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ABSTRACT

Shipping is one of the fastest growing industries, both in Greece and worldwide level. It is well known that this is an industry with massive capital requirements, while the cost of expanding the fleet of a shipping company is large enough. For this reason, the financial sector is in a dominant position within such an enterprise, whose concern is to find the most appropriate financing among the various alternative sources which are available.

The object of this dissertation is the analysis of financing in the shipping industry, listing its characteristics, its different methods and especially the influence it has suffered from the global economic crisis, but also the influence it causes both nationally and globally. level. The reference to the influence of the fare on the financing of a company is also noteworthy.

The first chapter will analyze in more detail some general terms and concepts related to shipping and the financing sector. This will be followed by a historical review on a global and Greek level, as well as a presentation of some important economic events that have either positively or negatively affected the financing of shipping. At the same time, the contribution of shipping to our national and global economy will be mentioned.

The second chapter presents the factors that affect shipping, the size, characteristics and purpose of shipping financing, as well as the types of fares and the factors that affect them.

The third chapter will list concepts of financing in the shipping industry and various related issues. An analysis of each different way of financing will be presented simultaneously with its respective positive and negative characteristics, as well as what the shipping cycles are. Finally, the risk and danger arising from shipping financing and the main causes of problem loans will be presented.

Keywords: shipping and the financing sector, shipping cycles, loans, risk, global and national economy.

TABLE OF CONTENTS

1 GENERAL CONCEPTS & HISTORICAL RETURN

1.1 GENERAL CONCEPTS

By "shipping industry" or more generally "shipping", we mean all activities related to and supporting maritime transport of people and goods. It is an integral part of humanity's peaceful international trade. Ships of various types carry human, dry and wet cargoes packed or in bulk, as well as vehicles, animals and more, in all the latitude and longitude of the earth. All merchant ships flying the flag of a State constitute the Merchant Navy of that State.

We use the term 'shipping' when referring to the operation of the ship itself, which is the science and the art of governance (bridge) and propulsion (engine) and its loading, so that it can safely sail from one place to another.

The word "shipping" also refers to the shipping industry of a country that is full of maritime transport activities. And of course, we call 'global shipping' all national industries that operate and are controlled by maritime legislation established by the International Maritime Organization (IMO). The organization is a UN technical field, based in London and has members in states that vote on International Conventions, Codes and Regulations in three main areas: (a) Seafarers' Training and Certification, (b) Safety of Life and Property at Sea (occupants - cargo ship) and (c) Protection of the Marine Environment from the pollution of merchant ships. It is important to note that warships are not subject to maritime law.

However, the term which being discussed above, like all other sectors of industry worldwide, must be properly linked to the financial sector. This speaks to the existence of the shipping economy. Thus, "Maritime economics" is called the sum of all systematic actions aimed at the provision of services related to maritime transport, satisfying human needs, for some benefit.

In the above sense, the 'maritime economy' is part of tertiary production (service sector, then the primary one agriculture etc. and the secondary: industry) which is partly active in the field of Political Economy and partly in the field of Private Economy. This should not be considered as paradoxical since the rules governing the organization of a shipping company (business) as an economic entity certainly belong to the Private Economy, while the rules defining the extent of the State's intervention in the operation of shipping companies (protectionism) , tax exemption, rail subsidy, lending etc.) belong to the Political Economy.

Finally, the maritime economy encompasses a multitude of maritime activities such as shipbuilding, maritime insurance, maritime credit, chartering, ship supply, shipbuilding and repairs, commercial navigation, ship brokerage, brokerage and shipping.

Directly linked to the maritime economy is the concept of finance. Financing is the provision of funds from a variety of sources, to support both the multiple and varied activities of a company and to meet its needs and obligations.

Every business or company finances its activities either through investment or foreign capital. Maritime finance is a very important factor in influencing the growth of a company. Of course, especially in the case of the shipping company, the know-how and the experience and skills of the human resources also play an important role, since the human resources if they make adequate and effective use of their knowledge in the field they are dealing with and the capital they have, in their willingness to invest, then it is certain that in this way they contribute to the growth of the company and generally affect its positive course and evolution.

1.2 HISTORICAL RETURN

To get to the point where it is nowadays, both global and Greek shipping have worked 6 generations of seafarers and businessmen at sea. But its roots go back to the 16th century, and to be more specific, the most widely used method of financing in England was the sixty-fourth, where a ship was listed as 64 shares and any investor could buy a share of it. For example, the one who bought 32/64 had the half of the ship. At the same time there were three types of ownership, according to which part of the ship could be owned by some individuals, another part by a cooperative of individuals and the last part by investors in joint stock companies. For example, in a London census in 1848, with the number of ships at 554, the percentage owned by one person was 89% of the total, 8% in commercial cooperatives and the remaining 3% in joint stock companies. (Martin Stopford, 2008, page 270)

In the 18th century Andros was dominated by equity ownership, according to which the master had one or more of the ship's 16 shares to finance the voyage. However, many times the financing was in the form of a loan from a local investor, with an interest rate that often exceeded 30% per annum. The high interest rates were due not only to the lack of liquidity at the time, but also to the fact that the financier took on the risk of the wreck and the borrower had no obligations. This way of borrowing has resulted in the development of various financial models and services. An example of such a model may be the repurchase of shares against the borrower by the master.

However, the dramatic change in the introduction of steam into shipping was dramatic. In particular, the steamship caused a major revolution in the global maritime industry, resulting in the expansion of volume and directions of world trade. As a result, ship sizes increased, and large capital was raised through equity companies. An important part in the development of the equity corporations was the American Limited Liability Company Act of 1862, which had the primary role of protecting investors from the required creditors' responsibilities. Higher opportunity was given to small investors to enter the shipping sector, as their funds were protected. According to Martin Stopford, the ship's shareholders used to be people of the ship's friendly and family environment. (Martin Stopford, 2008, page 271)

Entering the 19th century, the most popular way of financing was bank lending. According to Sturmey, during the Great Depression in the years 1904 - 1911, many were indebted companies that failed, and conservative businessmen who controlled shipping learned from their mistakes by observing failure. Until the 1960s, English owners had accumulated stocks, with loans being a past, a policy that protected shipowners from periods of recession. It is, however, self-evident that this policy did not generate profits that would subsequently lead to growth and that foreign capital could not be attracted.

Let's also look at some historical events in global and Greek shipping a little more in detail from 1940 onwards into the 21st century.

1.2.1 THE PERIOD OF 1940 - 1950

During the pre-war period of global tonnage, almost 2.6% of merchant ships held the Greek flag. Greece, after America and Japan, which were countries with a history of shipping, was ranked ninth in the world. Large losses of around 75% were attributed to the Second World in Greek shipping.

After 1945, Greek shipowners reopened to international shipping and banks began financing them, namely the tanker market, while maintaining a conservative credit policy. More specifically, they were trying to have relationships with shipowners who had already developed commercial relationships with oil companies and to limit themselves to loans that covered 60% of the ship's acquisition value. However, the great opportunity was given to Greek shipowners in 1946, when the US government decided to sell many state-owned ships and they bought 100 of them at a very satisfactory price.

1.2.2 THE PERIOD OF 1950 – 1960

During this period, Greek merchant shipping was booming, due to the war that broke out in Korea in 1951. The need for goods was so high that demand shifted to the European and Japanese economies, as cheap raw materials were needed. This opportunity was once again seized by Greek shipowners. At the same time, the shipping industry, and particularly the oil companies, used new sources of supply from abroad, and liner ships were the first to emerge in the early decades.

In the 1920s by Norwegian businessmen we have the emergence of timeshare financing, who set up tanker fleets to charter oil companies. This way of financing offered to the creditors both the safeguarding of the goods and the return of their funds.

An important historical example of that time can be seen in Anglo Saxo Petroleum Ltd.’s 1927 offering of 37 ten-year tankers of 60,000-70,000 pounds, each of which had been chartered for ten years. The lender's measures were 20% cash and balances over 5 years at an interest rate of 5%. Of the 37 tankers, 26 were purchased by Norwegian businessmen. After World War II, Norwegian businessmen were licensed to order and purchase ships from abroad, whose financing was entirely foreign. Within a very short time, Norwegian shipowners adopted lending, which was based on pre-construction time charter, as the main financing instrument. All this led to the large development of the Norwegian fleet in the 1950s, which was exploited by Greek shipowners with the purchase of large numbers of tankers through US loan financing. (Martin Stopford, 2008, page 272)

1.2.3 THE PERIOD OF 1960 – 1970

Due to the high benefit they received from the high freight rates available on the market, commercial banks continued to extend their lending this decade. But there were some changes in US interest rates in 1963, which made London dominant in the global shipping markets, giving long-term loans in the main currency the dollar and making America second in this sector.

Because the shipping industry was considered low risk and at the same time high profit, European and US banks lent a lot of money. With the crisis of 1966 - 1967, the banks found themselves with reduced income and portfolios because the shipowners could not fulfill their loan obligations. The closure of the Suez Canal by the Arab-Israeli war in 1967 put an end to this crisis, as tankers became more difficult to ship, requiring bigger and more ships. (I.Theotokas, G.Harlaftis, 2009, page 23) So, with the increase in demand we have the emergence of high economies of scale.

During that decade (1960-1970) commercial banks were the main source of the maritime industry, although shipping companies' own funds and shipyard credits made their appearance. During the second five years, there has been particular competition among shipyards in attracting more customers for orders. In order for loans to have low financing costs, governments invested in subsidies on financing rates. At the same time, it is reported that the interest rates of shipyards in that decade were between 5.5% and 7%. Finally, due to the large returns on medium-term financing, the period 1967 to 1973 was the best for commercial banks.

1.2.4 THE PERIOD OF 1970 – 1980

Due to the high cost of government subsidies in the early 1970s, cheap shipbuilding declines. The gap that came from this reduction came to fill the commercial banks by offering capital from the then booming market of European banks. Until 1974 maritime loans were provided with ease and concise procedures, against the principles of bank loyalty and with large profit margins. As a result, the shipping business was not properly evaluated, the quality of the freight was not checked, and the collateral of the shipowners often did not cover the value of the loans.

All the above have led shipowners to order new boats, resulting in increased capacity supply and falling fares. Prosperity in the tanker market came to an end because of the

Middle East war in 1973, the boycott of the oil and the oil crisis. (I.Theotokas, G.Harlaftis, 2009, page 23)

During this decade we also have the presentation of a leasing and intermediate financing. There were several minor crises in the shipping sector from 1974 to 1980. After the oil crisis of 1977, tanker fares began to rise again reaching their peak in 1979-1980 and began their downward course in the 1980s.

A special feature of the 1980s was that shipowners received new ships that were left unencumbered and indebted to commercial banks. So, at that time many ships were unused as scrap (ships for dismantling and use of iron). (Martin Stopford, 2009, page 274)

All the above - mentioned crisis has led many shipping companies to go bankrupt and, consequently, a small number of banking institutions fail to survive. So, both sides reconsidered their positions, with banks demanding better collateral and better credit terms.

1.2.5 THE PERIOD OF 1990

Following the crisis that erupted in 1980, both banks and shipowners sought to repair the damage created in 1990. Due to the steady growth in shipping companies' finances, the shipping market continued its upward course. Some shipping companies made their first appearance and entry in the stock market at that time. In addition, we have the emergence of new ways of financing such as bonds, personal placements, credit accounts and venture capital. At the same time, we also have financing through financial derivatives such as futures, options and swaps, which accounted for 60% of the capital growth of financing at that time.

Let us also mention the Greek shipping at that time, which showed an upward trend with Greek ships reaching 3,200 in 1996 and accounting for 16% of the world's fleet. With new ship orders, Greek shipowners have taken advantage of the prosperity of the shipping market and the establishment of foreign banks such as Citibank in Greece has played an important role in the development of financing.

The global shipping market, as well as the Greek one, has repeatedly been disrupted due to the large volume of capacity from the many ships designed and the collapse of the Far Eastern economies.

1.2.6 THE PERIOD OF 2000

Upon entering the new millennium, there is an upward trend in the shipping market. Credit policy has now become more demanding, with control over the clientele, the size of the portfolio, the method of financing, the age of the vessels and their capacity. Particularly important is the leading position of Greek shipowners in international trade in turn.

The international financial system collapsed in the wake of the global crisis in 2009. Like all other sectors of industry, shipping was shaken. Due to the constant need for financing and the bad economy in Greece there is a difficulty in accessing the banking system. Both the volume of lending has declined internationally, and stock markets have declined, and financial institutions have weakened. All the above have led Greek shipowners to constantly seek funds from alternative forms of financing.

1.3 CONTRIBUTION OF SHIPPING TO THE NATIONAL ECONOMY

After the presentation of the most important historical events from the period of the 16th to the 21st century, which are related to the shipping industry, it became clear that experienced shipowners through their capable executives almost always manage to face difficulties and survive after periods. economic crisis. In any case, the contribution of shipping to the economy, either globally or nationally, directly or indirectly, is undoubtedly enormous. The development of shipping has strengthened globalization, world trade has evolved and improved, but it has also brought about major changes during the national economies of various countries, such as China.

Initially, in order to understand the contribution of shipping at the national level, we will focus on the case of Greece and its close relationship with shipping, and finally, in order to understand the importance of this sector in the global economy, we will look at specific countries individually.

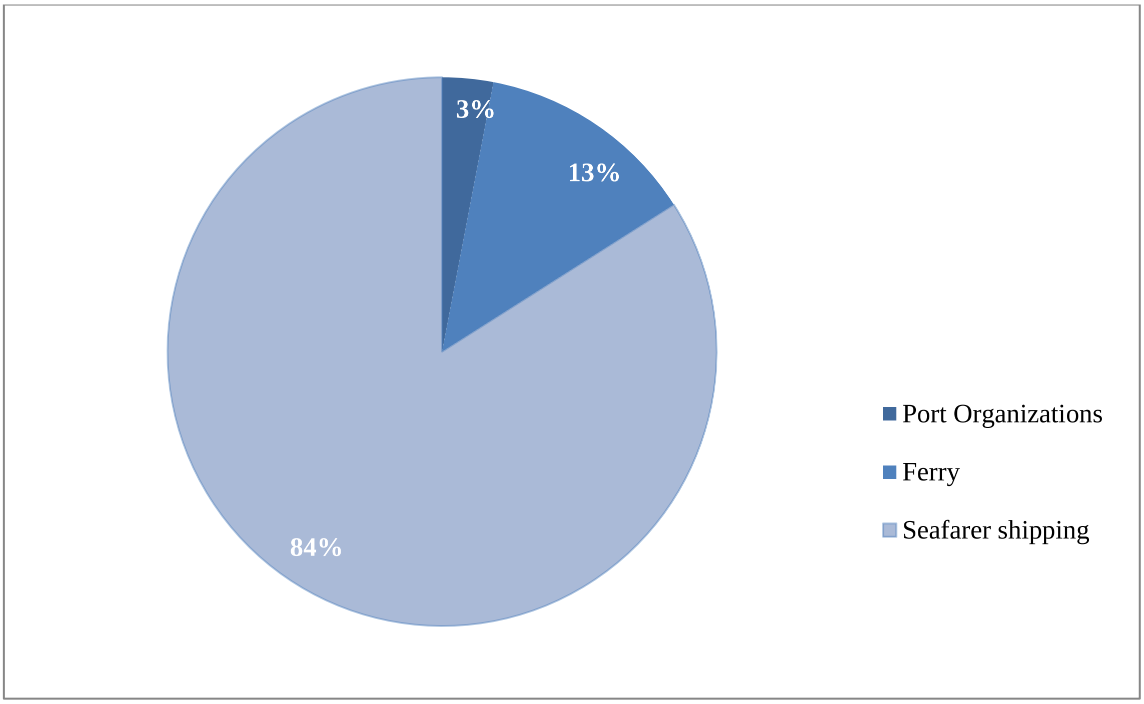
In fact, shipping contributes to the national income and the results from the income of the human resources working in this sector, but also through any kind of income that results from this activity. (Papachristou Themistoklis, 2015) The effects of the economic crisis in Greece in recent years are a given, nevertheless, shipping is an important support for the economy of our country. According to 2016 data, 7% of total GDP is generated by Greek-owned shipping, while particularly 9.2% of total GDP is the contribution of passenger shipping. (IOBE: The contribution of passenger shipping to 9.2% of the total GDP of the country", www.enikonomia.gr). It is worth mentioning that in the years 2007-2016 the inflows from the shipping activities were 136 billion euros, where comparing with the contribution of tourism, the second most important pillar of the Greek economy, it proves the great importance of the shipping industry in our country.

In addition, taxation is another "means" by which a country derives income from various business activities or not. Shipping is taxed and that in turn, if the ships are registered in the Greek flag and not in a flag of opportunity. The Greek flag is considered one of the highest qualities, however there are various limiting factors in the interest of shipowners, although more and more efforts are being made by the state to improve these restrictions and attract additional shipowners.

At the same time, shipping offers many jobs, both for the staffing of its offices on land and for the manning of ships. As far as Greece is concerned, the shipping industry employs almost 250.000 people, and today various alternative ways are being considered to increase these jobs, such as replacing foreign seafarers with Greeks. (“The huge contribution of Greek shipping to the Greek GDP”, www.enandro.gr).

It is also worth mentioning the indirect effect of shipping on the "stimulation" of the economy. When we refer to the shipping industry, we mean at the same time any ancillary business or profession that supports the shipping activity and transport in general. Some of these professional activities are the shipyard market, all professions related to ports and terminals and the various combined transport companies that complement the design and purpose of the ships. Other activities are the suppliers for ship support (e.g. fuel, spare parts), the banks, shipping brokers, shipping agents, suppliers of shipping companies (e.g. insurance companies), anyone involved in tourism (e.g. travel agencies, local businesses) etc.

Figure 1: Immediate economic benefit of the shipping sector by companies (2013)



Source: Boston Consulting Group (2013)

1.4 CONTRIBUTION OF SHIPPING TO THE WORLD ECONOMY

All of the above have resulted in the strengthening of developing countries, and their development, the emergence of new economic forces but also the dramatic change of what we already knew: from the amendment of laws and creation of new to the flourishing of entirely new business activities, technologies and problems.

Shipping is one of the most important industries in the world industry, therefore it is directly affected by the global economy but at the same time it has the power to influence it.

A reasonable example is China, where it has grown rapidly since the 1990s - due to shipping, until it became the largest container management power in the world. We could not clearly ignore the country's prospects and dynamics in shipbuilding, as NL_Agency (2011), part of the Dutch Ministry of Finance, conducted a study on China's shipping and shipbuilding and according to the findings of this study, Shipping and shipbuilding are the cornerstone of China's economic prosperity. (Papachristou Themistoklis, 2015)

2 CHARACTERISTICS AND IMPORTANCE OF MARINE FINANCING

2.1 INTRODUCTION

As mentioned in the first chapter, maritime finance is one of the most important factors contributing to the development of the maritime industry in conjunction with the know-how and the human resources of a business, as well as its cargo and fleet.

One of the most important decisions a business must make is the financing method it will choose. In shipping there are constantly different types of financing due to the conditions that exist at different time periods, but also by the factors that affect shipping and hence its financing.

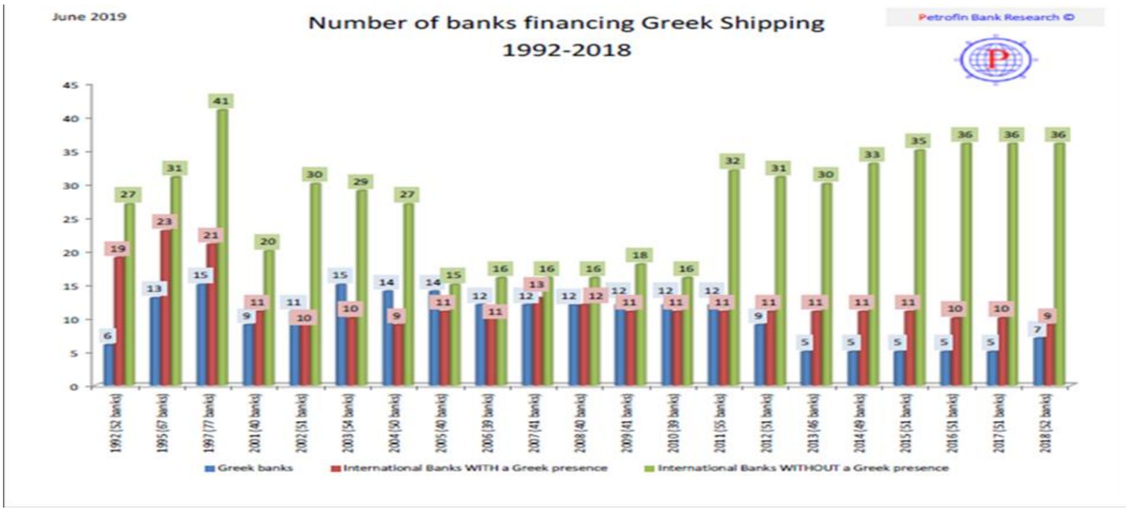
The most important factors affecting shipping are:

- Shipping cycles, as fares vary, and it is difficult to predict their course.
- Demand in the shipping industry is affected by all the fluctuations in industrial output directly. For example, a decrease in demand for raw materials will lead to a decrease in demand for shipping services, since raw material will not be shipped.
- The shipping industry is capital intensive because a large volume of capital is needed to set up and operate such a business. Therefore the shipping industry is characterized as capital intensive, but with considerable fluctuations.

2.2 SIZE OF MARITIME FINANCING

In order to make a presentation of the size of maritime financing, we will proceed to some figures of the Greek industry. In order to be more specific in Greek maritime financing there are three different categories of banks. The banks of Greek interest, the foreign interest banks with branches in Greece and the foreign interest banks without branches in Greece.

Figure 2: Number of international banks financing Greek shipping in 1992 – 2018



Petrofin Source

In the chart above you can see the number of banks that finance Greek shipping from 1992 to 2018, based on research conducted by petrofin annually. In 2018, two new Greek Cypriot banks were added for the first time and Bank of Cyprus was once again included in the list. On the other hand, Hellenic Bank is gradually increasing its exposure, as well as AstroBank has begun lending to Greek shipping companies so it is very likely to be included in the above table in 2019.

According to Petrofin's 2018 survey, Greek bank lending slowed its contraction to -1.52% in 2018, from -5.62% in 2017 and -8.77% in 2016. At the same time, the Petrofin Index for Greek Shipping, which reached 443 in 2008, fell from 327 to 322 in 2018, though this is a smaller decline compared to the previous year.

Total Greek loans that were deposited both in Greece and worldwide on 31/12/2018 decreased to $ 53,176.32 from $ 53,994.96 in 2017 and $ 57,211,35 in 2016. To be more specific, they declined by just -1 , 12% compared to -3.69% in 2017 and -5.34% last year. Also, the commitments appear to have slowed down and in 2018 decreased by -8.8% compared to a decrease of -30.63% in 2017 and -38% in 2016.

On the other hand, Greek banks continue their upward trend which started in 2017 and their portfolios increased by 8.03%. Eurobank is the leader with a growth rate of 20.73%. All banks show examples of Piraeus increasing by 3.27%, Alpha by 5.17% and NBG by 1.05%. The share of Greek banks in Greek maritime financing stood at 18.47% from 16.84% in 2018, 15.25% in 2016 and 14.63% in 2015. It is evident that a robust performance of Greek banks despite the ongoing internal problems and underlines the commitment of Greek banks to the shipping sector. International banks with Greek presence continued to reduce their exposure in 2018 by -14.13%, compared to -10.52% in 2017, -6.5% in 2016, - 4.96% in 2015. The only HSBC and BNP Paribas showed an increase. International banks without a Greek presence increased for the first time since 2015, by 6.34%, compared to a decrease of -2% in 2017. Finally, the number of banks involved in Greek financing has increased to 52 out of 51. Credit Suisse remains in the top position with a portfolio growth of almost 13%, up from -4.17% last year.

However, in order to understand the size of maritime financing in the Greek shipping industry, a Petrofin table will be followed which lists the portfolios as well as the number of banks from 2001 to present involved in the aforementioned sector.

Figure 3: Greek shipping portfolios in billions of dollars from the international banking system 2001 - 2018.

	International banks WITH a Greek presence	International banks WITHOUT a Greek presence	Greek banks	Total Number of Banks	International banks WITH a Greek presence	International banks WITHOUT a Greek presence	Greek banks	Total Yearly Bank Exposure
Dec-01	11	20	9	40	$7.05	$6.17	$6.17	$16.53
Dec-02	10	30	11	51	$8.19	$8.60	$4.47	$21.26
Dec-03	10	29	15	54	$10.12	$9.79	$5.64	$25.55
Dec-04	9	27	14	50	$13.94	$12.07	$6.34	$32.35
Dec-05	11	15	14	40	$19.45	$10.05	$6.52	$36.02
Dec-06	11	16	12	39	$24.25	$14.79	$7.34	$46.38
Dec-07	13	16	12	41	$37.04	$14.06	$15.84	$66.94
Dec-08	12	16	12	40	$38.98	$17.30	$16.94	$73.22
Dec-09	11	18	12	41	$36.78	$14.10	$16.14	$67.02
Dec-10	11	16	12	39	$35.88	$14.47	$15.88	$66.23
Dec-11	11	32	12	55	$35.29	$17.89	$14.52	$67.70
Dec-12	11	31	9	51	$33.90	$19.16	$12.70	$65.76
Dec-13	11	30	5	46	$30.74	$20.27	$10.49	$61.50
Dec-14	11	33	5	49	$29.44	$23.76	$10.82	$64.02
Dec-15	11	35	5	51	$27.10	$26.44	$9.17	$62.71
Dec-16	10	36	5	51	$23.99	$24.50	$8.72	$57.21
Dec-17	10	36	5	51	$21.47	$23.44	$9.09	$54.00
Dec-18	**9**	**36**	**7**	**52**	**$18.43**	**$24.92**	**$9.82**	**$53.17**

Petrofin Source

As can be seen from the table above, the number of foreign banks with a Greek presence is constant with a number ranging from 9 to 11, compared to the Greek banks which have remained half of those started in 2001, more specifically during the year. 2001 we had 9 compared to 2013 until 2018 which is 5. As for foreign banks without Greek presence in the first few years they did not keep steady as they fluctuated from 20 to 15 and 30. However in recent years they have stabilized at 36.

Now regarding the size of investments, it is observed that in the last five years the portfolios of the Greek banks are much less than the foreign banks. Their deviation is even more than half by comparing the three different numbers. For example, in 2018, Greek banks had a financing of $ 9.82 billion, compared to foreign banks that have no branches in Greece with $ 24.92 billion and those with branches with $ 18.43 billion.

Foreign banks with a high presence in the Greek market with the highest portfolio in 2008 with $ 38.98 billion are the ones that have had quite high portfolios throughout the years.

2.3 FEATURES OF MARITIME FINANCING

Maritime financing differs from that of other sectors for three main reasons. Firstly because of the high capital requirements, secondly because of the ownership of the ships and thirdly because of the volatility of the shipping market.

Amount of Capital: Shipping as mentioned above is capital intensive and the amount of capital required to purchase or remodel a ship is quite high. For this reason, it is quite difficult to fully cover the amount of such investment by the business itself. But even if the business were able to cover all the cost of the investment, it would not commit itself to liquidity. Thus, shipowners usually finance partial or total investment costs in order to realize their investment. Finally, in the maritime market where there is no particular stability and the value of ships is constantly fluctuating, the higher the amount financed, the greater the risk the bank takes.

Ship Ownership: There are usually two different types of shipping companies in the industry, one being a 'ship owning company' and the other a 'holding company'. In the ship owning company, the shareholders, which are usually natural persons, hold 100% of the shares of a company portfolio, which owns 100% of the group's shipping companies. In the category of 'holding company' the owner establishes a separate company for each ship he buys, so the shares of the shipowner are either a natural person or together with the shares of other ships, which have the same interests, belong to a holding company. In both cases the financial details of the ships are not published, which is why it is difficult to assess the risk to financial institutions of the risk of default on the loan from the shipowner.

High Volatility of the Maritime Sector: Shipping is an industry that faces high cyclicality. For example, when the fare is high, the liquidity of the shipowners increases, and with them the value of the ships. Similarly, the upside applies when fares are low. Therefore, there is a great risk to the financial institution, as the financing is evaluated at a specific time and the loan is repaid in the long run. This means that during the loan repayment period, the fare prices and the values of the ships may have undergone such changes, where the loan will be converted into a high leverage loan or a loan that will be extremely high. difficult to repay, since the main source of revenue for shipowners, fares, cannot provide revenue.

2.4 PURPOSE OF MARITIME FINANCING

Maritime investments may include reasons such as the entry of an individual into the industry, the expansion of a fleet, some qualitative replacement of one or more ships, but also its refurbishment and finally the increase in tonnage offered.

Entering the Shipping Industry: Such an investment may concern either the purchase of second-hand vessels or new orders. The market can be either by already active shipping owners, who may be willing to invest in a different shipping sector, or by new owners in the shipping industry.

Fleet Expansion: A shipowning company or a shipping group pursues an investment policy, the realization of which is also the reason for the capital invested in shipping. The shipping company or group purchases new or used vessels, which have the potential to attract the funding required or to agree on specific long-term cargo contracts.

Quality Replacement: In many cases shipowners’ own vessels that are superannuated or do not meet the requirements of operating ships internationally. Therefore, in one case or another, further exploitation is difficult or impossible. As a result, these ships, depending on their situation, are sold to other companies or driven into scrap yards and replaced by other ships that are either new-built or used.

Rebuilding an existing ship: Investments are often found in the shipping industry to add or even remodel an existing ship. There is a need for some work to be done so that the ship can meet world standards, improve its performance, and employ other types of cargo.

Increase in tonnage offered: Replacing a ship, driven to the scrap yard, by a corresponding new construction, does not affect the capacity offer. If the ship, which is being replaced by a new construction, is not dismantled but resold, then the capacity offered in the medium term is increased as the replacement of the older ship is postponed. Investments made to implement a company's investment policy relate to investments of new shipping companies and increase the capacity offered when associated with new ship orders. When a second-hand ship is the object of investment, then the capacity offered will not be affected unless the ship is interrupted.

2.5 FREIGHT MARKET & FARES

2.5.1 TYPES OF FARES

Fare is generally defined as a price at which a certain cargo is delivered from one point to another. The price depends on the form of the cargo, the mode of transport (e.g. truck, ship, train, plane, etc.), the weight of the cargo, and the distance to the delivery destination. Many shipping services, especially aircraft carriers, use volumetric weight to calculate the price, which will take into account both the weight and the volume of the cargo. For example, coal freight rates in the United States are about $ 1 per ton / mile. Thus, a train of 100 cars, each of which carries 100 tons over a distance of 1000 kilometers, will cost $ 100,000. (Stopford, 2011; Kavussanos M. & Visvikis I., 2011; Karakitsos & Varnavides, 2014)

So, the fare, i.e. the cost of transporting the goods reflects several factors beyond the usual transport costs. The main factors that determine the fares are generally the following: means of transport (truck, ship, train, airplane), weight, size, distance, pick-up and drop-off points, as well as the actual goods shipped. (Stopford, 2011; Kavussanos M. & Visvikis I., 2011; Karakitsos & Varnavides, 2014)

A basic distinction of fares could be based on the market in which the transport ship operates. The main categories of freight markets, as deducted from the above analysis, are the bulk (bulk dry cargo), tanker (bulk liquid cargo) and container (containers) market.

In the bulk market there are two types of fares which are the following:

- Single trip fare or instant fare: The price is set during the negotiations and is usually $ / ton (freight). The quantity of the goods, the ports f / ek as well as the duration of the voyage are agreed in advance and the shipowner is charged with all operating costs, fuel, port and canal and depending on the agreement (FOB, C&F, CIF) sometimes and the expenses f / cm. If the agreement is executed immediately, we are talking about a spot rate (spot rate) while if it is executed within a specified period in the future we are talking about a forward charter.
- Time charter or term fare: The price is set during the negotiations and is $ / day (hire) and includes the rental of the ship and the crew while the shipping costs are shared between the charterer and the shipowner.

In the tanker market, which is the most important market, the forecast plays a decisive role as there are large fluctuations in the prices of instant fares. Many times, there are fluctuations of 800%, which increases the uncertainty and makes the profit or loss margins of the shipowner and the charterer very large and inelastic. For this reason, it would not be representative of the market if we judge the fares in absolute terms ($ / ton) and it is no coincidence that most time charters are made on tankers because this reduces the uncertainty of fluctuations for the parties involved. For this market, the most common way of describing the fluctuations of the current fare and the market is the world scale index, a cost-dependent index, which requires two basic elements to be calculated, a. a representative route, as in dry cargo charter, to calculate the requirements of a trip ($ / ton); and b. a representative shipowner to calculate his costs for the voyage, hence the required instant fare at which the shipowner will cover these costs (fixed hire element).

$$\text{WS} = \frac{Instant\ fare\ on\ a\ specified\ route}{Basic\ fare\ on\ a\ specified\ route}\ \text{X}\ \%$$

In the container market, because there are many different cargoes per voyage, shipping companies have established a rather complex way of pricing the maritime transport service they offer. Each type of cargo that is transported is categorized into a larger group of loads (commodity class), depending on its characteristics. Pricing is based on this categorization as there are specific fares per category in a tariff tariff. This tariff is mainly affected by the unit value of the transported cargo and the volume-weight ratio of the cargo (stacking factor). There are of course cases where the fare is the same for all the transported cargo containers of a trip and this is called Freight All Kinds (FAK).

2.5.2 FACTORS AFFECTING FARES

The cost (freight) charged to a consignor (e.g. consumer consignee) or a consignee (the person or company to whom the goods are shipped) of transporting the goods is determined by several factors. The main factors determining the fare are, as already mentioned, the means of transport: weight, weight, size, distance, points of receipt and delivery, as well as the actual goods being shipped. All these factors play their own independent role in determining the price or rate at which the cargo will be transported, but they are also interrelated.

When determining which means or mode of transport will be used to deliver the cargo to its destination, there are many things to consider and all will have an impact on the fare. All federal, state and local authorities have their own laws and regulations regarding the size, weight and type of goods that can be transported on their roads. Transportation of goods by rail, sea, air and any other means has its own rules that take into account federal, state and local laws, as well as safety concerns that contribute to the speed at which goods are transported. In general, the more goods are transported, the cheaper it is. This is an important factor in the price of freight that is ultimately charged to individuals / consumers or shipping companies. There are many companies whose main purpose is to make the transportation of goods cheaper and easier for small businesses and individuals who want to transport a product to a specific destination. (Stopford, 2011; Kavussanos M. & Visvikis I., 2011; Karakitsos & Varnavides, 2014)

World trade is directly dependent on the availability of sufficient transport capacity for transport needs and ship orders, as well as the existing merchant fleet, which affects freight rates and fare fluctuations. Fare fluctuations are also affected by the need for capacity due to product production but also the consumer capacity of the world.

A reasonable question that could be asked is why fares fluctuate. The answer to this question is logical but also complex in practice as the freight market is subject to a wide range of external variables that may be easy to detect but difficult to calculate accurately.

Some of the most important factors that contribute to the fluctuation of fares are the available capacity, the newly built ships, the ones that are withdrawn (scrap), the levels of industrial production but also the production of raw materials, seasonal pressures, weather, fuel costs and In general, the fixed costs of each ship, the costs of ports and canals, expectations for market fluctuations, etc.

All the factors that affect fares depend to a large extent on the relationship between supply and demand for tangible goods or otherwise on the supply and demand of capacity. Simply put, if the supply of ships is very high, the fares are lower because there is competition, while if the supply of ships is deficient, then the fares go up because the market tends to the oligopoly. In essence, fares are set on the basis of negotiations between shipping companies and charterers, and this reflects the balance between ships and cargo placed on the market.

In the shipping industry it is very difficult to find a balance between supply and demand because it is an industry with great complexity. For the analysis of how the fare prices are formed, the contribution of the supply function (supply function), the demand function (demand function) and the equilibrium price of the two (equilibrium price) is very important.

A study linking fares with shipping cycles will be reported below. More specifically, Barsky and Miron (1989) studied seasonality in fare prices and observed that specific factors are common in economic and seasonal cycles and that the sources of seasonal factors may be more recognizable than those in the economic cycle.

3 SHIPPING BUSINESS FINANCE SOURCES

3.1 SHIPMENT OF SHIPPING COMPANIES

Funding is defined as providing money to start, complete or even improve a business or activity with cash back facilities as mentioned in previous chapters.

In fact, maritime financing is the driving force behind the growth and expansion of the business of shipping companies, in an industry that has many peculiarities and peculiarities. Both know-how and equity play a key role in the creation and progress of a shipping company. Expertise, maritime financing (foreign capital and equity) and good human resources are three key prerequisites for establishing a successful shipping business, but especially for the development of its fleet in the coming years. The know-how includes management techniques and efficient cargo finding.

The type of financing depends on many items that will be listed in the list below. It is the combination of these elements that determines the type of financing we choose.

It should be emphasized that the financing of ships is quite different from the financing but also from the application of standard methods for its evaluation in relation to other sectors of the economy. The reasons for this particularity will be discussed below.

Capital Intensity

The acquisition of ships also results in high capital requirements. In addition, most of the assets are tied up in fixed assets and as a result, companies must maintain a high level of liquidity so that they can cope with the adverse effects of shipping cycles.

High Risk Investment

The shipping market, a derivative market, is characterized by volatility, which means any change in production or capacity demand.

In addition, while buying a ship requires high capital, at the same time ships are not like factories, they do not stay fixed in places, but their purpose is to move from one place of the world to another. This characteristic makes them vulnerable not only to global economic and political events but even to the climatic conditions. It is very likely that a bad weather will have a significant, if not dramatic, impact on the operation of a ship.

So, what is the risk that a bank or a financial institution is willing to take? In fact, the bank's risk is proportionally lower than that of the shipping business and the profit is also significantly lower.

Maritime Business Structure

The headquarters of the shipping business can be located anywhere in the world; the flag of the ship can also be of any shipping state. The ship travels around the world. It is therefore obvious that a shipping company is subject to the laws and regulations of many legal regimes on a daily basis, making it difficult to manage its fleet daily.

Mobility & Heterogeneity of Fixed Assets

Ships are characterized by heterogeneity due to their different characteristics and their changing and differentiated value. Ships are also found daily in territories with different legal regimes, as we said before, which makes their operation extremely complex.

3.2 SHIPPING CIRCLE

A very important factor, which explains the great volatility of the shipping market, is the so-called maritime cycle, which succeeds the trade-economic cycle and is due to the derivative nature of demand. Shipping cycles fall into four main categories. The first category has short duration (3-4 years), the second one medium duration (9-10 years), the relatively long (18-24 years) and the last one category which is the very long lasting (50-60 years).

Maritime cycles are a series of alternating phases of economic activity and are caused by the imbalance between capacity offered and demand, i.e. over supply or shortage of ships. The study of shipping cycles plays an important role in the freight market, but also in the shipping industry in general and for this reason an economic analysis of the freight market and important business decisions would be incomplete without addressing this phenomenon.

A key element of shipping circles is shipping risk in the shipping market. A merchant ship is an expensive capital investment. In an international environment where the volume of trade is constantly changing, one must make the crucial decisions to order new ships, dismantle older ones, trade in used cars and how the fleet is to operate. The responsibility for making these decisions essentially describes the maritime risk to be taken.

When the risk is borne by the cargo owners, this leads to what is called 'Industrial shipping', whereby the shipowners become subcontractors with the aim of reducing subcontractors and cost minimizers. However, when shipping risk is assumed by shipowners, shipping activity becomes speculative and unpredictable. Thus, the ultimate profitability is clearly determined by the laws of probability and chance.

Basic factors of shipping cycles are supply and demand for tonnage.

Behind the capacity offer are factors such as, the psychology of shipowners and their investment activity, the level of current and mainly expected freight, the existence of reserve profits and liquidity, shipowners' decisions and uniform decisions, the shipping financing. Moreover, the development of shipyards and the government shipbuilding and shipping development policies

Behind the capacity demands are actions to promote or reduce trade by sea, industrial production and the price of oil. Other factors are the growth rates of key economies for shipping (US, Japan, Germany, England, France, China, India, etc.), the amount of interest rates, the OPEC policy, the inflation etc.

The distinction between the economic fluctuations observed so far in the economy, depending on the length of time, is in long-term cycles, main cycles of 9-10 years, and sub-cycles of 3.5 years. A shipping cycle is divided into four phases: the recession, the rise or recovery, the peak and finally, the collapse. Some of the most important features of each phase are:

<u>Recession:</u> The fare level is below the operating cost of the ship. The market is pessimistic, shipowners do not invest in ordering new ships and maritime loans are limited.

Rise: Fares almost exceed the operating cost of the ship. There is a feeling of uncertainty in the market, but demand and supply tend to be in balance. At the same time, the prices of used ships are rising due to improved liquidity.

Peak: The level of fares is well above the operating worlds of ships. As liquidity continues to improve, the prices of second-hand vessels are rising, and banks are re-lending to shipowners. As a result, shipowners are starting to ship orders more and more.

Collapse: Due to the increase in orders for new ships in the earlier phase of the peak, the supply of capacity is now in excess of demand. Market liquidity is starting to decline.

3.2.1 LONG CIRCLES

The theory of long circles was first developed by Russian economist Nikolai Kondratiev, who was studying the world economy. They are characterized by technical, economic or regional changes12 and are therefore very difficult to identify. Sample of Kodratiev's study brought about major economic changes in the Western countries, notably the economic activity of Germany and France, and concluded that the economies of these Western capitalist countries are characterized by long periods of 50-60 years, beginning with the boom of the economy. and eventually collapse. Finally, economist J.A. Schumperter argued that long-term cycles exist because of major technological changes, such as the use of larger ships and more efficient ship management technology.

3.2.2 SHORT CIRCLES

A series of economic "crises" in Britain in the 19th century led many observers to conclude that these crises are small circles, which are easily distinguishable. At the same time, Lord Overstone describes how these cycles are usually characterized by four phases: recession, growth, climax, and collapse, without necessarily implying that all short-circuits are of the same duration. The function of a short-term cycle is to balance supply and demand in the shipping market.

3.2.3 SEASONAL CYCLES

These cycles often occur in shipping, usually in the form of fluctuations in a calendar year and in specific seasons, as a consequence of seasonality and 'behavior' of demand. For example, in the case of transport of agricultural products, a prerequisite is the season in which the crop is harvested, while seasonality in frozen products and oil storage for high-demand winter are similarly observed.

With the above, we conclude that there is no fixed rule for predicting and tracking a cycle and each cycle has its own characteristics and is never the same as any other. What is particularly important is that maritime cycles are directly linked to maritime risk and their economic role in the maritime sector is very important. Note that maritime risk is defined as the measurable liability for any financial loss arising from the imbalances between supply and demand for maritime transport. For example, a maritime risk is investing in a ship that ultimately fails to bring the expected profits to the shipowner, and thus cannot meet its obligations and various requirements. Ultimately, the risk takers are the shipowners and cargo owners who wish to move their cargoes from one place to another, and each of them must protect his or her own financial interest that is in conflict with the other's interest. In any case, any decision taken by either party will not change the size of the maritime risk, it will simply be redistributed.

3.2.4 IMPACT OF SHIPPING CYCLES ON FINANCING

Therefore, it is of the utmost importance to understand and study shipping cycles both for investment decision making and for the ways in which a shipping company will finance these decisions. Each stakeholder has a different interest, for example, the decisions of the shipowner will have to be made on the basis of the policy of shipping banks and shipyards. Every decision is based on the forecasts of the shipowners and the banks respectively on the course of the market, and these forecasts need to be accompanied by experience and excellent knowledge of the market and the economy in general. Maritime circles influence supply and demand for capacity. Demand for maritime transport is a derivative demand. Determinants of tonnage demand are: freight level, population size, distance to be traveled, volume of cargo, characteristics of cargo, passenger requirements in the case of passenger shipping, physical condition of cargo and the way it is packaged, the rates of growth, the rate of interest and inflation. Subsequently, the relevant determinants of tonnage supply are shipowners' psychology and their investment activity, the existence or non-reserve profits and liquidity, financing, shipyard policy and government policy for the maritime industry. In summary, the magnitude of the effect that maritime circles have on this industry is undoubtedly understandable, and especially on the relationship of banks and shipowners with all the above factors in mind.

3.3 FUNDING SOURCES

The cost of acquiring a ship, either new or used, is high. When it comes to shipping, we are referring to a capital-intensive industry, where most of the value of the ship is covered through various forms of financing available on the market. Another reason that drives companies to raise the necessary funds from the various forms of financing is the fact that shipping is generally characterized as a high-risk industry due to its fluctuations.

The main and most traditional form of financing is banking, which covers most of the funds available for this purpose. Specifically, we will refer to shipping loans, consortia, and single and government shipbuilding loans. Other forms of financing that are increasingly adopted in modern times, are leasing, raising funds from the stock market and financing by issuing bonds as well as other less common forms of financing.

3.3.1 BANK LOAN

The banks that deal with maritime finance are Commercial, Investment and Development. The motivation behind shipping companies lending to ships focuses on profitability, their expansion to other activities and risk diversification.

In addition, commercial banks are primarily interested in a maritime loan that has yield stability over its lifetime so that it can generate sufficient surpluses to serve capital and interest payments. Shipping, moreover, is one of the few sectors using few forms of alternative financing and this is due to the following reasons. Firstly, banks provide flexible lending on attractive terms, so that the client prefers bank lending to other forms of financing. Also, differences between banks in risk assessments, returns and options with more central banks in Central Europe. Thirdly, lack of knowledge of the subject by institutional investors, resulting in serious problems both within the shipping business and in its relationships with its customers and lenders. Lastly shipowners do not view the sale of some of its fleet's current market value positively, which is a prerequisite for listing a shipping company.

Knowing the particularities of the maritime market, the Basel Committee has enabled banks to classify maritime lending in the category of specific financing, also known as object financing.

Banks that are engaged in lending to shipping companies have their own shipping departments and their credit policy strategy varies according to their target size, their shipping market and their future expectations for it. the international financial situation and the policies of competing banks and organizations. The size of the lending to a particular shipping client depends on many variables, such as the customer's existing degree of leverage, his existing fleet (type, capacity and age of the ships), any ships under construction, their clientele (freighters) and the type of funding requested.

3.3.1.1 SHIPPING LOAN

A loan is defined as a special bilateral contract, upon the conclusion of which one of the parties (the lender) grants to the other (the debtor), for a certain period, the ownership of the money or other substitutes, subject to their subsequent repayment, either for exchange (interest) or without return (interest).

A maritime loan is defined as the financing of a shipping company with a view to replacing the existing fleet of the company, or to expand the existing fleet, or to establish a new shipping company, or to retrofit an existing vessel, or to increase the capacity and competitiveness of the company.

The development of our national shipping is closely linked to financing, as the need for bank credit is high. Bank lending today remains the main source of funding in the shipping market for raising funds, while the syndicated loan policy shares the risk.

In times of crisis, maritime banks are facing several issues due to high levels of debt, while maritime banks are struggling to meet the burdens of cargo transportation with difficulty due to low demand for shipping services and redundant ships.

Some banks involved in financing Greek shipping are listed below:

• France: CREDIT LYONNAIS, BNP, NATEXIS & CREDIT FONCIER
• Germany: LB KIEL, NORD LB, DEUTSCE SHIFFSBANK
• Switzerland: VIKING SHIP FINANCE
• Greece: ALPHA BANK LONDON, EFG EUROBANK, NATIONAL BANK OF GREECE, PIRAEUS PRIME BANK
• Norway: NORDEA
• Netherlands: ING, FORT ABMARMO BANK

Investment Assessment

The granting of a maritime loan involves several stages of research, which can be done in parallel. A general framework for research on shipowner lending is the satisfaction of the finance department also known as "5 C of Credit", which has been established and followed internationally since 1979, combining shipping with trade and finance. The five (5) elements are the following. The capacity which is the ability of company management to generate revenue. Second, the capital which is the percentage of the shipping company's own holding. Moreover, the collateral, this item relates to the ship's funded investment fund, with mortgage and additional collateral and the conditions and more specifically the market conditions. Lastly, the character, in the shipping market, the identity of the shipowner as well as elements such as his experience in the field, the history of his company, his credibility, as well as his successor status, are very important roles in financing decision.

Other variables that play an important role in the financing decision-making process are the following. Firstly, the loan amount / financing rate, the cost of borrowing / interest rate and the coin. Moreover, the ways and details of repayment, the start time and duration, the fleet size and age and the growth prospects. The last two variables are the additional shipowner costs and expenses and how to disburse.

The borrowers give their proposal along with what was requested by the bank and enter into discussions. The bank's profit is usually agreed at a rate above LIBOR.

Bank and Safety

Banks typically offer financing around 50-60% of a ship's value although this percentage may go up (up to 75-80%) depending on the age of the ship and the reputation of the shipowner, but it should be emphasized that market conditions play a very important role in the amount of funding.

Every bank is trying to safeguard its capital and investment in the best possible way. In order to secure loan funds for the purchase or construction of a ship, the bank shall require the borrower mortgage on board and personal and corporate guarantees. Assignment of income / collateral, pledge on shares, letter of support / interest, a letter from the company or from a third party that its subsidiary, will fulfill its obligations and insurance coverage for Mortgage Interest Insurance (MII) / Mortgagee Additional Perlis Insurance (MAP).

Ship House

The shipping bank provides capital to the shipping company and the ship is mortgaged. In the mortgage of the ship the potential owner gives the lender (or mortgage lender) the ship as collateral for the loan. A ship's mortgage is legally composed of three parts, the loan, the mortgage document and the rights deriving from the act of establishing the mortgage.

Ship mortgages are different from other types of loans, because some parties might claim to have a higher rating than the mortgage lender over the ship, depending on the institutional context. Also ships move between different jurisdictions and a ship is often at risk, which can result in partial or total compensation at sea.

"A mortgage on a ship is a common way to finance construction or purchase. A mortgage provides a creditor with insurance for repaying the loan or fulfilling another obligation by acquiring the right on board. They can in fact be used to secure any financial obligation related to the ... operation of the ship "(Gold, E., Chircop, A.E., Kindred, H.M., 2003).

Following the signing of the financing agreement by both parties, the bank entrusts its Legal Advisers with the preparation of a mortgage collateral. It is signed before a notary. However, the bank is only guaranteed by its registration in the registry. The process of registering a maritime mortgage at the Registry varies depending on the nationality of the ship being mortgaged.

The mortgage document usually includes many of the basic terms of the loan agreement such as the fact that the shipowner must assign any fare or rent to the ship and the rights and requirements of the insurance policies, as well as undertaking to insure the ship for as long as the mortgage is valid for at least 30% more than the mortgage amount. The insurance must compile by time and not by travel and by first class insurers. Also must include all risks (sea, third party, war), a 15 / day bank notice term as a mortgage lender, and to notifies the bank by telephone of any accident or damage to the ship (greater than the predetermined amount) or of its seizure or retention. Lastly to keeps the ship in a recognized ship register and does not allow the registration of any other weight without the consent of the bank and does not allow the ship to travel for illegal trade or smuggling of war or violation of any law.

In addition, the Maritime Mortgage gives the bank the right to manage and operate the vessel and to sell the vessel, either voluntarily or by public auction.

Loan Repayment

The repayment of the loan is essentially related to the age of the ship and the amount of the loan. Repayment of fixed term loans can take place in several ways. The most important are:

i. Fixed installments: Generally, loans are repaid in equal or uneven but fixed installments based on what has been agreed, for example monthly, quarterly and semi-annual installments.

ii. Moratoria: These loans specify a grace period during which the shipping company pays no capital but only interest. They mainly concern the construction or purchase of a new ship or even the arrangement of a problem loan.

iii. Balloon Payment: (the final installment to repay the loan is greater than the regular installment). The balloon payment provides for a one-off payment on the date the loan is repaid. This payment is paid together with the last installment of the loan and is determined by the bank. It represents a specific percentage on the loan and is equal to the ship's scrapping value.

iv. Bullet Payment: Repayment is due at the end of the loan without any interim payments other than interest. (the final payment of the loan is much greater than the payments made before.

v. Back End / Front End: Refers to accelerated or delayed payments. In the back end the last doses are higher than the initial doses while in the front end the initial doses are higher. For older ships or loans with high financing, frond end is preferred.

Recoverable Credit

The borrower may request re-allocation of the amount of the repayment of the installments. This loan usually relates to the purchase of used ships.

There are some studies on shipping loans. More specifically, according to the first, they use the method of discrimination for utility additives (UTADIS)[1], which groups in homogeneous classes 17 bank shipping loans during the period 1999-2001. The authors research a set of credit criteria, the weights of which have been set by a financial advisory firm, and then use the UTADIS method to determine a utility function and cut-off utility level for lending (see Dimitras et al. (2002)). In another research, they draw inferences from primary data, which are been collected from a bank survey questionnaire. They used a small sample from 16 different managers from different commercial banks in Greece, which are active in lending in the shipping sector. It was asked by the managers to identify the factors they considered important in evaluating remittance bank loan applications (see Gavalas and Syriopoulos (2014)). In the second research they also use the UTADIS method in order to determine a utility function and utility limits like Dimitras et al. (2002).

It is found that the likelihood of relocation of credit rating, debt to equity ratio and asset coverage ratio are important in explaining the defaults in the sample used. However, determining the relevant factors in assessing the unfair risk of sending bank loans through research is subjective, as each manager may assess the weighting and composition of the relevant factors differently when evaluating a loan agreement.

3.3.1.2 COMMON LOANS

A syndicated loan is an agreement between two or more banks. In this way a loan or a letter of guarantee or an irrevocable credit is granted to a borrower having a common lending contract. This speed up the risk reduction and spread of the investment risk.

Benefits of Bank Loans

The main advantages of bank lending are:

• Fundraising Instrument: Like all other forms of financing, getting a loan ensures that the businesses involved raise the necessary capital to finance their activities.

• Low borrowing rate: Because the bank takes the risk of lending to a company, which is much smaller than the corresponding risk of selling and leasing the fixed assets, the borrowing rate is significantly lower. The borrowing rate is determined by two factors, the interbank market from which the banks borrow to finance the client and the price at which it closes daily, and the company itself (its portfolio, its size, its guarantees, its the type and amount of the loan she wishes, her relationship with the bank, etc.). On this basis the bank also determines the margin which together with the price of LIBOR constitutes the borrowing rate.

• Flexibility to repay the loan: Repayment of a fixed term loan can be done in several ways.

• The company retains ownership flexibility: The borrower, unlike the sale and lease back financing models, but also the stock market, retains direct ownership of all its assets, and thus, the right to specify precisely how they are to be used and financed, without being subject to any form of control.

Disadvantages of bank lending

The main disadvantages of bank lending are:

• Need for securing loans and guarantees: A key disadvantage of bank lending is the guarantees that the applicant company has to provide in order to obtain a loan. These guarantees are usually on-board mortgages, mortgages, income and collateral, stock pledges, personal or corporate guarantees, which are highly binding.

• Floating rate: In most cases the borrowing rate is fluctuating, which poses risks for the borrower as it is likely to increase during the repayment of the loan.

• Speed of the process: The process of getting a shipping loan is particularly time consuming due to guarantees and other documents required by the borrower.

• Financing one part rather than the whole investment: Financing in most cases accounts for 80-90% of the total value of the investment. So, in case the company does not have the remaining capital required for the investment, it will have to look for other ways of financing.

• Failure to provide tax relief: A major disadvantage of bank lending is that it does not provide tax relief to the debtor, as opposed to other forms of financing.

• Bank does not interfere with the investment: After the loan is completed the bank has no direct financial involvement with the investment, which in some cases could help the lending company by providing advice on dealing with organizational, financial and other issues.

• Difficulty of repaying the loan: As the loan rate increases relative to the required initial capital, the return on the reduced equity tends to be infinite and Net Present Value gives positive results. Essentially it is the business's interest to receive as much of the cost of acquiring an asset or activity as possible. This "policy", however, hides risks, as in a recession the repayment of loans can prove difficult, forcing the shipowner to liquidate his capital in order to repay the bank.

3.3.1.3 GOVERNMENT LOANS - SHIPPING LOANS

Ship loans and export credits are a method of financing dating back to the 19th century, when the English, in order to secure themselves work in periods of low freight rates, provided their own funds with favorable terms (25- 30% credit for 3-5 years) to reliable customers.

The dynamic emergence of shipyards in the financial market came from Japan in the 60-70s, where we also had the first oil crisis, which was intended to become a dominant force in the global shipbuilding industry, taking advantage of increased shipbuilding activity. Thus, the Japanese set export credits with the maximum loan rate being 80% of the ship's cost, its maximum repayment term being 8 years and the minimum interest rate being 5.5%.

Europe, of course, reacted, seeing that it was no longer necessary to offer such preferential investment programs in order not to lose its share of the shipbuilding market. This resulted in competition among shipyards, which in turn led to the OECD setting the maximum loan amount, its maximum repayment period and the minimum borrowing rate. Thus, it was agreed to be 80% of the cost of the ship, 8.5 years and 8.5% the interest rate respectively. The above have some flexibility, depending on the guarantees provided by the shipowner and on the currency risk.

The US, Spain, Portugal, Greece and Turkey, as well as the fast-growing Third World countries, such as South Korea, Taiwan and China, have never participated in the OECD financing scheme. their financing. These countries even gave an 85% loan, 7% interest rate and a 15-year repayment period, with a two-year grace period.

3.3.1.4 SINGLE LOANS

Single loans are a form of medium- or long-term lending to large companies and are mainly provided by commercial banks, investment companies and insurance companies. However, in many cases, the financial needs of a large business cannot be met by a single lender and therefore in these cases there may be cooperation between two or more lenders for their conclusion. Some of the advantages of single loans are that they are concluded quickly as the number of parties is small, their repayment can be done in a way that serves the business, the borrowing company is not required to disclose the reasons why it uses it as well and its business elements and plans. Finally, in some cases the original terms may be modified. The interest rate on the loan depends on the duration of the loan, the creditworthiness of the company and most of all the market conditions and usually in bank contracts it is variable based on LIBOR. Finally, the repayment of single loans can be done either in installments in equal installments or with interest-bearing amortization or once by capitalizing the interest and paying off the loan with the principal. However, following the agreement of the parties or applying a term to the loan agreement, the loan may be repaid or converted (Efthimoglou and Eleftheriadis, 2012).

3.3.2 ALTERNATIVE FUNDRAISING WAYS

Always the funding for shipping is what for the ship the propeller. These two concepts are inextricably linked because there is no growth in a shipping company without funding. As we all know, the traditional method of financing is that of banks. But nowadays, because of the global crisis, banks and more specifically European ones, which have issued most of the maritime loans, are in a difficult position and therefore have restricted their lending.

For this reason, shipowners are expanding their fleets and their business moves have turned to alternative forms of financing which will be discussed below.

3.3.2.1 STOCK EXCHANGE

Stock market financing is a modern method that has both its advantages and disadvantages. The reasons that drive shipping companies in this direction are the difficulty of obtaining bank debt and the effort to expand the company without the burden of external borrowing. In this form of finance, the control is distributed to more shareholders who enter the business (not just one owner) so that management is better and therefore there is growth. Thus, the owners are not committed to having all of their capital in one company alone, but to disperse the business that leads to better management of the investment capital with the direct effect of reducing the capital cost of the business.

Shares of a non-listed company have very limited liquidity. Consequently, shareholders who wish to liquidate their investment, either because they are unable to find a buyer or because they have difficulty determining a commonly accepted transaction price. Investors therefore require a higher return on low-liquid equity than high-liquid equity. For this reason, the listing of a company in the stock market has substantially increased the level of liquidity of the stock and in this respect it has very beneficial effects on the business as well as on the whole economy.

The pioneers in this step were Dane and Strintzis Lines S.A... It is worth noting that the above companies are shipping and that a similar desire by seagoing commercial shipping companies, which constitutes the majority of the Greek shipping community, has not been expressed. The Greek maritime community is negative in this form of funding mainly due to the specificity of Greek maritime companies characterized by family organization and management flexibility.

In order for a company to enter the stock market, it must first be recognized as public. If this is the case, a commercial or publishing bank will usually handle the matter and prepare the import application. Although many companies have not been listed in Greece, this practice is widespread abroad. The main brokerage centers are London, New York, Oslo and Stockholm. Of these, the most experienced maritime stock market is Oslo where there are about 30 companies and the investing public is better informed about this sector.

Disadvantages

But apart from the advantages of this financing option, there are some disadvantages. For starters, companies wishing to enter the public offering will have to pay the fees required to prepare the bids, e.g. fees to lawyers, accountants, etc., as defined by the regulations of each Stock Exchange. These fees include the application for a new version, the original subscription fee (payable on the new version) and the annual contribution. Also until recently the owner of the company was the only one who had the right to make decisions, but without having to justify his actions anywhere, he was obliged from now on to convene meetings of shareholders (at regular intervals) and to be accountable to board of directors whose consent it has to obtain in order to take any action / agreement and generally a decision. In addition, listed companies should publish enough information and disclosure information to disclose all important information that will help shareholders and the public better evaluate each company's prospects. Finally, listed companies are required to announce any major decisions and issue half-yearly balances. The annual balance sheets should be prepared in accordance with International Accounting Standards.

In summary, although the stock market is a relatively modern form of financing, international experience has shown negative results. In recent years the number of companies that have failed to enter large foreign exchanges is large. The reasons that led to this situation are the low yield characteristic of the industry, the high level of risk and the low marketability of the types of listed companies.

3.3.2.2 MEZZANINE FINANCING

Intermediary financing, also known as mezzanine financing, is a particularly interesting - though not very popular, not only in Greece but worldwide - way of financing businesses. Mezzanine capital is used by companies both to finance any expansion and consolidation opportunities (purchase of equipment, land, etc.) and to meet their existing needs (dividend to shareholders, debt repayments, etc.).

Although usually only a small percentage of the company's total available capital, when it is selected as a financing method, it plays a particularly important role in business development and financial planning and planning.

Investment firms operating in the field of finance undertake the financing of a business against the acquisition of equity, that is, the acquisition of partial ownership of the borrowing company.

The goal of the investor involved in the mezzanine fund is not to become a strong shareholder in the long run, but rather to ensure a satisfactory return on its shares for a certain period of time, and then withdraws. Usually, the agreement is accompanied by clear and predetermined terms for the repayment of the interim debt at the appropriate time. Most interim financing is "withdrawn" either through the resale to the original owner of the frozen capital or through the recapitalization of the business. The usual duration of this transaction ranges from five to eight years, with the possibility of early exit, as set forth in the sales contract, respectively.

The advantages of this type of financing are as follows. At first no equity is required, there is favorable taxation as well as it is a faster and less expensive process. Finally, bank lending is done on more favorable terms because of intermediate lending. On the other hand, there are some disadvantages to this type of financing, such as the fact that the company does not have complete control over its activities, as well as that the lessee takes all the risks. At the same time the management and philosophy of traditional shipping companies may exclude this method as a way of financing. Finally, it is worth noting that in case of breach of contract terms, the contract is terminated, and this also drives the bank lending agreement, as well as that the risk is greater for the investor than the bank lending.

3.3.2.3 LEASING

Leasing appeared and was introduced in Greece by Law 1665/1986 as a modern method of medium-term financing of businesses and professionals for the acquisition of fixed assets (i.e. equipment and property) for professional use. It allows the user, after many years of renting a ship, to obtain it at the end of the lease.

The leasing lists the always needed user and the leasing company as intermediary financing, while behind it there may be several alternative partnerships (as opposed to the traditional leasing process).

The rental period usually covers the entire financial life of the ship and the rent is calculated as a loan installment, which would be needed to acquire ownership from the outset. Thus, the user immediately ensures the use of a vessel of his choice, without committing the necessary redemption capital, which may or may not be available and cannot be found, and the rental company invests its funds. The lease agreement provides for the option (option) for the final acquisition of the ship by the tenant at a price known from the commencement of the contract, for the extension of the lease under a new contract or for the non-renewal and return of the ship.

The tenant - who selects the ship - is responsible for the ship's repairs, maintenance and insurance coverage. Shipowner risks such as shipwreck, damage to other ships or port facilities, pollution of the marine environment due to accident or loss of life are borne by the lessee under contractual terms.

Ways to Apply Leasing

I. Direct Leasing

It is a technique of large industrial companies, used to promote their sales, while the financial arm is regulated by their specialized subsidiary. In this case, the manufacturer usually also undertakes the provision of additional services, such as maintenance, staff training etc. It is a modern technique that enables businesses and freelancers to acquire:

a. Mobile Equipment

New or used equipment from Greece or abroad, such as: all kinds of machinery, passenger and lorries vehicles, furniture, electronic equipment, call centers and networks, air conditioners, medical, hotel and restaurant equipment, agricultural and road construction equipment etc.

b. Commercial property

Offices, shops, industrial and craft buildings, shopping and exhibition centers, warehouses and other commercial properties. Commercial real estate can consist of independent real estate, but also horizontal or vertical properties. Thus, businesses and freelancers acquire the means to pursue their business and at the same time take advantage of all the tax and other benefits of leasing, without having to commit significant equity capital anymore.

II. Service Leasing

In this case, the manufacturer also undertakes the provision of additional services, such as maintenance, personnel training, etc.

III. Leasing - Vendor Leasing

It is a sales promotion technique, in which an equipment supplier signs a framework contract with a leasing company and then delivers customers for final purchase through the long-term lease offered by the leasing company. From this company the supplier collects the entire price when signing the rental contract with the customer. Various terms are included in the final contract, depending on the wishes of the customers, so there is talk of custom-made leasing (e.g. seasonal variation, depending on sales of the finished product, payment of rents, etc.). The partnership between the leasing company and the equipment supplier, in various forms, helps to increase sales for both parties.

IV. Special Lease Line Form

A leasing contract may be signed between the leasing company and the client applicable to the progressive acquisition of more programs.

V. Leveraged Leasing

This applies to very high value things (ships, planes, trains, etc.) and involves the involvement of four parties: the customer, the industrial manufacturer, the leasing company and a banking organization. The bank immediately pays the price to the industry and receives a share of the leases from the leasing company, which acts as an intermediary for the equipment.

VI. Sale & Lease Back

The tenant buys the ship and then sells it to the rental company from which he leases it. This option is chosen to meet the emergency needs of the tenant. It also enables the company to improve its balance sheet by repaying any short-term debt that financed the acquisition of the assets.

VII. Cross-Border or Off-Shore Leasing

This case differs from the previous ones in terms of the payment of foreign currency rents, which entails additional risks.

<u>Advantages and disadvantages of using Leasing</u>

<u>Advantages:</u>

The main advantage of leasing is to ensure 100% financing of new equipment / property, direct use of this equipment / property and without always requiring the same participation. Second the process of signing a leasing contract is faster and less expensive than the long-term lending contract. Usually no mortgages, mortgages etc. are needed. The investor can achieve better terms of supply of the asset, as their value is paid in cash directly and the duration of the lease and the amount of the lease are determined according to the financial capabilities of the company, taking into account any seasonal factors. Also, after the expiration of the lease period, the investor acquires the asset over a pre-agreed (usually symbolic) part and the investor is protected by the technological depreciation of his equipment, which he can renew without tying up his available funds. Moreover, improves the image of the company's balance sheet and capital structure and for banking complexes, leasing is a technique of expanding their clientele and making a lot of profit, since, among other things, they gain bargaining power over their equipment suppliers and offer insurance to their clients. Last but not least leasing companies are protected from the risk of the tenant being bankrupt because they retain ownership of the equipment.

Disadvantages:

Despite the positive equity relationship, banks may be reluctant to finance a business when its equipment is based on the leasing method. Also, the lessee assumes all the risk of accidental or force majeure against the lessor and runs the risk of terminating the contract if he or she fails to do so for a significant period. In this case, the landlord may remove the equipment and require immediate payment of all rents until the contract expires. Lastly the lessor is subject to the lessor's checks to determine that the equipment is in good working order.

Procedures and Costs

The processes of partnership between the investor and the leasing company are simple and the costs are negotiable. The approval of a leasing contract depends on the lessee's creditworthiness and the type of investment and is evaluated by bank criteria.

3.3.2.4 VENTURE CAPITAL

The direct investment of funds by participating in the capital of companies not listed on the Stock Exchange is a new institution, implemented through the venture capital companies. This institution is a form of funding that first appeared in the United States of America after World War II.

It mainly responds to the needs of dynamic companies that are growing rapidly and need capital to finance their growth, while maintaining a healthy capital structure. It is also often found in the case of transfer of business ownership, either to minority shareholders or management buy-outs, providing the funding needed to achieve the business objectives.

Venture capital financing is achieved either through equity raising or more rarely by acquiring a portion of it or through various other flexible schemes, such as issuing a new set of preferred shares or convertible bond loans, and almost always allows the lead shareholder to maintain control of his company. The capital strengthening of a company is possible both at seed or start-up capital and at a later stage (development capital). It is plausible that the venture capital investor is expecting a high return, which justifies the increased risk that he / she is investing in.

The venture capital institution has led to the impressive growth of most of the companies that took advantage of it. The institution is growing rapidly worldwide, while the companies that use it are achieving more spectacular results than their competitors.

Venture capital companies usually liquidate their participation after entering the Stock Exchange of the companies in which they invested or even when they sold the majority of the equity of these companies.

3.3.2.5 PRIVATE EQUITY

Equity, i.e. self-financing, comes from the company owner or shareholders, or from the company's capital reserves. This way of financing may be 100% of the investment, but it is often customary to combine it with bank lending.

In order to disperse the risk and secure their funds, the co-owners split the ship into 64 lots and acquired a right to one of them. In many times of crisis where banks did not lend themselves easily to shipping or in times when the price of ships was too low, self-financing was a common way of shipping financing.

3.3.2.6 DEBENTURE LOAN

One source of fund raising, which seems to be gaining ground in corporate governance preferences, is the issuance of a bond loan. It is a direct way of raising funds from savers - investors. A bond is a loan that is divided into bonds that represent the rights of the bondholders to the issuer under the terms of the loan. Bonds are debt securities that incorporate an interest-bearing claim against the company and are part of the borrowed amount, each corresponding to the face value of the bond. The terms of the lending are determined by the issuer on the basis of the credit rating of the company.

So, unlike a share, the bond does not incorporate a shareholding, nor does it derive from management rights, but merely encompasses a claim corresponding to a portion of the company's debt. Bonds are therefore a category of corporate lenders, and bonds, as securities, are freely transferable unless otherwise specified in the terms of the loan. Subject to the terms of the loan, the issuing company may obtain its own bonds, without restriction, which it may re-issue.

There are four categories of bond loans: public debt, interchangeable debt bonds, interest-bearing bonds and convertible bonds. All the above types of loans can be secured by any kind of collateral or guarantee.

The common bond loan gives bondholders the right to receive interest. Its issue is not subject to any limitation on the amount unless otherwise specified in the statute of the issuer. Bonds with interchangeable bonds entitle the bondholders to declare their bonds in whole or in part by transferring them to other bonds or shares or other securities of the issuer or other issuers, provided that their exchange is advantageous. In addition, the bond loan with the right to participate in the profits grants the bondholders either the right to receive, in addition to the interest, a certain percentage of the profits remaining after the first dividend has been paid, or to receive other additional benefits commensurate with the amount of production. or the level of activity of the company in general.

Of particular importance is the bond loan with convertible bonds, as it combines the advantages of equities with those of bonds. Common bonds have an advantage over equities as they provide interest, even if the business in question has not been profitable. Shares in turn take advantage of bonds, as long as the company has profits, as they can offer high dividend and high market value.

The growing willingness of shipping companies to consider alternative forms of financing has led to these companies issuing not only conventional bonds but also more complex bonds, such as equity convertible bonds at the option of investor, issuer, or are mandatory. The popularity of convertible bonds with investors depends on the state of the equity markets (either global and / or local).

Convertible bonds are a special class of bonds that allow them to be converted into equities. Thus, the bondholder is converted from a lender into a shareholder, which is a form of debt capitalization for the company. The conversion right is exercised by a statement of the bond holder to the company and entails an increase in the equity subject to publicity formalities, whilst reducing the loan amount respectively. Bonds yield for the investor is a series of (equal or variable depending on the applicable interest rate) coupons at regular intervals throughout their lifetime. Their nominal value can be calculated at the end of their life.

The coupons are obligatory paid by the company before the dividend is paid. It is also a legal obligation to repay the loan.

The benefit to the company in securing a bond loan is that it does not bear the cost of brokering financial institutions and therefore pays less interest. Correspondingly, the benefit for the bond lenders is to receive more interest than they would have received from any bank deposit, and to enjoy the special rights that the bonds can provide.

3.3.2.7 SPECIAL PURPOSE COMPANY (SPAC)

Special Purpose Acquisition Companies (SPAC) are listed companies that raise funds from the markets to invest in a shipping sector either by buying ships or by acquiring a company that will merge with SPAC.33 The company SPAC or a "blank check" company is trying to raise money from investors to invest at the right time. The company does not submit a specific business plan to investors but general guidelines. So, investors do not know where their money will be invested and are considered to issue a "white check".

Managers of SPAC companies must use the money raised over a specific time period ranging from 12 to 24 months. If by the end of this predetermined period, the managers have not been able to find that business plan that will receive approval from 80% of the investors / shareholders then the invested capital is returned to the investors. What is most important is the extensive experience of managers in both trading and merging companies and in the shipping market in order to attract investor interest.

3.3.2.8 SECURITIZATION / OFF-BALANCE STRUCTURED BONDS

An alternative source of funding for banks and shipping companies is the use of securitized or off-balance sheet structured bonds.

Through these structures, banks with significant maritime portfolios can refinance assets by transferring maritime loans (and related collateral) to an offshore entity, which in turn will fund the acquisition for the corresponding portfolio, through issuance of secured bonds. Banks still manage the assets on behalf of the bond issuer and are therefore able to maintain their relationships with their customers (within an agreed framework).

Shipping companies can use these securitization or off-balance sheet structured bonds to finance or refinance ships or even enhance cash flow. The ships are transferred to a special purpose company that will finance these acquisitions, with the issue of secured bonds.

Also, any problems that may arise should be addressed to the bank. The main responsibilities of the special purpose company are to investigate the profitability of the loans to be securitized and to assist in the process of issuing securities in collaboration with a reinsurer.

After the bonds are fully redeemed, the full control of the vessels is transferred back to the shipping company. These capital markets structures are extremely flexible as they can be adapted to the needs of the relevant shipping company or bank and adapted to the requirements and expectations of all categories of investors. In an environment where bank debt will become increasingly expensive and difficult to obtain, structured bonds are a real financing alternative for shipping companies.

3.3.2.9 BORROWING FROM CHINESE BANKS

China, raising its foreign exchange reserves to about $ 3 trillion, is seeking to diversify its investment portfolio into specialized assets. The Chinese government is constantly pressing, especially on the big Chinese companies to internationalize them, trying to harmonize central decisions with the real Chinese economy that is constantly expanding to contain inflationary pressures and its inevitable rise. The big Chinese companies backed by the central government have invested in a wide range of real estate investments, mining companies, worldwide recognized brands such as “Volvo”, and even a 7% stake in Club Med.

The Chinese Government is committed to supporting the shipping and shipbuilding industry by offering in large shipbuilding units, mainly government, loans with extremely favorable terms. Also, shipowner loans on competitive terms with the aim of renewing the existing fleet and loan financing by securing the ship itself under construction for shipowners operating internationally.

The Chinese banking industry has been transformed from a tool for implementing centralized targeted financing policies to an industry more adapted to market laws and international rules. The big Chinese banks, which entered the stock market, presented their new commercial face. They have benefited in recent years from rising interest rates and improved margins following the central government's decision to boost credit across all sectors of the economy.

Especially in the field of banking maritime financing, Chinese banks have been able to make their presence felt by trying to cover part of the lack of funds that has been witnessed by the reluctance of other traditional maritime banks to perform maritime risk.

Active Chinese banks in maritime finance are the China Development Bank (CDB), the Industrial and Commercial Bank of China (ICBC), the Bank of China (BoC), the Export Import Bank of China (EXIM), the China Construction Bank, the Bank of Bank of Communications (CCB) and the China Merchant Bank.

Apart from the traditional modes of maritime financing, other forms of leasing have also developed. ICBC, China Construction Bank, China Development Bank, China Merchant Bank, Bank of Communications and Min Sheng Bank enter into ownership through the establishment of leasing companies.

In addition, major banking groups have already begun to study and look for opportunities in the capital markets. The revision of the Shanghai Stock Exchange regulations will facilitate the entry of foreign shipping companies there and will help banks to develop their shipping investment analysis and management departments.

It should be emphasized that not all foreign shipowners are easily accessible. Currently only larger names can access. The purchase of second-hand ships by a foreign owner is not yet funded. A key prerequisite is the construction of a new ship in Chinese shipyards while other elements such as Chinese freight, Chinese classification society etc. are omitted. Most banks offering shipping loans to foreign shipowners require credit lending costs.

The Chinese banks have emerged as key allies of at least Greek shipping, which continue to finance, on favorable terms, the construction of new ships of Greek interest in Chinese shipyards. The presence of Chinese banks in the maritime finance sector has been strengthened in recent years by the weakness of European banks, which have been a major contributor to the Greek and international shipping industry. Chinese banks have one more reason to expand in maritime financing: China is the world's first shipbuilding company, with orders totaling 2,876 ships (data for September 2011), or 44% of ships built worldwide. With regard to the financing of Greek commercial shipping by Chinese banks, the key tool is the $ 8-10 billion Greek Shipping Support Fund set up by the Chinese to finance Greek shipbuilding orders at competitive rates and conditions. Leasing financing is also playing an important role, with ICBC Leasing focusing primarily on the support of the major Greek shipping companies. Note that while the banks are in liquidity, the Chinese banks are "losing" in the speed of implementation of the agreements. The maximum lending time for Western banks is just two months, with Chinese exceeding 6 and up to 9 months. The lack of experience and the many work done by Chinese banking institutions are the main causes of the delays.

Through some researches we examine the financial importance of the Merchant Marine Fund, a subsidy scheme for Brazilian shipping and shipbuilding companies. The analysis shows that the effectiveness of the ship financing system in reducing the capital costs of Brazilian shipping companies is not significant (see Pires et al. (2005)). In another study the writer discusses the use of Eurodollars as a potential source of funding for shipping companies amid depressing market conditions in the mid-1970s.19 Given the fact that freight rates are paid mainly in US dollars, the author argues is a favorable source of funding for shipping companies seeking to reduce their exposure to foreign exchange risk (see Yolland (1979)). One more research discusses the pros and cons of renting ships. The author argues that leasing ships can share the risk of shipping companies between the parties. In addition, landlords can benefit from tax breaks by maintaining the company's working capital and larger repayment structures than other sources of funding. In addition, the maintenance of working capital is possible as the lessee's shipping company is not required to incur capital expenditure for the acquisition of a ship (see Li (2006)).

3.4 WHAT IS THE MOST COMMON WAY OF FINANCING THOUGH?

Due to the global economic downturn coupled with the oversupply of ships and the decline in commercial demand due to lack of liquidity, we are headed into a new era where the traditional shipping financing, which is bank financing, will be significantly reduced or even discontinued. Therefore, companies are forced to find new resources to implement their plans.

There is no ideal way of alternative financing, as each company, depending on its needs, determines the strategy to follow and hence the financing methods to choose. Leasing and bond issuance are the most popular alternatives. Bonds, however, are now an option only for large and well-known shipping companies, but they involve a high interest rate. A modern trend for the growth of shipping companies is to raise capital from the stock markets. The globalization of markets has met the need to diversify investor risk. Capital markets, through stock exchanges, are the appropriate intermediary for low cost financing. The attractiveness of the capital market system lies in the way information is disseminated. Information, at the same time, is the essential and essential component of fair pricing of assets, but also of market transparency.

In addition, in recent years several companies have entered into loan agreements with Chinese banks bypassing high interest rates and time-consuming procedures. In this way they have found a solution to liquidity issues.

3.5 PROBLEMATIC LOANS & BASIC CAUSES OF FAILING SHIPPING LOANS

Non-performing loans are not uncommon in the shipping market. (Vandoros Dimitris) They arise from the inability of the shipowners to repay the installments, as well as the inability to meet other requirements of the banks, such as the security of the ships and the provision of certain documents. The causes of this phenomenon vary. Market conditions, the obligations of the company, but also the disputes within it, imply the reduction of the liquidity of the company.

For the above reasons, several banks withdrew from the shipping market during the crisis period in the mid-1990s. Although legally, under the loan agreement, the bank has the possibility from the first day of delay in the payment of the loan installment to characterize a loan as problematic, this rarely happens, because a delay in payment of the rent may lead to inability to repay the loan. installment of the loan. However, in case of inability to pay an installment (after 3 months), the bank enters into an agreement with the shipowner, usually maintaining the loan agreement, starting a new round of negotiations with the shipowner. The redefinition of the terms of the loan helps to ensure its repayment, certainly in those cases where the shipowner has successfully cooperated with the bank again in the past. In this way, the validity of the loan is extended for a longer period of time and the shipowner pays only when in the short term he is given the opportunity to repay the loan at a later stage with the advent of the Balloon. Only in very exceptional cases does the bank choose to take the ship itself, take over its management or sell it, in cases where, based on the power it has through the maritime mortgage, it can do so, to one of its existing customers.

Key causes of failed loans in shipping. (William, A. 2007)

1. The shipping crisis, and consequently the shipping cycle, has the potential to affect both large and small shipping companies financially. Regardless of this, the Banks concluded that small and medium-sized shipping companies are experiencing greater financial difficulty in a recession than large ones. Indeed, large shipping companies have the opportunity through cross-financing to "finance" the crisis, to cover the losses of some loss-making ships and at the same time have the necessary working capital for their entire fleet. In this case it is expected that one part of the fleet will have losses, another part will have moderate gains, and another will have satisfactory gains. Also, in times of recession, ships whose management has had a positive effect can help others who have had a declining course. In addition, high reserves from previous years' earnings are also likely to help the situation. This capability is limited to small shipping, as is logical.
2. The relationship between equity and foreign capital was wrong. As we know, the relationship between equity and foreign capital in shipping financing is a very basic condition and special emphasis should be given to it. This is because large equity (over 50%) attracts the most attention to management by the shipowner and makes the loan obligations lighter. Finally, it makes repayment more likely and profit margins higher. However, the possibility of large equity may depend on the existence of any reserves of the company, with the narrow or wide capital base, the amount of required investment capital, whether it is the first shipping effort and other factors.
3. A large proportion of "bad" funding was found proportionally on ships aged 12 and over. On the part of the banks, of course, there is no particular interest in the relationship between ship age and residual value, because the bank can seize the ship that does not pay its loan, sell it and thus repay the loan. But in this case age can play an important role, because the older ship may have less value than a younger type of the same type.
4. Insufficient working capital was observed in the failed loans of the period 1981-1987. Working capital is also an important factor in leveraging a shipping loan and it makes sense for it to be greatly reduced during a recession. The control over the existence of working capital does not exist in the shipping financing controls and is something that should be integrated at some point in the shipping projects. An attempt to strengthen this idea in cash flow is the so-called sufficient margin, after the payment of installments and interest.
5. Ineffective financial control and poor financial management.
6. Shipowners with serious financial problems did not leave the bad market in time, as a result of which they suffered bad consequences. Entry-exit time from a market is a well-paid ability of shipowner / manager.

Based on the above, we conclude that the problem loans that appeared due to the crisis of the period 1981-1987, were due to the fact that the banks found shipowners who needed cash, because their fleets were small and their ships were old, their share capital were small or zero and taking advantage of their situation charged them relatively high spreads. With this approach of the bank the proposal became tempting and they took out a loan. These loans showed little resistance to the crisis as expected.

Thus, it becomes clear that it is not enough to know only the techniques of financing shipping companies, but one should also consider the following factors. The shipping cycle and the good timing (decision making) of shipping investments, the methods of choosing shipping investments and lastly the general and specific economic environment of the shipping company.

3.6 RISK AND SHIPPING FINANCING

It is generally accepted that the concept of risk can be defined in a variety of ways. The risk stems from the climate of uncertainty in an environment, either from the feeling of the possibility of loss, or arises from the difference between what is expected from the final actual result. At the same time, risk refers to the probability of an event occurring that will have an impact on corporate objectives. The risk in companies is categorized into strategic, business and financial risk.

Focusing on financing through bank lending, we distinguish the following risks to which a bank is exposed. Such risks are the credit risk, i.e. the case of default of the borrower's obligations to the lender and the interest rate risk, which refers to the volatility of a bank's profits due to interest rate fluctuations. Also, we observe the foreign exchange risk arising from changes in the exchange rates of the currencies in which credit institutions have invested or borrowed and the liquidity risk, where there is a lack of liquidity when mass withdrawals are made at the bank or when depositors decide to raise all their funds. Lastly, we have the solvency risk, a situation in which the bank is placed when it is unable to meet its needs due to erroneous expected results through lending.

For a company to secure the financing it needs, it is necessary to "convince" investors and lenders that although they are going to be exposed to some risk, it is worth investing their capital in it. By initially checking the company's cash flows they are able to identify the risks for which they should be prepared. In the shipping industry, when we refer to risks, we focus mainly on the following issues.

First, the market risk, which concerns the company's revenues, the level of fares, the course of the shipping cycles as all these affect the company in whether it can serve its obligations. The second one is the operational risk, which includes the technical problems, where they can affect the company's profits, its reputation. The counterparty risk, the extent to which charterers are competent in terms of credit rating undoubtedly affects the relationship and cooperation with the company. The risk of competition, every company to survive must maintain its own competitive advantage and the risk of diversification, diversification reduces the risk if the cycles of the sub-sectors are not directly related and specialization on the contrary increases it. Also, the risk from operating costs and travel costs: the costs of fuel, crew, mooring, repair and insurance usually change, and the company is called upon to face the risk of uncertainty. The ship size and age, new ships have high capital costs, while older ships have lower capital costs but higher operating, repair and regulatory costs. The financial structure, mainly, the way in which the company serves its debt regardless of market conditions and the rescue risk, management skills as well as the difficulty of recovering and operating assets that depend on various factors. Lastly, the management risk, the correlation of the management and the performance of the company with the performance of the industry and the environmental risk, the risk of environmental pollution is significant for unlisted shipping companies.

4 CONCLUSIONS

With the completion of this work, some conclusions can be understood, which concern the shipping industry both in Greece and in the world economy, but also its relationship with financing.

Historically, the shipping industry, from the moment of its existence, has been trying to find external sources of financing. In the 19th century, bank lending was the most popular form of financing, while time chartering financing appeared in 1920. In the post-war period, Greek shipping companies aspired to enter the world shipping market, and they succeeded. In the decades from 1950 to the mid-1970s, Greek shipping flourished, as the level of funding was quite high and orders for new ships were very high. This greed of shipowners led to the crisis of 1980. In the 21st century, Greek shipping stood on its own two feet and reasserted its position in the international market. The crisis of 2009 significantly affected shipping, as there was a huge reduction in bank financing, forcing Greek shipowners to look for alternative forms of financing. This historical background shows that shipowners repeat the same mistakes in times of prosperity. When a favorable season for the shipping industry prevails, with high fares, all shipowners rush to take advantage of this opportunity to their advantage, causing the opposite result, as they upset the balance between supply and demand for tonnage.

Shipping financing is essential for the operation of a shipping company, as the shipping industry sector is capital intensive. The main reasons for shipping investments are fleet expansion, the replacement of a ship and the reconstruction of an existing ship as mentioned above. Achieving the above goals cannot be achieved without additional shipping funding. Despite the global financial crisis of recent years, Greek shipping manages to raise the required funds from domestic and international banking institutions.

The shipping industry has many peculiarities, so shipowners must carefully study the conditions of the shipping market before deciding to make an investment. It is worth noting that the shipping cycle is a common phenomenon, so fares and ship values fluctuate sharply. Shipping companies mainly turn to bank lending in order to raise the required funds and the banks that grant shipping loans in turn, rely on the cash program of the borrowing company, the so-called "cash flow". The main means of securing a loan is the ship itself, which in times of recession is not a sufficient guarantee for the banks. In cases where the financing of a shipping company requires large amounts of capital, syndicated loans are concluded. However, shipping loans carry many risks, the most important of which is credit risk. Shipping was greatly affected by the global financial crisis due to the direct relationship of the shipping industry with trade and the financial system. The recent shipping crisis is mainly due to external factors related to general financial developments.

But what is the ideal way to finance it? The question remains. What has been observed are different preferred ways of financing depending on the prevailing economic situation. The forms of financing that were used in shipping before the onset of the financial crisis are the financial leasing and the issuance of bonds (bond issues), which are gradually declining. In contrast, the forms of financing used after the onset of the financial crisis are mainly institutional investors and private equity in their various forms. These are units of the economy that have very large amounts to invest. Every shipping company according to its needs and plans must devise the strategy it will follow and its best choice is the combination of different ways of financing according to its capabilities in order to achieve its goal, taking into account all the possible factors that may affect it during this period.

Although a lot of data has been analyzed about shipping and the ways of financing it, as well as the correlation of fares, there are things that have been omitted. This was due to a lack of time, but if it existed, additional data such as the presentation of a loan with figures from a regular shipping company would have been included so that it could be better understood how shipping loans are given and if they are preferable to other alternatives. ways of financing. Thus, it can be said that afterwards an extension of this dissertation could be made by presenting a bank loan analysis and its impact on fare fluctuations.

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