry is beset by economic cycles, which can be deemed the same as in the shipping market so an extra consideration must be given by the shipowners and shipyards. In other words, the shipowners massively ordering new ships for which they believe, at the time the orders were placed, that there would be much demand in the future; this constitutes a threat for them.

The ease with which ship financing was possible up to the second half of 2008 and the low interest rates induced many to go into investments for which demand has been unproven.[50] But the prevailing mood at the time was one of over optimism based on the belief that world trade would continue to grow without relenting. This optimism thereby pervaded the forecasting for underlying growth rates, leading to future shipping volumes by new orders proved to being false.

[50] Gustaaaf De Monie, Jean-Paul Rodrigue, Theo Notteboom, Economic Cycles in Maritime Shipping and Ports : The Path to the Crisis of 2008, p. 14. See : http://people.hofstra.edu

As far as the shipyards are concerned, it is known that shipowners invariably take several quotations before ordering a ship, and there are no trade barriers in the form of distance, transport costs and tariffs to provide shipbuilders with a protected home market.[51] Ships prices shift abruptly upwards or downwards depending upon the number of shipyards and the grade of competition among shipyards. In rising markets, shipyards run the risk of filling their orderbook with ships contracted at low prices, only to find by the time they deliver the ships, prices have doubled and costs have also increased. These price fluctuations and the large sums involved make the shipbuilding companies vulnerable to any change in the shipping market and a tricky place to do business. An additional factor, which may contribute negatively to a shipbuilding company is the aggressive spread of its activities either by redemption of another shipyard in a foreign country without the suitable planning for the capabilities of the investment or extension in a sector of shipbuilding which can result in a failure.[52]

The crisis and prevailing circumstances in the shipbuilding industry are shown by figures in this field. At the beginning of the 20th century, the shipbuilding was dominated by Europe, especially by Great Britain producing over 80 percent of the world's ships.[53] Gradually, Continental Europe and Scandinavia squeezed Britain's share down to 40 percent, then in 1950 Japan overtook Europe, achieving a market share of 50 percent. Later on in the 1980s South Korea shipbuilding output grew rapidly, challenging Japan's dominant position establishing the Far East as the centre of world shipbuilding.

[51] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 629.
[52] Debt crisis blows South Korea's STX on to the rocks. Wednesday, 26 June 2013. See : http://www.ft.com
[53] Martin Stopford, Maritime Economics, Third Edition, Routledge, op. cit., p. 616.

Then in the 1990s China started to emerge as a new power in the shipbuilding industry, achieving a 36.70 percent share in mid-2013 in the global orderbook expressed in Compensated Gross Tonnage (CGT).[54]

In 2012 was surely the bottom year in ship orderbooks in comparison with the previous years, and with the relative figures for each country in million CGT 16.30, 30.30, and 34.30, respectively.[55] However, the situation in 2008, when the economic crisis broke out, the ship orders recorded a satisfactory progress with 37.80, 66.90, and 67.60 million CGT for each of the three countries. One year later in 2009 the relative figures stood at a satisfactory level with 30, 53.30 and 60.90 million CGT.[56] After this year, it became evident that the situation for shipbuilding companies was leading to decreasing orders with a spiral course of facts.

2.10 The Threat of Bunkering Costs

The economic crisis in 2008 brought on the scene a significant factor to the shipping industry showing that its role contributes not only to the cost but also to uppermost heft in the slump of marine transport and this is the price of Intermediate Fuel Oil (IFO).[57]

[54] The CGT concept was first devised by shipbuilder associations in the 1970s to provide a more accurate measures of shipyards activities than the usual GT and DWT. It came into force on 1 January 2007. See : http://www.oecd.org
[55] *Ibid*.
[56] *Ibid*.
[57] IFO, a blend of gasoil and heavy fuel oil, with less gasoil than marine diesel oil. See : http://en.wikipedia.org

In the marine transport system, any increase in the price of IFO has serious impacts on the market and consequently will have as a result to shift this cost and put pressure on carriers as they want to keep themselves more and more competitive, and to seek both operating savings and "economies of scale" to offset higher fuel prices.[58]

It is commonly known for everybody who is involved in the shipping market that the major costs a ship owner has to face and harness are the capital and operating costs. In periods of crisis, the fluctuations of bunkering to higher level prices are self-proved as a surcharge in the other two costs by corresponding increase in voyage costs making the struggle for survival of a shipping company not an easy attempt.

There are not a few times in the last fifty years that the world has suffered a number of oil price shocks largely due to the actions of the Organization of the Petroleum Exporting Countries (OPEC),[59] and Middle East wars. These oil price shocks have been contributing to the setting of prices for crude oil and consequently given the signal for relative increase in bunker fuels. In nominal terms, the refinery acquisition cost of oil did not exceed $40 per barrel prior to 2004.[60] That situation changed after 2004 in nominal terms, from $50.64 per barrel average price in 2005 to $109.55 per barrel average price in 2012.[61]

[58] TECHNICAL REPORT - IMPACT OF HIGH OIL PRICES ON FREIGHT TRANSPORTATION : MODAL SHIFT POTENTIAL IN FIVE CORRIDORS. PREPARED FOR : MARITIME ADMINISTRATION, U.S DEPARTMENT OF TRANSPORTATION. OCTOBER 2008. See : http://www.marad.dot.gov

[59] Member Countries : The Organization of the OPEC was founded in Baghdad, Iraq, with the signing of an agreement in September 1960 by five countries, i.e. Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. They were to become the Founder Members of the Organization. Currently, the Organization has a total of 12 Member Countries. See : http://www.opec.org

[60] Market Indicators 2006. See : *Ibid.*

[61] Market Indicators 2012. See : *Ibid.*

Traditionally, the price of fuel oil and crude oil are roughly proportional, and as the price of oil rockets up so the price of bunker fuel rockets up.[62] In other words, both prices should be incorporated with a degree of volatility, but in fact it does not happen in full correspondency and the result of such discrepancy is that the average percentage of the bunker costs increase in freight revenues. This burden of increasing bunker costs in freight revenues against spot rate levels remained reasonable steady over August 2007-2008 with an average of 43 percent but increased to 71 percent over June-August 2009.[63]

The indicative price for IFO 380 centistokes (cSt) the last two years in Singapore and the price of crude oil per barrel is important, and highlighting the non-proportionality between them. [64] Consequently, the additional percentage of increasing bunkering costs in freight revenues in comparison with the previous years is a logical upshot.

In April 2011 the cost of crude oil per barrel was $118.09[65] and the price of IFO 380cSt in Singapore on 11 April was $685.50 per metric tonne,[66] the highest peaking within thirty one months. Yet in August 2012 the crude oil reached the price of $109.52[67] and IFO 380cSt in Singapore on 7 August 2012 was $655 per metric tonne.[68] The percentage of bunker cost in freight revenues from 71 percent in August 2009 increased to 76 percent in August 2012 for spot market levels.

[62] Ballooning bunkers blister bank balances, Wednesday, 24 September 2008. See : http://www.clarksons.net
[63] What difference does it Make?, Friday, 25 September 2009. See : http://www.clarksons.net
[64] IFO 380 with a maximum viscosity of 380 Centistokes (3.5% sulphur). See : http://en.wikipedia.org
[65] Market Indicators 2011. See : http://www.opec.org
[66] Rising Bunkers Put Shipping Companies On Edge, May 2011. See : http://www.bunkerworld.com
[67] Market Indicators 2012. See : http://www.opec.org
[68] Todays Daily Bunker Prices - 07 August 2012. See : http://www.clarksons.net

The concept of many shipping company operators is the slow steaming as a temporary solution and the view that there is a tendency to remain oil prices high enforces the aspect of slow steaming as a sensible choice to maximize net revenues for the vessel and the company.

Moreover, another encumbrance increasing the shipowners' costs in this tough period of slump in maritime revenues is the shipping emissions. The International Maritime Organization (IMO) adopted regulations in October 2008 to drop the sulphur content of marine bunker fuel within existing Emissions Control Areas (ECAs)[69] from 1.50 percent to 0.10 percent by 2015.[70] The maximum permissible sulphur content outside of the designated areas would have dropped from 4.50 percent in 2009 to 3.50 percent in 2012 and 0.50 percent by 2020.[71] With the introduction of ECAs the cost of bunker fuel becomes expensive due to the fact that fuel with low sulphur content is lighter, more expensive to produce and without doubt the bunker fuel cost will account for a greater proportion of freight revenues. In conclusion, this hidden cost is difficult to compensate for and remains a stealth threat to owners' profitability in the short-term.

2.11 Are Seafarers Affected by the Economic Crisis?

In this final section, the main players of the shipping industry are incumbent the seafarers since they are the connective tissue between the shipowner and his "clients" accommodating the services for people and goods aiming at profitability for them and the shipowner. The demand for international trade has resulted in new technologies and systems for the transport of commodities.

[69] Fuel Oil : Governing bodies such as California, EU have established ECAs. See : http://en.wikipedia.org
[70] What difference does it Make?, Friday, 25 September 2009. See : http://www.clarksons.net
[71] *Ibid*.

The shipping industry has both initiated this growth and has also benefited from this huge demand.[72] The ship technologies have been developing remarkably, and the world fleet has been expanding, hence the whole system requires a series of professions and the need for Human Resources (HR) both in the quantity and quality aspects has increased.[73] HR is one of the leading determinants in the maritime transport industry and the individual shipping companies as one of the components of the transport industry consider HR strategies as an important area of research.

The seafarers are the valuable collaborators of a shipping company who will come to undertake and contribute relative to their rank the tough work of ship operations. The economic crisis of 2008 and collapse of trade following the housing "bubble" altered the demand and supply scenario in ways that proved to be a palliative to the crewing crisis. Instead of being a displacement of seafarers due to crisis, the lack of seafarers proved to be an encouraging measure for the ships, which remained under operation. During the boom years earlier in this decade, shipowners enlarged their fleets but the entry of qualified seafarers into the picture could not keep up with the demand.[74] By 2008, the lack of seafarers, especially officers with certificates of competency for commercial fleets, became significant and their wages shot up.

The following figures show the operational situation between seafarers and ships. In 2000 a study estimated that the number of officers in the global commercial maritime fleet was 404,000 against a demand for 420,000, i.e. a deficit of 4 percent. By 2005 according to the study, the state of affairs had changed to better, with 466,000 officers against a demand for 476,000 with a decline of deficit by 2 percent in comparison with the year 2000.[75]

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[72] Ender Asyali, Yusuf Zorba, A. Güldem, O. Kamil, GLOBAL ECONOMIC CRISIS AND THE IMPACT ON HUMAN RESOURCES - STRATEGIES FOR SEAFARERS, p. 1-2. See : http://www.pirireis.edu.tr

[73] *Ibid*., p. 2

[74] SEAFARERS IN SHORT SUPPLY, Thursday, 20 May 2010. See : http://www.bimco.org

[75] *Ibid*.

On the other hand, ratings were in a glut on market supply. In 2000, the number was 823,000 and the demand 599,000, i.e. 37 percent more ratings without ship engagements. In 2005, the respective figures were 721,000 and 586,000, i.e. a decrease of redundant ratings by 23 percent.[76]

Nevertheless, the perception of a major shortage ruled by 2008, and because of the industry ordering binge, discontents of an impending crisis broke out. Another study in 2009 showed officers supply 517,000 a rise of 11 percent since 2005 and 28 percent since 1990. The study estimated that the demand was 550,000 in 2009. In the same study, the research identified that in 2013 the officers supply will be 573,000 and the deficit for demand 56,000. But this number after adjusting due to newbuilding cancellations by 10 percent and a 10 percent rise in scrapping falls to 42,700 officers for demand.[77]

In conclusion, the economic downturn of 2008 did not indicate to leave untouched any mode of transportation, but the most severe losses seem to being suffering in maritime transportation. The reasons for a clear explanation may be manifold due to the fact that ships are exposed to a number of exogenous and endogenous factors and the complexity of them makes the anticipation and treatment of critical situations and unforeseen circumstances a very tough and unequal combat.

[76] *Ibid*.
[77] *Ibid*.

CHAPTER 3

RESEARCH INTO LEGAL ASPECTS OF THE TOPIC

3.1 Introducing the Legal Status of Charter Party

The economic meltdown that broke out in 2008 resulted in a series of repudiation of C/Ps, particularly in T/Cs with untoward developments for shipping companies. The impacts of those breaches of contracts were applied on economic and legal levels. The bona fides of the parties involved in the shipping industry and financial sector were harmed as well. The problems which occurred from non performance of C/Ps ended in a litigation procedure for assessment and calculation of damages for the injured parties. The non performance of C/Ps was not only a matter of breach of contracts but also an attempt for the parties involved to run the risk management to mitigate or amortize the losses from breach of contracts. Even if this chapter is focused on the legal aspect of matters, which are encountered in the contract between a charterer and a shipowner, it will be a connection to the next chapter as far as the risk management is concerned. Because it gives the food for thought for the caution which the parties must show when they are in the stage of negotiation for an agreement of a C/P before they need to use a cushion of protection, such as the market of clearing traded for protecting them from an unwelcome turn in the market of freight rates and C/Ps.

The matters which are presented below already incorporated in a charter and the parties abide by them. In addition, there are other matters, *inter alia* damages, practical calculation of damages that need to be defined and determined by a court litigation or arbitration. Upon all these legal maters, there will be an effort for a penetrating description and analysis.

The vexed question of the topic, i.e. premature redeliveries of vessels before the completion of performance of a charter by reason of the global economic meltdown, involves a plethora of matters, which need to be examined and explained. They are related to what a charter contract is and its terms as far as the redelivery clause is concerned, and the introduction of a hybrid charter servicing better the needs of the involved parties in the stage of negotiations for chartering a vessel.

These elements play a significant role, not only in the whole construction prior to and after a contract has been made, but also in the outcomes after the abrupt frustration of the contract. Additionally, matters which are also under consideration have to do with the definition of what the market is and its relation with shipping and how it affects the continuation or not of a contract between the parties. Based on the latter, the difference between the contract rate and the market rate will be explained. Finally, damages and the mitigation of damage will be defined.

3.2 Charter Party as a Contract

The charter is a contract, namely a statement between the parties involved. In this contract it is stated that they voluntarily come into an agreement concerning obligations and rights to each other under specific rules. This is the law of the contract, which is a private law and deals with duties owed by individuals to other individuals, and these duties are implemented only by the persons who are owed.[1] Moreover, these obligations are self-imposed in contrast with externally imposed or "extra - contractual" obligations in the law of the torts.[2]

[1] P. S Atiyah and Stephen A. Smith, Introduction to the Law of the Contract, Sixth Edition, Clarendon Press, Oxford, 2005, p. 1.
[2] *Ibid.*

The semantic differential between the law of the contract and law of the tort must be distinguished. The contract law is based on an enforceable agreement, verbal or written; it is created as the product of two consenting parties and is more often formulated under creative willing or positive circumstances for co-operation. The tort law is the law of "personal wrongs", the commitment not to interfere with another's property, liberty, personality or unjust enrichment. There is no necessity for consent by one party against another when there is infringement contrary to tort law.[3]

On the other hand, there is the assumption that since one party undertakes such obligations in relation to the other party involved under a contract of private law why should the State need to establish the legitimate basis for solution of disputes between the parties or to determine the remedies for individuals breaching the contracts? The need for intervention of a State to seek remedy for resolution of claims between parties involved in a contract can be justified with two noteworthy reasons. The first one has to do with financial reasons and broader economic justification. The second one can be denominated as "ethical", or in other terms as "usefulness" with connection to the reality of life as it promotes welfare or social "wealth". [4] Regarding financial reasons, it is the market that brings together borrowers and lenders allowing them to do trade. Differences which arise from a breach of contract have consequences, such as the frustration of the contractual obligations to break off the flow of currency, or generally speaking, it dissuades people from entering otherwise beneficial accepted exchanges.

In addition, to the financial derailment, there is a further escalation in the economic scale, since the parties involved in a contract live and set up businesses in a country, they pay taxes and invest their money earned from contracts.

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[3] What difference between law of contract and law of tort? See : http://wiki.answers.com
What Is the Difference Between Tort And Contract? See : http://www.wisegeek.com

[4] P. S Atiyah and Stephen A. Smith, Introduction to the Law of the Contract, Sixth Edition, op. cit., p. 3.

When there is repudiation of contracts, it leads to a series of phenomena in a wider spectrum of the market in a country, i.e. the concept that deals with supply and demand in the market shows symptoms of slump. Regarding the welfare reasons, it means the malfunction of society caused by the economic grounds creating hindrances to the social "wealth". For all the above reasons, the intervention of the State, through its judicial processes, for regulation and solution of claims based on the law of the contract, is imperative.

3.3 Charter Party : Characteristics

A C/P is a written agreement between two parties, in other words, the final stage of their negotiations after they have agreed in advance by correspondence, fax or mails. The parties are bound by the contract and its main provisions before any step is taken under it either they are *ad idem* or during the negotiations the language they use for construction of the contract includes phrases such "subject to contract" or "subject to signature of charter party". The above acts show the intention of the parties for a commitment before the signature of the formal document.[5]

The general principle of a charter is objective. The court will ascertain the intention of the parties at the time when they made the contract that the meaning of the document is exactly what it conveys. In short, what the contract should express in its context.

[5] P. S Atiyah and Stephen A. Smith, Introduction to the Law of the Contract, Sixth Edition, op. cit., p. 28-31. See : http://www.out-law.com/page-396

The drawing up of contracts includes four constituent parts interacting among each other. The formation of contracts should have an offer and acceptance. An offer contains two conceptions, i.e. the expression of willingness from an offeror to an offeree to be bound and vice versa and a statement what each party to the proposed agreement must do or not do. In short, the courts have difficulty in accepting that only an expression of willingness is strong enough to show the eagerness of parties to be bound. Elements of conceptual reasoning are considered prerequisites for the mutual understanding of the parties, i.e. for what has been agreed related to an offer. These elements strengthen the existence of an offer.[6]

An acceptance means an unqualified acceptance of the offered terms, but this is something practically impossible to happen. If not, there is a period of negotiation with new terms and counter offers to be introduced, and finally the acceptance of the offer. Furthermore, in the formation of the contract is included the consideration, *inter alia* the reciprocal obligations of the parties to a contract and intention to create legal relations.[7]

The second part participating in the aggregation of a contract is the content. An oral contract creates the hazard of potential disputes between the parties in relation to the terms and how they can evidence their position on them. So, the written contract comes to substitute the verbal agreement in the dealing between the parties in order for the common terms with big likelihood being incorporated in this contract.[8]

[6] P. S Atiyah and Stephen A. Smith, Introduction to the Law of the Contract, Sixth Edition, op. cit., p. 36-47, 98.
[7] *Ibid*., p. 50-53. See : http://www.out-law.com/page-396
[8] P. S Atiyah and Stephen A. Smith, Introduction to the Law of the Contract, Sixth Edition, op. cit., p. 133.

The next component of a contract is the excuses for non-performance, the cancelling clauses. In other words, such clauses determinate and give the right to one of the parties involved in contractual obligations under specific circumstances to withdraw from the contract. Finally, the fourth element coming to complete the rough outline of a contract is the remedies for breach. Even if there is not any trace of remedies for breach printed in any contract the clauses related to arbitration send the signal to the parties that in case something goes wrong and there is default of their contractual obligations, then the injured party is entitled to proceed to an arbitration and litigation asking remedies for breach of promises.

3.4 Reference to Redelivery Clause

The need for distinction between C/Ps is essential. Charters fall into two main categories : the T/Cs and the voyage charters. The differences between them can focus on and sort out the functions, risks and costs connected therewith.

A voyage charter is the contracting for the use of the vessel and her crew for a defined voyage between loading port and discharging port. The shipowner's remuneration is calculated on per ton or lump-sum basis and is called freight. The charterer in this type of chartering is responsible for certain obligations, such as for loading and discharging time, harbour costs and expenses for loading/unloading operations. The shipowner takes over the operating costs, i.e. bunkers, lubricants, insurance for hull and machinery, crew and capital costs.

In T/C the shipowner agrees with the charterer to render services by his master and crew for a named period, the ship carries commodities within specific geographical limits and the payment is called hire. The charterer pays for fuel, port charges, cleaning of holds, dunnage. On the other hand, the shipowner provides wages, maintenance and repairs.

It has been noticed that there is no mention of a redelivery clause for reasons not controllable by the parties who participate in a charter.[9] When there is a deterrent reason for the parties to continue the performance of a contract, such as an economic collapse of the commercial market affecting the ship's business then the need for introducing a new clause protecting both parties' interests against meaningless claims would be considered a useful and protective weapon for easier and less time-consuming resolution of disputes. There is almost in all charters a concrete clause for redelivery of ships, but not in a sense as mentioned above. Upon this theme, the redelivery clause in the most commercial and well-known charters will be identified and the dissimilarities among them will be evident.

In "BALTIME" 1939, as revised in 2001,[10] clause 7 states, when the time limit for redelivery of a vessel exceeds the predefined time as it has been declared in the Part I then the charterers can complete the last voyage, but the owners are entitled to receive increased hire if the market rate is higher than the rate in the charter.

In "GENCON" 1994[11] there is not any report on redelivery clause. Even if it is a voyage charter, and the operation ports are already predetermined, the case of ship's delay is under consideration. When there is delay at discharging port beyond the "normal" wait and the shipowner fixes the ship's next performance with a higher contract rate than the last voyage then if the shipowner loses the future contract because of ship's delay the question is, what damages the shipowner is entitled to claim and upon which clause. In contrast with the above aspect, it can be said that clause 7, which deals with demurrage, there is a compensating factor for the shipowner against ship's delay and damages for losses.

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[9] United Nations Conference on Trade and Development, Trade and Development Board, Committee on Shipping, Working Group on International Shipping Legislation, Twelfth Session, Geneva, 1990, p. 52.

[10] T/C issued by BIMCO. See : http://www.bimco.org

[11] Voyage Charter issued by BIMCO. See : *Ibid*.

But what is the answer if the demurrage does not cover the losses for the ship's next fixture in case the market rate has increased well enough in comparison with the last contract rate?

In "GENTIME",[12] clause 4 deals with the last voyage of ship and the shipowner's right to refuse this trip in case that it is expected not to be completed in time to allow redelivery of the vessel within the period agreed in Part I. But, in case the trip is performed then the shipowner does not lose his right for claiming damages for breach of contract, and he is remunerated by charterers at the market rate for the exceeding days, if it is higher than the rate in the contract.

Staying on redelivery clauses, the T/C with the code name "NYPE 93",[13] in clause 10, refers to redelivery areas and notices, but not any further information about exceeding the period of redelivery and assessment of damages.

Finally, in the T/Cs, "BPTIME3"[14] and "SHELLTIME4",[15] the former in clauses 3.1 and 3.2 allows for completion of the last voyage, either in ballast or laden, without shipowner's right to claim for damages in relation to the extended time. He is entitled to get not more than the rate agreed in the contract. As far as the "SHELLTIME4" is concerned, according to clauses 4 and 19, has the same concept as the "BPTIME3" related to the completion of the last voyage and payment of hire. In summary, this report on redelivery clause found in charters can have an immediate connection with the hybrid charter, what exactly is and how can work in the shipping businesses.

[12] T/C issued by BIMCO. See : http://www.bimco.org
[13] T/C issued by ASBA. See : http://www.asba.org
[14] T/C produced by BP in association with BIMCO. See : http://www.bimco.org
[15] T/C. See : www.sec.gov

3.5 Why not a Hybrid Contract of Carriage?

The traditional forms of contracts of carriage include the time chartering, voyage chartering, bareboat or demise charter and carriage on liner basis. The said forms have been developed for practical reasons and it is also very common for parties to make use of one of these contracts with amendments and additional clauses. Especially, in voyage employment of a vessel, the parties under pressure of time, are forced to sign the basic contract with the content and clauses of the pre-defined form.

On the other hand, the long time ship's chartering, for instance in CoA or in common T/C, problems may arise which have to do with situations like "crisis", "catastrophe" or "hardship".[16] This extended period of employment of a vessel includes risks as mentioned, where minor or major disruptions can arise and it might be difficult, even impossible, for one or both of the parties to predict them. These disruptions in turn result in interruption or premature termination of the contract and the parties are not able to fulfill their contractual obligations.

When an incident forces one of the parties to repudiate the contract, it must be investigated and weighted if the pre-defined clauses in the contract directly or indirectly deal with the relevant problem or not. Furthermore, it is necessary to question whether an incident, which leads to the termination of a contract was totally outside the control of the parties or has been caused by an act or omission of one of the parties. In other words, what has been agreed and written in a C/P must be clarified in such way so that the parties do not contemplate to repudiate a C/P by the first adversity in the market. On the contrary, they must estimate and quantify what other possible solutions may exist to overcome the difficulties in an agreement.

[16] Lars Gorton and Rolf Ihre, A Practical Guide to Contracts of Affreightment and Hybrid Contracts, Second Edition, Lloyd's Press Ltd., London, 1990, p. 33.

Additional inquiries will be under brainstorming. For example, will it be possible for any of the parties to prevent or to mitigate the losses after an unexpected situation has happened and whether such steps have been taken? Is the problem that occured an isolated and single event or has it been caused by a series of facts?

The result of an interruption or early termination of a contract can be a simple procedure of each party bearing its losses, followed by the common practice for claims and litigation for imputation of liability and damages. But these actions are not always the wiser method for people involved in maritime businesses to solve their problems and to cover their own losses. In order to have a smooth and profitable cooperation the parties must consider alternative ways to face the difficulties of these contractual obligations before considering possible remedies.

Here exactly comes the hybrid charter to be proposed as another option servicing better the needs of people in shipping. In cases where there are prospects for an extended period of employment of a vessel then a hybrid contract will need to use one of the classic forms of the carriage as a skeleton contract and insert additional clauses for protecting the parties from unpredictable situations similar to those described above.[17]

It can be said that a hybrid contract is a contract for each specific carriage. A clear example is the SlotHire C/P by the Baltic and International Maritime Council (BIMCO) for container ships. The hindrances which may follow the effort of such a venture have to do with the unique construction of those contracts. In other terms, it will be difficult to final guidelines in law reports and doctrines when a case of carriage with a hybrid contract will come before a court.

[17] Lars Gorton and Rolf Ihre, A Practical Guide to Contracts of Affreightment and Hybrid Contracts, Second Edition, op. cit., p. 84.

The parties having a tailor-made hybrid contract and treated as a T/C the results may vary from what the parties had in mind when they negotiated and drafted their contract. In order to avoid this, except the general principle for careful negotiation and drafting, it is also important to avoid using standard and well-known clauses, phrases and terms in a different way than intended.[18]

3.6 Determination of Market

Contracts for the carriage of goods are breached due to the fact that there is not enough demand for goods to keep contracts alive then the link of market presupposes its existence. Market, a common place where buyers and sellers convene for the sale of goods, trade in a particular commodity or commodities or otherwise demand for a commodity.[19]

Moreover, market means the price for which a thing is sold, a region in which goods and services are bought or used, activity of buyers and sellers, in other words the effort of finding out what people want to buy or what they think of a product. Market is one of the many varieties of systems, institutions, procedures, social relations whereby parties engage in exchange. While parties may exchange their goods or services by barter, most markets nowadays rely on sellers offering their goods or services in exchange for money from buyers. For the existence and competitiveness of a market there must be neither one seller and many buyers, because this market is monopoly, nor multiple sellers and a single buyer, because we are then talking about a monopsony market, but at least more than a single seller and buyer.[20]

[18] *Ibid*., p. 86.
[19] Definitions for market. See : http://www.definitions.net
[20] *Ibid*.

Since there is a market, it must be available for those who already participate or those who want to take part in it. Additionally, for some other participants it must be apart from an available and efficient market as well.[21] An available market means the buying price or the selling price is the relevant price of the goods and it sets the value of goods at the time and place of due delivery.[22] On the hand, an efficient market is the time and the place where all market participants receive and act on all of the relevant information as soon it becomes available. But it is not exactly that all the relevant information is available to all participants of the market. Investment strategies intended to take advantage of inefficiencies are actually what keeps a market efficient. The reason is that, an investor who knows nothing more that which is not already reflected in the whole market, is reluctant to make an investment, since his investment is not going to offer him more than a profitable return.

The efficiency of a market in a plethora of cases is interpreted by many investors as an effort by them to be more profitable than novice colleagues or beat the market. The best opportunities come when the market is temporarily wrong. The smart traders will find the difference between the market value of a commodity and the ideal value before the throng of people do.

The number of buyers who are both willing and able to purchase the products offered for sale is also of significant importance in the determination of the available market, i.e. those buyers who have some degree of interests in the products offered and also have the financial resources to buy them. The available market is a portion of a wider concept of market, namely of the potential market. The potential market expresses the total customers who either have the eagerness and financial resources to buy products or those who are not willing to buy products or services.

[21] Efficient Market Theory. See : http://www.trade-ideas.com
[22] Harvey McGregor, On Damages, Eighteenth Edition, Sweet & Maxwell, London, 2009, p. 1002-1005. See : http://www.wisegeek.com

Quoting different definitions as price rather than value of goods it should be explained that the former expresses the purchase money of goods in a market and the latter gives the earnings of selling such goods. It must be pointed out that the difference, if any, between the two prices in that market is likely to be only marginal, and in that way it will not matter whether one takes a selling price or a buying price. In short, if the purchase price of a commodity, such as sugar amounts to $368 per metric tonne, it should be expected that the selling price of sugar will not fluctuate too high from the purchase price. If the price is higher, i.e. the goods have a higher price at the time and place of due delivery than they had had at the place and time of delivering to the carrier. Thus, it may be possible to take this higher price under consideration for assessment of the new value of goods. If there is no market, the method of assessing the value of the goods can be the market price of goods at the place where the goods were delivered to the vessel for carriage plus the cost of carriage and an amount to cover the reasonable profit in the ordinary course of business of a person transporting goods to a particular place of due delivery.

3.7 The Theme of Damages

Repudiation of a charter allows the innocent party to terminate the contract and claim damages.[23] However, the quantification of such damages might have significant difficulties. The basis for assessment of damages, in case there is an available market, is *prima facie* to be ascertained by the difference between the contract rate and the market rate at the time when the contract was repudiated.[24] This principle is regarded as fair, reasonably accurate and allows a speedy resolution of disputes between the parties in a charter.[25]

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[23] Damages is a specific remedy, monetary awards given to the injured party when the wrongdoer fails to fulfill his obligation, for instance breach of contract. Compensation is a concept that attempts to make amends or to express sorrow to the victim, for instance an automobile accident. See : http://www.differencebetween.com

[24] Sale Of Goods Acts 1893 and Part II of 1980 Restatement, p. 25.

[25] The calculation of damages when no available market. See : http://www.ukdefence.com

The courts have developed this useful mechanism of assessing damages by referring to the market rate for a similar fixture at the time of breach. The method of using the market rate adroitly combines the quantification of loss and the obligation to mitigate damages.

Thus, if a charterer repudiates a four years C/P after one year of its performance, the owner's damages would be evaluated at the difference between the agreed T/C rate and the market rate at the time of breach for the remaining three years in the same trading area and for the same type of vessel. Certainty, finality, settlement, consistency and coherence are considered a contributory factor for the injured party's claims to support his thesis related to the repudiation of the C/P and assessment of damages.[26]

The above approach assumed the existence of an available market at the time of the breach. However, when the available market has collapsed in a particular section of the chartering market, the evaluation of damages shows the vagueness of the problem. The most efficient method of assessing damages in accordance with the arbitration appeal or litigation procedure, is to wait for a market to develop, even if it takes a few months, and then the known practice is followed as presented above. On the other hand, it is not unusual for the claimant to claim damages based upon the spot market, even if he suffers considerable losses in that market as well as a result of the significant fall in the market. In other words, the injured person claims damages for the market in relation to the spot market until its revival and thereafter since the market has revived, the damages are related to the difference between the contract rate of the unperformed charter and the market rate for the remaining of the contract.[27]

[26] See : *The "Golden Victory"* [2007] UKHL 12, 2 Lloyd's Rep. 164.
[27] The Relevance Of A Revival Of The Market To The Assessment Of Damages. See : http://www.mondaq.com

The aftermath of assessing the difference between the market rate and the contract rate has to do with the quantification of damages. The definition and purpose of term damages is demanded for a clear understanding of the topic. Damages in the vast majority of cases are the pecuniary compensation, available by success in an action, for a wrong, which is a breach of contract, the compensation being in the form of a lump sum awarded at one time, unconditionally and in sterling.[28] Damages are rewarded to claimants, by definition, to compensate them for loss and damage.

Broadly speaking, the damages fall into two main groups : pecuniary and non-pecuniary.[29] The former is the depiction of monetary loss, capable of being arithmetically calculated in a currency. The latter, however, is not so calculable. It comprises one's losses, which are not visible materials or financial assets, but they represent the intangible assets in a person's character, like moral fortitude, courage. Nowadays the following types of damages are settled by the courts :

• Nominal damages, are awarded where the plaintiff has failed to prove any loss or damage, but has successfully established that he or she has suffered a loss or injury as a result of the defendant's wrongful conduct, but is unable to adequately set forth proof of the nature and extent of the injury.
• Exemplary damages are often called punitive damages. These are damages requested and/or awarded in a lawsuit when the defendant's willful acts were malicious, violent, fraudulent, or wanton.

[28] Harvey McGregor, On Damages, Eighteenth Edition, op. cit., p. 3-11.
[29] *Ibid*., p. 13.

• Liquidated damages, which have been agreed between contracting parties in advance of any breach of contract. The purpose of liquidated damages is to establish a predetermined sum that must be paid if a party fails to perform as promised and these damages can be settled whether the below terms are fulfilled, i.e., the injury is either "uncertain" or "difficult to quantify", the amount is reasonable and considers the actual or anticipated harm caused by the contract breach, the difficulty of proving the loss, and the difficulty of finding another, adequate remedy; and the damages are structured to function as damages, not as a penalty.
• Restitutionary damages are awarded when the breach of contract by a defendant has given him a benefit and the claimant has been deprived of such a benefit or has suffered a loss of smaller proportions than the benefit to the defendant.[30]

In cases of breach of contract the injured party is entitled to damages representing the value of the contractual benefit to which he was entitled, but of which he has been deprived. He is entitled to be put in the same position, so far as money can do it, as if the contract had been performed. Based on the said reasoning, the principles for the determination of loss and therefore for imputation of damages, sort out into two rules.

The first “rule” deals with when a party has contractual obligations arising from a contract and proceeds to repudiation of the contract, then he must know as a reasonable person what losses are caused by the breach of contract, in other words the usual course of things that arise from such a breach. This “possessed” knowledge must exist in any person who undertakes obligations under a contract and it is called imputed knowledge.[31]

[30] *Ibid*., p. 4.
[31] *Ibid*., p. 200-203. See : http://www.i-law.com

The second "rule" says, that apart from the "possessed" knowledge which a contract-breaker is assumed to possess regardless of whether he actually possesses it or not, there should be added an assumed common knowledge within the contemplation of both parties, whether by actual communication or business knowledge at the time of the contract made and according to each particular case.[32] This common knowledge brings to the attention of the wrongdoer the losses which arise from the repudiation of the contract.

When there is a breach of contract by one party the damages of the other party is what he losses by the non-performance upon the due date, i.e. the reiterative rule above the difference between the contract rate and market rate when there should have been performance. But in the case there is a breach of contract before the due date of performance then there are two options for calculation of damages. The first is by ascertaining at the date of the breach what are the forward rates of the market for the future date of performance and the second option is by waiting until the due date of performance finding out the spot market rate.[33] Suffice it to say that the distinction between the above two "rules" is that the normal damages arising naturally from a breach of contract itself under the first "rule" and the special or consequential damages due to extraordinary circumstances, however, reasonably foreseeable, namely the "second rule".[34]

[32] *Ibid.*
[33] Stewart C. Boyd, Steven Berry, Andrew S. Burrows, Bernard Eder, David Foxton and C. F. Smith, Scrutton on Charter Parties and Bills of Lading, Twenty-first Edition, op. cit., p. 351.
[34] Harvey McGregor, On Damages, Eighteenth Edition, op. cit., p. 20-24.

3.8 The Rules of Mitigation of Damage

The principal meaning of the term "mitigation" concerns the avoiding of the consequences of a wrong related to the breach of contract, and it comprises itself three different, although closely interrelated rules.[35]

The first and most important rule calls for all reasonable steps which must be taken by the claimant to mitigate his loss to him upon the defendant's wrong. The claimant cannot recover damages for any loss, which he could have avoided, but he failed to mitigate it through unreasonable action or inaction. In other words, the claimant's failure puts him in a position that he cannot recover for avoidable loss and thus, his loss would not be regarded as caused by the wrongdoer.

The second rule states that a claimant who takes all the reasonable steps to mitigate his loss to him resulting from the defendant's wrong can only recover for loss incurred from such a wrong action by the defendant. Even if the damage is greater than it would have been in case no mitigating steps had been taken, the claimant can recover for loss incurred in reasonable attempts to avoid loss.

The third rule is that, where the claimant does take all reasonable steps to mitigate his loss to him consequent upon the defendant's wrong and these steps are successful, then the defendant is entitled to the benefit stemming from the claimant's action and the defendant is liable only for the losses which are quantified to be reduced due to the claimant's successful action. In short, the claimant cannot recover for avoided loss.

[35] *Ibid.*, p. 235-238.

The claimant is not under any contractual obligation to mitigate his loss or he has no duty to minimize the damage.[36] Generally speaking, the claimant cannot owe a duty to himself, the duty to mitigate does not oblige the party not in default to take any action, which would seriously damage his commercial reputation. Besides that the burden of proof on the issue of mitigation is on the defendant's side.[37] If he fails to show that the claimant ought reasonably to have acted to take certain mitigating steps, then the normal measure will apply. The true meaning of the above rules is that the claimant is not entitled to charge the defendant by way of damages with any greater sum than that which he reasonably needs to expend for the purpose of making good the loss. In short, the claimant is fully entitled to be as extravagant as he pleases, but not at the expense of the defendant.

[36] *Ibid*., p. 241.
[37] *Ibid*., p. 242.

CHAPTER 4

EMPIRICAL RESEARCH

4.1 The Vexed Questions of the Shipping Market in the Epoch of Turmoil

The previous chapter presented the legal aspect of matters, which configure the frame of cooperation and development of parties in a contract agreement, such as a C/P. It made an outline of the elements, which participate and shape the C/Ps, and the alternative methods, which can contribute to a more flexible role of C/Ps. Moreover, it attempted to define the factor of the market that influences the production of more contracts in the shipping industry and finally, the rules in form of damages for the solution of the outstanding claims for the parties involved in C/Ps.

This chapter gives answers to the problems which occurred when the C/Ps did not perform due to their repudiations by the charterers after the economic crisis broke out in 2008. This chapter is a complement to the previous as it solves the difficulties that arise in case that something goes wrong in the performance of a C/P or in the market of freight rates. Because in the event of non performance of a C/P the coverage of a clearing house is an ideal solution for the parties involved. In the case of significant fluctuations of freight rates the illustrative answer of Forward Freight Agreements (FFAs) market is a flexible and remunerated alternative method of hedging for the parties in maritime transportation.

This chapter will define and examine the assessment and regime of damages as they have appeared before in courts in the last few years. Furthermore, the connection and distinction both underlap, namely vessel's redelivery takes place prior to the expiry of the charter period and overlap, i.e. vessel's redelivery takes place after the expiry of the charter period.[1] Hence, breaches of contracts by the charterers are much in evidence. Additionally, it illustrates and promotes the tools already in application in the shipping industry, such as FFAs for encountering the problems due to economic downturn. Still more, a contemporary trend for treatment of repudiation of charters linked to the problems of recession in maritime transportation is the well-known central counterparty (CCP) or clearing house. What is the formed situation by principal participators in the shipping field? These are vexed questions, which are studied. Finally, the figures of numerous breach of contracts is an indisputable testimony of the turmoil in the shipping industry and without doubt the subsequent efforts for survival of shipping companies are considered to be found in a critical curve.

4.2 The Principles of Damages in Application for Breach of Contracts

There are no concrete and pre-determined rules, which can produce an answer in the same way as the application of a mathematical formula in the field of commercial shipping as far as the beach of contracts are concerned. The difficulties, which arise in applying the established general principles concerning the assessment of awards of damages for breach of contract vary in a number of cases.

[1] D. Rhidian Thomas, Legal Issues Relating To Time Charterparties, Informa Law, London, 2008, p. 43-44.

The nature of the framework provided by those principles applied to the factual maritime situations it has as an objective target, namely the monetary compensation of the injured party in a contractual agreement requiring to put the innocent party in the same position as it would have been in had the contract been performed. A supplementary basic assumption to the prolegomena is that damages awarded should represent no more than the value of the contractual benefits of which the claimant has been deprived. In short terms, the innocent party must not be over-compensated for the lost bargain.

As mentioned in Chapter 3, the "rules" or "limbs" that apply to the persons who are involved in a contract agreement and render them liable, in case one of them proceeds to breach of contract, they make speech for recoverability of contractual damages and can be traced in the following stated dictums. Firstly, the imputed knowledge by the wrongdoer that his default to perform the contract leads to the usual course of things arisen from a breach of contract; in other words he is liable for damages for not performing his contractual obligations. Secondly, the claimant may recover damages considering that the persons have been in contemplation for the special circumstances that may arise from non-performance of contract at the time they entered into a contract.

The first "limb" for recovery of damages by the claimant has become closely associated mainly with the calculations referred to the difference between the contract rate and the market rate, and as general conclusion, this is an accepted and broad used method.[2] The damages for loss of profit considered to fall within the second "limb" is a matter that needs clarification, as it has scrutinized the decision made in one case for contemplation of damages may not apply to another.

[2] *Ibid*., p. 258.

The second "limb" as was established and interpreted by the dictum in *Hadley v Baxendale* is whether a claim is too remote or not and if a reasonable man may have foreseen.[3] In other words, if the special facts are brought to the attention of the contract breaker at the time of entering the charter, then the losses must be recoverable and not unlikely to happen from the breach.[4]

The principle in *Hadley v Baxendale* as the matter of foreseeability is concerned it was not contemplated as a strict division of damages according to a result whether or not was foreseeable but rather, if the results were likely because they would happen in the great majority of cases or results which were unlikely because they would only occur in the small minority of cases.[5] In other words, a result which would happen in the great majority of cases should fairly and reasonably be regarded as having been in the contemplation of the parties, whereas a result which is foreseeable as a substantial possibility, but occurs only in a minority of cases, should not be regarded as being within the contemplation of the parties.[6]

The matter of foreseeability has became a major subject among the judiciary corps when a case before in court relates the award of damages from repudiation of a charter, and not in a few times the judges differentiate themselves making decision for a case justifying every one's judgement with variant criteria. The mere fact that a type of loss is foreseeable is not of itself sufficient to make it recoverable. The foreseeability as underlined above will make the damages to be recovered by the claimant either a result from the breach of a charter happens in a great majority of cases or the elements which are known or available to the defendant for the chances to happen a fact resulting in repudiation of the charter they cannot be considerable very unusual.[7]

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[3] *Hadley v Baxendale*, [1854] EWHC J70. See : http://en.wikipedia.org/wiki/Hadley_v_Baxendale
[4] D. Rhidian Thomas, Legal Issues Relating To Time Charterparties, Informa Law, op. cit., p. 258. See : *THE "KRITI REX"* [1996] 2 QB Lloyd's Rep. 171.
[5] D. Rhidian Thomas, Legal Issues Relating To Time Charterparties, Informa Law, op. cit., p. 259.
[6] *Ibid*.
[7] *Ibid*.

In contrast with this, a claimant cannot recover damages from repudiation of a charter when an occurrence, although foreseeable as substantial probability,[8] only happens in a small minority of cases and therefore, such occurrence is unusual.[9]

Apart from the two "limbs" or levels of foreseeability requiring recovery of damages from a breach of a charter, namely any damage that actually occurs was likely to have been foreseeable and the prospect that this damage would occur was more than marginal, or not insignificant, it comes to be added a third and most demanding level of foreseeability, the view of *ex ante* was probable or highly probable that the damage would result.[10] Additionally, in some cases there is dissension for the applicability of the rule of foreseeability or the remoteness to be considered a result as foreseeable, whether this rule is an external rule of law applicable to every contract, or a presumption about what the parties intended, which could be rebutted by showing that in a particular contractual context, there is no liability assumed for the type of losses sustained.[11]

The element that comes in combination with the foreseeability rule for the assessment of damages is the "breach date". The accepted practice is reflected by the general rule that the sum of money, which is recoverable by the claimant as damages has to be assessed at the time when the charter is broken. However, the rule is not universal and yields to the interests of justice where that is required to meet the general aim of an award of damages. It is not uncommon when a court adjudicates a claim for damages, the defendants argue that the court should depart from the general principle that damages are assessed at the date of breach and the prevailed view is that the compensatory principle must be applicable.[12]

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[8] Re : possibility vs probability. See : http://www.usingenglish.com

[9] D. Rhidian Thomas, Legal Issues Relating To Time Charterparties, Informa Law, op. cit., p. 259.

[10] Melvin Aron Eisenberg, *The Principle of Hadley v. Baxendale*, 80 Cal. L. Rev. 563 (1992), p. 566-567. See : http://scholarship.law.berkeley.edu

[11] Damages for breach of contract. See : http://www.pauldavid.co.nz
See : *THE "ACHILLEAS"* [2007] 2 EWCA Lloyd's Rep. 555.

[12] D. Rhidian Thomas, Legal Issues Relating To Time Charterparties, Informa Law, op. cit., p. 264.
See : *THE "MIHALIS ANGELOS"* [1970] 2 EWCA Lloyd's Rep. 43.

On the other hand, the claimants express sharp contrast to the previous aspect and they allege that the assessment of damages should be calculated at the date of breach where there is an available market.

A contributory factor to the claimants' line of argumentation is the fact that where there is an available market they are entitled to mitigate their losses caused by the breach of the charter and their business decision to proceed to future ship's fixture is considered as a desirable and logical solution that comes in accordance with the need for certainty and finality in a coherent system of contract law. Based on this, the claimants deserve to recover the damages measured by reference to that market they have fixed the ship, rather than by reference to their actual losses on the repudiation of last contract.

The aspect of many people involved in the assessment of damages due to the breach of charters, they make speech for the fact that some subsequent events which would accommodate and cause the repudiation of the charter before its expiration date as they have described and printed in the contract they must not be considered as alleviative measurements for not assessment of damages at the date when the charter is repudiated without any indication that these events have increased probability to occur.[13]

In summary, the assessment of damages will be based on what the court considers to be logical and fair and the proposal for the difference between the market rate for a new ship's fixture as of the due delivery date and the market rate for that fixture as of the actual redelivery date it is an open question for consideration.

[13] Damages for breach of contract. See : http://www.pauldavid.co.nz
See : *THE "GOLDEN VICTORY"* [2007] 2 UKHL Lloyd's Rep. 164.

It has been highlighted by some experts in assessing damages, the approach to a modern standpoint, namely the effort from the courts to contextualize a dispute, rather than feeling constrained by the strict letter of the law for assessment damages.[14]

4.3 Assessing the Cost of Damages for a Breached Contract

The practice during the last years, after the global economic meltdown broke out in 2008, has shown that the market of T/Cs is mainly afflicted by the recession in the shipping industry. The T/C which is used for chartering a vessel can either last a few months or several years. The problem that has been occurring in shipping transportation is the increased number of repudiation of T/Cs and thereafter the substantial damages that the shipowner is entitled to since the charterer terminates a charter at an early point. Owners will want to claim what is due to them under the contract, whereas the charterer will make every effort to minimize his paying, for instance a four years' worth of T/C payments for which they have not had the full benefit from this contact agreement. For the sake of clarity of facts it is important to establish whether a party has breached the contract or whether the contract has been frustrated.

It is good for the scope of this dissertation to highlight the difference between frustration and breach of a T/C. The doctrine of frustration has been defined in a number of cases under English Law, and common examples of frustration could be the total loss or commercial destruction of the chartered vessel. The cases of the requisition or detention of the vessel for an extended period of time or the voyage route may have become illegal, impossible or radically different are also considered to be frustrated under English Law.

[14] D. Rhidian Thomas, Legal Issues Relating To Time Charterparties, Informa Law, op. cit., p. 267.

The doctrine of frustration must be something which is not a default of either party and something for which the contract does not make provision.[15] It must be more than the pressure from the expense or onerousness of the contract. Therefore, it is an event that essentially changes the nature of the contractual rights, in a way not contemplated by the parties at the date of execution, making it unjust to hold the parties to their contractual obligations.[16]

On the other hand, a repudiatory breach is a breach of such significance giving the injured party the right to treat the contract as having come to an end, terminating it and claiming damages. When the charterer purports to redeliver the vessel before he is entitled to under the terms of the T/C, including prior to the expiry of a notice period, his conduct is an evidence of repudiation of the T/C. In this case, the shipowner will have to choose. He can either accept redelivery of the vessel and bring the T/C to an end or refuse to accept redelivery of the vessel and hold the charterer to the contract. Each of choices has negative and positive points, whether the shipowner decides to accept redelivery and termination of the contract then he undergoes losses from the breach of the T/C, but he is entitled to claim for damages.[17] On the contrary, if he decides not to accept redelivery and holds the vessel, crew and master at the charterer's disposal, his claim will be for freight. The shipowner choosing this option should be cautious because he cannot earn income from the vessel on the spot or other markets since the vessel remains bound under the T/C. Vessel running costs will continue to be incurred and later on when he claims for damages, it would not be an adequate remedy for what he has suffered from the breach of T/C since practically the T/C is dead.[18]

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[15] DAMAGES FOR CHARTERER'S BREACH OF A TIME CHARTERPARTY, p. 1. See : http://www.bjm-co.com
[16] *Ibid*.
[17] *Ibid*., p. 2.
[18] *Ibid*.

A breach by the charterer of T/C gives the right to the shipowner to take all the reasonable actions to minimize his losses. This usually involves re-chartering the vessel on a similar available market at the current rates or to employ his vessel in a completely different manner, for instance on the spot market or to keep the vessel idle for the duration of the breached T/C.[19] In this case, he may be prevented from recovering the full extent of the losses from the charterer during the arbitration or litigation process.

If there is an available market and the ship owner decides to employ his vessel on a similar market, his damages will be the difference between the anticipated profit under the original T/C and the actual profit earned under a replacement T/C during the remaining period of the original T/C. In a different case, if the shipowner decides to re-hire the vessel in a different way incurring greater losses, he is entitled to damages based on the previous rule. On the contrary, if the shipowner has lesser losses or makes more money than he would have made on the original T/C employing the vessel in a different way, it remains arguable and is still not settled in law if the damages will be calculated and awarded on the above basis or not, because this decision of the shipowner is considered speculation.

In contrast, with the above explanation whether there is no available market, the shipowner must still make all the efforts and act in a reasonable and commercial way to mitigate his losses. This may happen on the spot market. The shipowner is not compelled to place the vessel back on the similar T/C market if later re-emerges since he has managed to mitigate his losses on the spot market according to this principle.[20]

[19] *Ibid*.
[20] *Ibid*., p. 3.

He still entitles the assessment of damages to be calculated and awarded by arbitration or litigation upon his efforts to mitigate the losses from the breached T/C based on the above rule. In a different case, if he has unreasonably failed to mitigate his losses, he may not be awarded the adequate evaded profits.

In a number of cases related to the assessment and award of damages after the repudiation of T/C, the matter of method of assessing damages comes under critical point. Particularly, the issue of discount of damages is a question and every so often there has been discussions whether and how a discount must be calculated on the imposed damages.

A contributory factor to the previous remark is the fact that the shipowner has a duty to find alternative charters for the vessel according to the mitigation principle. Although the loss of the actual or mitigating income is known, the lost future income needs to be calculated, and as a result this lost income to be received in several years' time.[21] However, it is a common practice to discount any future lost income to the date of the award and to add interest on any past unpaid amount up to the date of the award. The accountancy experts propose for the discount rate of the future unpaid net hire cash the formula consisting of a risk-free rate and risk premium. The risk-free rate is the value of money within time margin assessed by reference to annual yield from US Treasury Bonds for the same period as the unexpired portion of the T/C.[22] Now, the risk premium comes is added to the risk-free rate as an incremental percentage of the total discount rate in the future unpaid net hire.

[21] Assessing the cost of a breached charterparty, Friday, 28 June 2013.
See : http://www.lloydslist.com

[22] Charter party discount rates : Kildare was right, Tuesday, 06 August 2013.
See : http://www.lloydslist.com See : *THE "KILDARE"* [2010] 2 EWHC Lloyd's Rep. 360.

The risk premium deals, as the term defines, with the risks that need to be taken into consideration when a T/C comes into performance, such as total loss of the vessel. This risk taking into account all vessel types in the world was stated as being 0.15 percent in 2009.[23] The risks of bankruptcy of the charterer and any unusual event as a war or piracy are additional risks, which are added to the risk-free rate for a total discount rate of the lost future income.[24] The proposition by some accountancy experts to the above discount rate (risk-free rate plus risk premium) should be combined with an appropriate discount rate at the shipowning company's weighted average cost of capital (WACC).

The shipowner's WACC is a proportional blend that reflects the investment of shareholders in a shipping company and the return which is required by shareholders for their risks to invest their money in the company plus the return which bankers require to compensate them for the risks associated with lending to a shipowning company to enable it to buy the ship.[25] The income of the T/C is apparently what the shipowner receives from the C/P; therefore, these savings will be equivalent to WACC. In case of a breached T/C then the shipowner will have to raise finance in place of the lost earnings and will thus incur costs equivalent to WACC.[26] It is therefore appropriate, when considering the amount of money that would put the shipowner back in the position in which he would have been but for the breach T/C, to apply a discount rate at future flows which reflect the WACC.

[23] *Ibid*.
[24] *Ibid*.
[25] *Ibid*.
[26] Assessing the cost of a breached charterparty, Friday, 28 June 2013.
See : http://www.lloydslist.com

Finally, it is important to mention damages in a breached voyage C/P. The repudiation of voyage C/P is subjected under English Law and a charterer is *prima facie* liable to pay the shipowner damages for breach of C/P in a sum that represents the shipowner's loss of gross profit.[27] The breach of a voyage C/P must not be confused with the demand for payment of deadfreight, because deadfreight clauses apply when the voyage goes ahead with the vessel carrying a smaller quantity of cargo than the minimum quantity set in the C/P. Deadfreight is not applicable when not cargo is carried and the intended voyage does not take place.[28]

On the other hand, if the charterer in a voyage C/P fails to provide cargo, the shipowner would have no other option than to terminate the C/P and the outcome is the breach of the contract on the part of the charterer.[29] In this situation the shipowner is regarded the injured party. Then the shipowner, as in the case of a breached T/C, has a duty to act as a prudent person and based on the principle of mitigation he will be required to find an alternative fixture for the vessel, even if this means steaming to another loading port or area. Failure of the shipowner to take measures to find alternative C/P could prevent him from claiming for recovering the full loss of gross profit they have incurred from the charterer's breach. The calculation of damages that will be awarded to the shipowner takes into account the comparison between the gross profit, e.g. freight, demurrage and other charges; less voyage expenses, which the shipowner would have derived from the breached C/P; and the gross profit, which he will make under the substitute C/P marking that the latter gross profit will be apportioned so as to reflect the amount of income that would have been earned until the date of performance of the original C/P would have been completed.[30]

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[27] DAMAGES FOR CHARTERER'S BREACH OF A VOYAGE CHARTERPARTY, p. 1. See : http://www.bjm-co.com
[28] *Ibid*.
[29] *Ibid*.
[30] *Ibid*., p. 2.

The additional factors which contribute to the assessment of damages can be enumerated to demurrage, detention when it can be shown that the charterer would have caused delay that was not provided for in the C/P. Furthermore, there are wasted costs, if the charterer terminates the voyage at a late stage and the shipowner incurs some costs.[31] The location of the vessel plays a significant role in assessing damages, whether the shipowner is obliged to send the vessel in a less desirable location for finding further work in comparison with the last location where the vessel was found and the charterer terminated the voyage C/P. An allowance may be asked for idle time and bunker costs to proceed to that port where the next fixture is arranged.[32]

4.4 The Market of FFAs and its Role in the Shipping Industry

One of the most serious repercussions of recession in the shipping industry over the last quarter of 2008 is the decline of freight rates in the physical market. However, with the advent of the crisis in the physical market of freights, there is also another important development in the financial market. The financial market means the market where the principal actors or buyer and seller, i.e the people who are interested in being hedged by the volatility of freight markets, they proceed to the settlement of future contracts for a carriage. In other words, the financial market is the market without supplying either vessels or cargo; hence, no carriage is performed. As follows the FFAs or managing risk dealing with sale and purchase of future contracts will be described as there has been a boom the last twenty years.[33]

[31] *Ibid*.
[32] *Ibid*., p. 3.
[33] Reed Smith and Luca Salerno, Is the OTC FFA market "dead"?, Thursday, 26 February 2009. See : http://www.lexology.com

In May 1985 the world's first freight future market was launched allowing owners and charterers the ability to protect themselves from fluctuating freight rates. The Baltic International Freight Future Exchange (BIFFEX) opened for business based at the London International Financial Futures Exchange (LIFFE). The most important part of BIFFEX was the production and introduction of the BFI. The BFI was based on a weighted average calculation for specific ships' routes and dry cargoes, T/Cs and spot voyages. The level of ships' freights for those routes was determined under real ships' fixtures and ship brokers' estimations. The BFI was replaced by BDI on 1 November, 2009.[34]

There is also the respective Baltic Exchange International Tanker Routes (BITR) which consist of the Baltic Dirty Tanker Index (BDTI) and Baltic Clean Tanker Index (BCTI)[35] and the Baltic Liquefied Petroleum Gas (BLPG), route for Gas Carriers.

The BFI and later its successor BDI are the tools upon which the BIFFEX was trading. Trading on the BIFFEX market involves no supply of cargo or ships; however, it is a cash settlement market, and can be considered as a financial tool to be used alongside the physical freight market.[36] Although the novelty of BIFFEX, providing protection to principals from the volatility of the freight market buying future contracts, showed a low effectiveness against hedging. Thus, the moderate trading volume led to its end in April 2002.[37]

[34] The BDI is calculated by taking the T/C components of the Baltics Capesize (BCI - 9 Routes), Panamax (BPI - 4 Routes), Supramax (BSI - 7 Routes) and Handysize (BHSI - 6 Routes) Indices. See : http://www.balticexchange.com

[35] The BITR reports on 25 international oil routes and makes up the BDTI - 17 Routes and the BCTI - 8 Routes. See : http://www.balticexchange.com

[36] Michael S. Haigh, Cointegration Analysis of Unbiased Expectations in the BIFFEX Freight Futures Market, p. 3. See : http://ageconsearch.umn.edu

[37] Ilias Visvikis, Derivatives offer a tool for all trades, Shipping Network, Issue 30 September 2012.

That concept, i.e. the protection of principals to the fluctuations of freights or otherwise the managing risk by using a forward product in the freight market led to the genesis of new financial derivatives of the FFAs in 1991.

The FFAs for bargain and purchase are based as their predecessor on BDI. The BDI is determined in an average daily basis from the rates recorded in the short term spot market to charter ships of a certain tonnage along certain routes and is published by Baltic Exchange over a calendar month.[38]

The FFAs are a form of fixed-floating swap under which one party owes the other the difference between a price determined by the outset, i.e. the fixed price and the price determined at future date, which is the floating price multiplied by a quantity or the notional quantity.[39] The party who sells a contract takes a short position (i.e. shipowners) in order to protect himself from a decrease in freight rates and the party who buys a contract taking long position (i.e. charterers) in order to protect himself against increase of freight rates are considered the principals reaching in an agreement through a broker they barter their credibility with the settlement of a FFA.[40] In other words, at each fixed monthly date, if the floating rate in respect of the proceeding month is higher than the applicable fixed rate, the seller will have to pay the buyer the difference between the two rates multiplied by a specified number of days. The reverse happens if the fixed rate is higher than the floating rate.[41]

[38] Reed Smith and Luca Salerno, Is the OTC FFA market "dead"?, Thursday, 26 February 2009. See : http://www.lexology.com/library
[39] *Ibid.*
[40] Manolis G. Kavoussanos and Ilias D. Visvikis, Theory and Practice of Shipping Freight Derivatives, Risk Books, London, 2011, p. 21-23.
[41] *Ibid*.

The FFAs market grew rapidly with the number of traded "lots",[42] quadrupling between 2004 and 2008.[43] This fact is a sufficient and positive proof to show how the FFAs market was made attractive to anyone either with an existing exposure to the freight markets or wishing to have this exposure. The FFAs market and its users used to come originally from shipping and chartering companies, but in the early 2000s an influx from the financial market such as banks, hedge funds, energy companies, steel mills and mining companies entered the market.[44]

In 2003 financial institutions were a party to about 2 percent of FFAs trades and by mid 2008 the percentage of them in the FFAs market had leapt to 35 percent.[45] Another figure that reflects the boom of FFAs in relation to the physical market is that between 2004 and 2008 as the ratio went from 2:1 to 1:1.1.[46] The meaning of the latter number is that for 1 ship's fixture in the physical market corresponds to 1.1 settlement in the FFAs market.

The FFAs market as explained above is a virtual market that has as basis the present situation of freight rates and anticipates the future development of freights so that the expectations for the participants either for the seller or the buyer to be fulfilled. As the communication and negotiations between the principals are made by a broker and the final agreement is based on the goodwill and bona fides of the participants that at the settlement date of an FFA each party will accomplish his obligation, namely to pay the other. If it is assumed that one party defaults his promise to satisfy the other in financial terms, the whole achievement of FFA has collapsed.

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[42] A dry lot is defined as either one T/C day or 1,000 metric tonnes of voyage based on ocean transportation. In each case a single transaction, although having a buyer and a seller, is only counted as one lot. See : http://www.balticexchange.com

[43] Reed Smith and Luca Salerno, Is the OTC FFA market "dead"?, Thursday, 26 February 2009. See : http://www.lexology.com/library

[44] Manolis G. Kavoussanos and Ilias D. Visvikis, Theory and Practice of Shipping Freight Derivatives, Risk Books, op. cit., p. 24.

[45] Reed Smith and Luca Salerno, Is the OTC FFA market "dead"?, Thursday, 26 February 2009. See : http://www.lexology.com

[46] *Ibid*.

This is not a simple assumption because the turmoil which occurred from the recent economic crisis proved that a party in an FFA can easily sweep along to economic destruction by the other's failing to redeem his promise.

The following case is an illustrative example, which shows that the FFAs market by itself is not enough to confront and protect the participants by a steep change in the freight market. The BDI reached its highest record of 11,793 points on 20 May 2008 since the date of introduction, and in less than seven months on 5 December 2008 had fallen by 94 percent to 663 points, its lowest point since 1986.[47] This tremendous slump can translate into value of money because in the fourth quarter of 2008 the daily rates to charter a capesize ship carrying dry bulk fell from $234,000 per day on 5 June to $2,773 per day on 1 December 2008 which is a slump of 98.80 percent representing an almost unprecedented violence.[48] It is very clear that the results from such dreadful change in freight rate were unexpected and grievous for many players of shipping industry in the FFAs market. The answer to this problem comes from the underpinning of clearing house in the market of FFAs providing reliability and giving solutions to the parties of FFAs.

[47] Andrew Baird, The Forward Freight Agreement boom/bust - a cautionary tale. See : http://www.blplaw.com
[48] *Ibid*.

4.5 The Establishment of Cleared Trading a Supportable Norm in the Market of FFAs

Until 2001, the freight derivatives market traded solely on a bilateral basis. Although the bilateral trading worked well in stable markets, the described case in the previous section made apparent the weakness of the FFAs market to confront an abruptly decline in the freight markets and to save the participants in their effort to hedge themselves from the volatility of freights. The failure or default of a principal player in the FFA to fulfill his financial obligations to the other makes the FFA market vulnerable to such spate of incidents that will finally cause the collapse of the FFAs market. This gap or the risk of counterparty risk will cover the cleared market or otherwise the clearing house.

The cleared market consists of a certain number of clearing houses[49] for dry bulkers, tankers or both. Its role apart from the security and protection, which provides for its members in case that one of the parties fails to fulfill his obligation, it includes also the following activities :

- Monitor the credit worthiness of existing members.
- Maintain exposure limits and monitor the exposure for each member on a continuous basis.
- Maintain strict clearing membership criteria which must be fulfilled throughout the membership period.
- Maintain default rules and default procedures making it possible to undertake swift actions to minimize the risk of incurring loss.

[49] Clearing services are provided by the London Clearing House (LCH) for dry and tankers freight contracts, The Norwegian Futures and Options Clearinghouse (NOS) for dry and tankers freight contracts, the Singapore Exchange (SGX) for dry and tankers freight contracts, the Chicago Mercantile Exchange (CME) for dry freight contracts and the New York Mercantile Exchange (NYMEX) for tankers freight contracts.
Manolis G. Kavoussanos and Ilias D. Visvikis, Theory and Practice of Shipping Freight Derivatives, Risk Books, op. cit., p. 25.

• Maintain risk bearing capital that serves as a buffer between any defaulting counterparty and all other counterparties.[50]

A distinction must be drawn in the derivatives market between the Over-the-Counter (OTC) FFAs and exchange traded FFAs. All FFAs are essentially swap transactions which are by definition bilateral contracts.[51] Whilst OTC FFAs are privately negotiated by the principals that are ultimately the only parties to it, exchange traded FFAs are entered into via brokers who match sellers and buyers in the market place. The FFAs are then cleared through a clearing house which acts as a central counterparty. Therefore, sellers and buyers both end up having the clearing house as their counterparty. So, when a party under an OTC FFA bears the risk of the other party defaulting, under a cleared contract, i.e. exchange traded FFA, there is no such risk because the clearing house requires collateral from sellers and buyers very much like a futures exchange obtains collateral in cash.

As mentioned, after the economic crisis broke out in 2008 the OTC FFAs market showed a picture that was considered worse than the FFAs market. A number of significant defaults by individual participants caused the OTC FFAs market to disappear. On the other hand, the FFAs market did not suffered heavily but with just one clearing house to report a 50 percent fall in trade volumes between October and November 2008.[52]

[50] Risk Management Framework. See : http://www.nosclearing.com
[51] All FFA contracts are governed by the terms published by the FFABA. Two versions of FFABA are currently in use, the FFABA 2005 and the FFABA 2007 with a prevalence of the latter. Each FFABA 2007 is deemed to be a transaction under the International Swaps and Derivatives Association Master Agreement version 1992 (ISDA), which is incorporated in the FFABA. Reed Smith and Luca Salerno, Is the OTC FFA market "dead"?, Thursday, 26 February 2009. See : http://www.lexology.com
[52] *Ibid*.

By contrast to this sporadic report of FFAs, in the OTC FFAs market the results were totally unprecedented, while price movements of more than 400 percent over a six month period are not so uncommon. However, eruption of a downward market with a movement of price of about 1,000 percent between the second and third quarter of 2008 is not simply something exceptional but is out of any imagination.[53] Moreover, the OTC FFAs market participants typically trade with each other on "open credit" terms, without taking any form of protection from the counterparty not performing his obligations, increasing in this way the probabilities of heavy consequences from such a non fulfillment. So, the recent turmoil in the OTC FFAs market has exposed inadequacies in the model and documentation widely used by the market. The above paradigm of the steep decline in the prices of FFAs market plus the indefensibility of FFAs against the participants makes the OTC FFAs market difficult to survive without underpinning.

The illustrated figures below show the evident fact in the change of conception among participants in the derivatives market; hence, in October 2007 the OTC FFAs market accounted for two thirds of the dry bulk freight volumes, but by September 2008 the ratio was reversed. In November 2008, the OTC volumes were less than one sixth of the overall FFA volumes.[54] The number of FFAs which cleared within one year from 2007 to 2008 highlight also the effectiveness and endurance of the cleared market against volatility of the physical market and FFAs. In August 2007 the cleared FFAs for capesize vessels were 4,069 lots and one year later had leapt to 10,625 lots for the same period.[55] By contrast to the FFAs market the numbers for the OTC FFAs depict a reversal picture.

[53] *Ibid*.
[54] *Ibid*.
[55] BALTIC EXCHANGE DRY FFA VOLUME AND OPEN INTEREST ESTIMATES, 26 August 2007, 29 August 2008. See : http://www.balticexchange.com

Thus in August 2007 there was 11,343 lots and in August 2008 the respective number was 3,609 lots showing the slump of this market and the reaction of participants not to trade in OTC FFAs. The market of OTC FFAs particularly for panamax vessels, is a strong proof in reversal of opinion for the specific market, with the number of lots to fall from 17,008 to 5,774 lots within one year, from August 2007 to August 2008.[56]

In conclusion, the cleared market might not be a panacea for all difficulties the derivatives market face, but at least it would be an advance support of participants who intend and wish a safe environment to invest their capital assets. The proposal for a tailor-made OTC FFAs under Forward Freight Agreements Brokers Association (FFABA) terms if a similar result as in the case of cleared market, namely the elimination of counterparty risk, can be achieved is under consideration. For those trading with known counterparties, the OTC FFAs will doubtless continue, as it will for those shipowners who simply cannot resist the lure of the OTC market.[57] The brokers in the OTC market are also often adept at guiding their customers to trade with acceptable and known counterparties. The measures that may be taken for a comparable and competitive OTC market for tailor-made agreements under FFABA terms can have more practical nature than documentary, such as to identify and carry out credit analysis in respect of the counterparties. While this may seem incredibly obvious, it is a step that seems to have eluded many. It may be appropriate to embody this in the documents by requiring parties to exchange financial data as recent accounts. Having identified and evaluated the counterparty, the next step would be to determine if further support should be sought for the growth of credibility of the counterparty.

[56] *Ibid*.
[57] Andrew Baird, The Forward Freight Agreement boom/bust - a cautionary tale. See : http://www.blplaw.com

This contributory factor can be in the form of a parent company guarantee.[58] This does of course bring with it the need for further documentation, but it is not beyond the ability of FFABA to provide a standard form guarantee.[59] Finally, another possible improvement that would be introduced for those who remain constant devotee to trade in the OTC market, is the inclusion of enhanced set-off provisions allowing set-off against other indebtedness, possibly bringing in other relevant group entities. It is evidence that the cleared market will keep the reins in the FFAs, as far as the risk of the counterparty insolvency is considered not to be eliminated from the keen competition in the freight market.

[58] *Ibid*.
[59] *Ibid*.

CHAPTER 5

CONCLUSIONS

The recent global economic meltdown in 2008 was doubtless the zero point for the maritime commercial industry. It reached unprecedented levels in terms of financial, business transactions, social tensions and finally in breach of confidence among all participants in this extremely competitive and lure business field. The efforts of shipowners to take advantage of the global trade-off and to increase the profitability of their companies influenced them to enlarge their percentage in the world tonnage making investments either buying vessels or reaching to contract agreements for long period T/Cs.

The shipyards received a spate of orders, on the other hand, the prices of second hand vessels reached high levels and was justifiable enough to force many shipowners to proceed to ships orders. The chances of success considered to be more ensured and secured ordering new ships than buying second hand vessels for simple and rational reasons. New ships have less maintenance costs, are environmental friendly with the new international regulations such as ballast water treatment and less emissions of fuel to be established on ships. The ship service in her life expectancy is taken into account compared with purchase of a ship from the secondary market. The global trade and consequently the shipping market was in a boom; the positive estimations of experts were another tool to help the shipowners' expectations for investments in shipbuilding. It is considered without doubt that when the above factors are being converged in favour of shipowner, he proceeds to new ship orders. Moreover, a contributory factor which fuels the shipowner's decision for supplying with more tonnage the world shipping is the financial backing.

This element was a connective tissue in the positive stances that had been expressed by professionals in the shipping industry and the facts had been seen for a very hopeful future in shipping environment. Finally, however, it seemed that the whole shipping boom was on the verge of complete collapse.

The loans that were granted by banks for financial support in purchase and building of vessels led many shipowners to make long term T/Cs or to wait a few years for ships deliveries. When the global trade started to show the first signs of collapse, the real problems for the shipping industry did not linger to come. Many T/Cs were repudiated by the charterers due to their weakness to fulfill their contractual obligations as was written in T/C. The charterers were in a difficult positions not to accomplish the T/Cs but to breach them. On the other hand, the shipowners had the duty to protect their interests and investments. In consequence, the aftermath was that they proceeded to take all the legal actions, such as arbitration, litigation to get damages from no performance of T/Cs. Moreover, many of the ship orders to shipyards by the owners were canceled due to the fact that their incomes were not sufficient to fulfill their own obligations to financial institutions or yards. The spiral of reversal of motion for collapse of the shipping industry was a real fact. Medium and small size shipyards went bankrupt, many others were coerced to stop their operation and without doubt the results in local societies were painful with many employees to face the ghost of unemployment.

It is sure that the recent downturn in the shipping industry is a historical fact and it will take time for the shipping community to recover itself from this shock. The trust among participants was injured, so they need to find ways and methods so that their cooperation will be continued with security and to be assured that contractual agreements which bound the counterparties will protect their interests by any default.

This could be confronted either on a legal or financial level. The hybrid C/Ps would be a first step to protect the parties from unexpected facts. It is a delusion whether hybrid C/Ps could include the proper clauses to protect the signatories in a covenant or to predict a global economic crisis. On the contrary, hybrid C/Ps could be a useful tool securing the parties that facts, which are clear outside from the nature of the performance are not able to terminate the contract. But, contrariwise, the parties may have the option to postpone the contract for a time or to change the nature of cargoes or destinations of voyages equivalent to the same terms of the original contract, i.e. without the need of a new C/P. Moreover, the duration of CoA should not be determined by the quantity of carried cargo or number of voyages. Instead, the time limits should be limited, for instance not more than 6 months, and the next agreement can neither be considered as new contract nor be cancelled for facts not related to the cargo or ship. However, it would be regarded as a continuation of the original contract with the same terms.

On the other hand, regarding the OTC and FFAs market for protection of parties from the volatility of freight rates cannot be ignored. Further actions have to be taken for people who are only interested in trading in the OTC market, increasing the level of economic security for OTC trading guaranteed by personal asset their commitment that at the end of settlement date they will perform the contact. The FFAs market with a clearing house as CCP is a strong edifice that survived from the recent economic crisis and proved that participants who have the economic standing to contribute in this market overcame the consequences from the turmoil in the freight rates. Its role for a regular function of FFAs that ensures the future of its members is recognized.

Additionally, further issues can be elaborated into a future research in the field of repudiation of C/Ps and the protective measurements of the parties involved in the market of maritime transportation of commodities. These issues may have as focal point the distinction of C/Ps into categories of cargoes, geographical areas in trading and different requirements for commodities, which are considered "sensible" to the law of supply and demand. From the view of financial aspects a researcher could be focused on matters of shipowners consortium, in which they join their ships' tonnage to accommodate the services in bulk cargoes in a specific area. The same as it happens in liner market. This measurement could offer a protection to the shipowners who participate in a specific world market of commodities with a concrete ships' tonnage for a specific time limit without the fear of surplus tonnage, which may lead to a decrease of freight rates. These shipowners who participate in that consortium can create a financial threshold in which they can take part except the shipowners, the union of charterers in the specific trade area, shippers, and shipyards who sometimes play the role of charterers. That financial threshold could allow the contribution to the members who have specific amounts of cargoes to carry, in a specific time limit with specific ships' tonnage and with guaranteed assets for performance of those services. Even if all the above matters are outside of the scope of this dissertation, there are a few good reasons for future research.

Finally, the shipping industry will learn from this crisis that there is no safety investment without losses and the permanent establishment is when there are no predictions for outcomes. The most important is that without shipping there is no trade and without trust the shipping cannot thrive. As a capstone of this study is the well-known phrase : Our Word is Our Bond.

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