# Alternative sources of shipping finance: Private equity funds


Loukas Ioannidis

**UNIVERSITY CENTER OF INTERNATIONAL PROGRAMMES OF STUDIES**
**SCHOOL OF HUMANITIES, SOCIAL SCIENCES AND ECONOMICS**


A thesis submitted for the degree of
***Master of Science (MSc) in Banking and Finance***


15th December 2020
Thessaloniki – Greece

Student Name: Loukas Ioannidis

SID: 1103170006
Supervisor: Prof. Dimitris Gavalas

I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

December 15, 2020
Thessaloniki - Greece

## Abstract

Shipping market was always an intrigue sector for financial analysis and conversation among the years. The way that shipping firms choose to finance their activities and the related investment projects has always been a great area for discussion and debate. The key object of this assignment is to summarize, collect and presume through surveys, research assignments and literature the case of private equity funds that cooperate with shipping companies.
Shipping finance has overall changed through the years regarding the capital structure of the firms with bank lending and shareholders' equity. New methods of finance gave more innovative and improvement solutions for the business until these days according to new capital structure in terms of cost of capital or asset value for the shareholders. We can also include that this new era for shipping finance demonstrates growth prospects that may be followed. There will be a great discussion about the Shipping Cycles, Shipping Finance Cycles and methods. The reasons that shipping firms seek for private equity financing and the purposes of Mezzanine financing.
The main questions that this assignment could satisfy with contentment answers will be: How much the private equity contributes to shipping finance? Why shipping companies prefer private equity financing than other methods? What is the nature of private equity funds in shipping market and their performance?
There will be a great mention on a case study of Star Bulk Carriers. A familiar shipping company with private equity funding. The capture of their strategies and their tactics will be discussed.

Keywords: Shipping Finance, Private Equity, Shipping, Shipping Cycles

Loukas Ioannidis
15/12/2020

## Preface

There is always this admiration and pride of Greek society to the Shipping Industry. We can consider that it is in our DNA this affinity with the sea and the seaborne trade activity in general.
In my bachelor degree in University of the Aegean -Department of Shipping Trade and Transport I set the establishments for a great embrocate to the Shipping Market and Greek Shipping history. A great degree in a milestone of the Greek Economy.
But it was this master thesis and master degree of International Hellenic University-department of Banking and Finance that challenge me to put more effort, to study harder, to create more and more ambitions about my career and eventually to enhance interest in finance and banking sector.
There is no doubt that one of the reasons that I participate in this master's degree was my promptitude to combine my shipping knowledge together with financial sense and extended education of financial instruments and banking culture.
Shipping Finance was part of the elective courses in MSc in Banking and Finance. Instructor of the lecture was prof. Dimitris Gavalas, a respectable and well-contagious professor, with great academic work and banking experience. I must thank him for his undeniable help that he gave me, the patience and the mentoring that offered me the chance to complete this research.
Finally, I would like to dedicate this dissertation to my family for their support and comfort.

## Contents

## Introduction

Shipping market as an international industrial sector is responsible for the 90% of the world's trade. This multiethnic industry is responsible for the trade transactions of import and export of food industry, manufactured goods, raw and liquid materials.
This activity of trading by the sea is called seaborne and it could be fluctuated by the developments in world shipping, such as the fleets capacity, cargo carried and routes, as also technological innovation in ships. Seaborne trade and shipping market continue to expand, distributing benefits for consumers around the world and for competitive freight costs, as shipping transportation has a continuously growing efficiency and even an increased economic growth. It can be considered that there are over 50.000 commercial trade ships operating internationally, transporting every kind of cargo. The world fleet is registered in over 150 nations and managed by over a million employees with vary nationality.
The shipping industry can be easily understood by the developments in world shipping, such as the fleets capacity, cargo carried and routes, as also technological innovation in vessels. Vessels are technically sophisticated, high value assets that can cost over 200 USD million to build and the operation of these vessels generates an estimated annual income of over half a trillion US Dollars in freight rates.
Among the past decades there are also great changes in the shipping markets by focusing on the division of liner and tramp shipping. Between the greatest countries that the top of the shipowners came from, Japan, Great Britain, Norway and Greek, can be found extremely common financial strategies and organization of capital structure.
In the latest years and after the economic crisis, it has been observed that lot of shipping companies choose to raise capital for investment and finance decisions through their equity. Equity can be increased and allocate assets for investment mostly when private equity funds choose to be involved as the shipping market is an area with various applications and strategies. The private equity market, is a significant cornerstone for the new trends of modern economy and there are a lot to discuss. Comparing the private equity funds with the shipping industry and the whole market can drive us to significant results.
Shipping market was ready to encounter lack of capital and the private equity funding turned to be an attractive subsidiary option. In this research we will analyze how the private equity sector involved in the financing of the shipping firms as an alternative source, how private equity financing changes the balance of financing in shipping industry.

## Theoretical Part

In this part we will analyze every crinkle of the shipping market, the shipping cycles and how these are affecting the capital growth of shipping firms and the main objectives that firms try to satisfy when they seeking for finance. An analytical statement of the private equity sector will follow, with extended mention to the cooperation and corporation of public equity funds and shipping firms.

### *2.1 The shipping market*

The In the earliest age, the freight market has been outlined in terms of supply and demand, as the shipping market has focused upon these economic commission. Demurred, regarding size, cargo vessels plied the sea on confined budgets, rummage profits on any cargoes they could secure, they developed principles of shipping, upon which great part of the economics of shipping are based.
Shipping industry is a unique market but also similar to the other market's structure, where commodities are offered and purchased. Key figures for the market are the supply of service being offered, the type of the product, the number of the operators, the impediments to entry or exit a port or a nation and the number of the costumers demanding the service.
Shipping services are provided by the shipping market with four closely related markets. Although these markets are trading in different commodities and despite the fact that the segments vary regarding character and purpose, shipping services compete for cargo and they all operate within the four markets of shipping. It is worth to be mentioned that the best commercial opportunities often give arise when the markets behave with inconsistency.
Shipping market can be divided into four markets:

*The Newbuilding market*: The ships that will be ordered to build. The new building market brings new ships into the shipping industry and turns to cash out of the market as materials, labor and profit. The newbuilding market is trading ships that are not yet built, start to create from the bottom, in other words the ship's keel may have been laid. Hence, once a ship is ordered, it will take up to four years to get ready for its sea trials. By this time the entire market conditions may have been changed. It is therefore important to have good prediction of the future trends and market demands before ordering. Reasons for a buyer to choose to order a new vessel instead of buying a pre-owned one can vary between the trends of the market and its behavior, but in most cases, it depends on the prices and owner's decisions and management criteria.

*The Freight market*: The sectors that are being chartered for transportation. The freight market is seen as one single international market divided into sub markets for different types of vessels. According to Stopford (2009), there are two different types of transactions in the freight market:

- The freight contract where the shipper buys transportation from ship-owners at a fixed price per ton of cargo.
- Time charter where the ship is hired on a day-to-day basis.

Depending on which sector the shipowner and cargo holder meet in, there are different types of contractual agreements used when "sealing the deal". How the costs and responsibilities are shared between the shipowner and shipper will settle the type of contact to be used.
The vessel is customed after all the formalities of type of contract terms and when the freight rate is agreed between the two parties, it is ready to operate. The procedure is quite a matter of fact, mostly between three parties, a ship-owner has a vessel for hire, a charterer has a cargo to transport and a broker puts the deal together.

*Sale and purchase market*: Ships that are being sold to other ship-owners. The remarkable key feature of this market is that the second-hand ships are traded like an asset, in large amounts and frequently at a country market. The participants are a mix of shippers, shipping companies and speculators or investors related with shipping market or individuals. We can say that trading for this case is part of the shipbrokers which can play an important role in dealing with transactions. Trade is between the ship owner and an investor who usually is another ship owner so the cash does not leave this market and therefore from the industry. Ships may be for sale because they are too old or do not comply with industry's regulations, or the owner may be cash strapped or has decided to change company's portfolio. Ship prices are very volatile, and the value depends on the freight rates, age, inflation and cash flow expectations.

*The demolition or scrap market*: The market where ships are going to be sold for scrap. It is the recycling market of the shipping industry. This market can be compared to the sale and purchase market, but the difference here is that the buyer is a demolition yard and not a shipowner. When a ship-owner is no longer able to sell a ship in times where there is neither apparently purchase or the vessel is too old to operate according to the regulations, they will turn it to the demolition market. According to Stopford (2009), demolition or scrab market is a less glamorous market, however an essential part of the entire industry as it offers liquidity by recycling the ship and more specific the steel that has been made, priced per tonnage. This market is an important source of cash in a recession and also a key figure to take under account in order to keep balance between supply and demand.
These four markets are seen to be closely correlated, since the activities in each of these markets heavily affect the total shipping market. These four markets work together linked by cash flow. Outside of these four markets are additional closely related markets, like the brokers, financing, insurance, law firms of legislation, port authorities freight forwarders and etc. This fact describes the profile of the entire shipping industry, a figure of complexity, where every party is important for the entire shipping industry, since they are affecting one and another, so as to work closely to each other. Even though each subsidiary market trade in a different commodity, we find the same shipowners trading in all four, commonly and their activities are closely correlated. They all respond to cycles in trade and as shipping companies trade in all four markets, the cash flows in and out of the market is what drives the shipping market cycle.

### *2.2 Shipping Cycles*

The four markets drive the shipping market cycle. It is crucial to encounter, to analyze and take under consideration the value of the shipping cycles, as also to understand and interpret them correctly in order to run a successful business in shipping industry. Both on public and private sectors, managers must evaluate the volatility of the freight rates in a shipping cycle.

According to Stopford (2019) there are three different components of economic cycles:

*Seasonal Cycles:* They are the cycles that came up frequently. Seasonal cycles indicate fluctuations in freight rates within a year due to response to seasonal patterns of demand for seaborne transportations. An example of traded freight on seasonal pattern can be considered food supplies, which due to their seasonality of their production, they can defer of readiness and supply from month to month, ready to transported.

*Long term cycles*: These are the major cycles with duration between 40 to 60 years approximately. They can be characterized by the fluctuations that can be detected in large scales over the years. They can be affected by the technological, economic and regional changes due to this great seasonality.  These are also, medium to long term cycles with duration 20 to 24 years. They have two major phases, builds up and correction, providing and analyzing figures about how supply meets demand in shipping market by the entry or withdraw of shipping companies.

*Short term cycles*: In case of short-term cycles, these cycles correspond to over a year duration and many times duration defers from 4 to 7 years. They are the most important cycles to analyze, as they provide an insight perspective of the dynamic and the trends of shipping market. Short term cycles bearing four stages in which interpret the movements of the market. They usually called as phases of short-term cyclicality, worth to be analyzed and observed. These phases are: the market trough, the market recovery, the market peak and the collapse of the market.

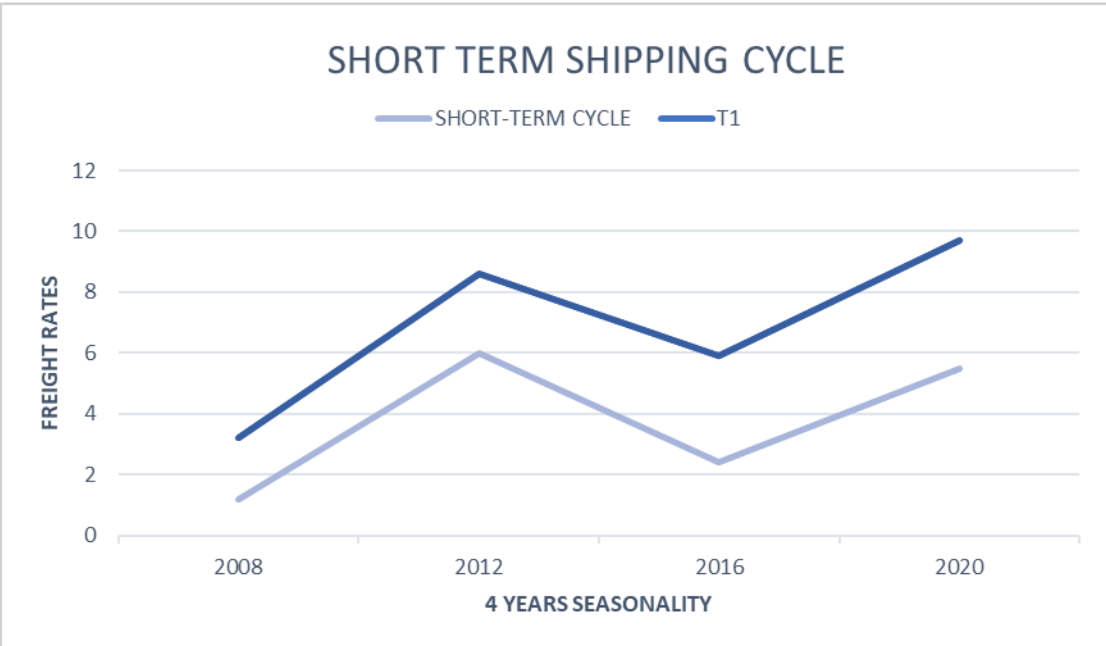


Table 1 – Shipping Short Term Cycle's fluctuations- Source: Stopford (2009)

As the freight rates in the beginning of the short-term shipping cycle begins to raise, the cash will flow into the shipping industry. The supply and demand initiate to budge alongside and shipping market indicate its efficiency, typifying this stage as upswing. This occurs to higher prices for second-hand ships that are ready to be sold, most of them to be scrapped.
According to the cycle, freight rates continue to rise and demand overtake the supply of vessels. Freight rates are extremely high, directing investors to the newbuilding market and initiate orders of new vessels to be build. This is the expansion stage. When ship-owners have ordered sufficient number of new vessels, the cycle is usually at its peak and the process starts to revert. At this second stage, ship-owners are more jocund in new investments.
Thereafter, freight rates initiate to decline, reaching sometimes a price close to operation charges. Leading to less cash inflows occur a negative impact on ship-owners who mitigate new investments, called contraction stage. If they do not obtain enough liquidity to offer, they can benefit and be advantageous by selling their ships on the second-hand market for scraps.
In the downswing stage, there are enough new ships supplied in the market for low prices, overtaking demand. As a consequence, there will be no offers for maintaining vessels and orders of new vessels started to deliver. Then ship-owners are looking to turn them for scrapping in the demolition market. As more ships are scrapped, the supply of ships will go down and freight rates will repeat they cyclicality and once again start to rise. Then shipping market cycle will start from the beginning.
Shipping industry can be described as a cyclical, seasonal and volatile business. Global economic conditions, market trends and political developments affect the demand part of the industry, while the vessels dimensions and global fleet availability, affect the supply side. There are imbalances that may occur between demand and supply that affect asset values, freight rates and earnings. Shipping market cycles object to remove the weak factors, snapping out only the strongest to survive and grow. In a long-term, this action will create an efficient and competitive shipping business (Stopford, 2009). Economists like Faye (1933), supported that shipping cycle starts with a shortage of ships. The increase in the freight rates impel to overordering of new vessels by the ship-owners. At the end, this leads to market's collapse and a protracted tumble. The shipping cycle is a mechanism to balance the supply and demand for vessels. If immoderate demand exists, the market rewards investors with high freight rates. These freight rates keep on increasing until more ships are built and turn to be available for transportation. If there is excessive supply, the market reduces the revenue with low freight rates until ships are scrapped.

### *2.3 Shipping Finance*

Shipping finance decisions are very crucial decisions as shipping industry considered as a capital-intensive market with high risk. Shipping companies are willing to wide their finance decisions in order to expand their businesses, to enlarge their fleet and become more competitive. On the other hand, financial institutions are seeking to understand the market and become more careful in their investment decisions. Shipping industry involves the clue of uncertainty as there are plural of legislation and regulations. As a worldwide market, political events, global economy indicators and financial markets can affect the size and type of the financing decisions. Shipping finance occurs for shipping companies mostly on two ways, the option of financing through Debt Capital and the option of Private Equity. In general shipping finance is connected with shipping cycles and business cycles.

If we consider that shipping market is a borne worldwide market with no borders, there are mutual international and not national factors. At the beginning of the crisis in 2008, banks were the first that face the lack of liquidity and encounter not performing loans.

In this period, the market faced with a decrease in lending availability from the banks, with limited lending and finance instruments. The banks during this period try to decrease their risk exposure and provide lending only in big and stable of cash flows shipping firms. During this period, leverage is limited, the margins for the banks are higher and they impose strict covenants to the clients.

When the shipping market started to improve, the freight rates start to increase and as a consequence higher returns occurred for shipping business. This attractiveness made the banks to increase lending and considered as easy to lend on shipping firms with high asset values, high returns and leverage increase. When the market offers great supply, overcapacity of fleets, then freight rates starts to decrease and market turned back to the recession period. On the other hand, banks continued to offer loans with low interest rates and high principal assets in order to preserve the high returns of the previous period. By the time supply overbear the demand, the market collapsed and shipping companies' performance seems to be overleveraged, converting the shipping market to a collapsed economy. As pricing was increasing and leverage was decreasing, banks stopped lending, offering strictly covenants in order to minimize risks.

As a consequence, bank institutes deliver more conservative agreements, making more conservative terms in loans and finance strategies. In addition, the shipping market affected and global demands growth has turned lower than ever in this period, as shipping market has to face with restrained bank lending and differ trends in supply and demand of vessel capacity.

Hardly times came for shipping industry in the upcoming years of economic crisis as the companies has the obligation to survive through the changes and comparative to the affect that shipping industry cause in the global economy. It has been proved that shipping industry is integral factor of global economy as it gains more than 70% of the global trade in terms of volume that is carried on ships and any trade by the sea transportation methods. In this point it's is worth to be mentioned that after the crisis, trade seekers continued to choose mostly by-the-sea trade systems that enclose lowest cost of transfer, safety and low environmental degradation, as it represents a combine in terms of low cost per cargo transferred ratio.

Cyclicality and volatility are crucial factors that can efficiently describe the unpredictable environment of shipping market. Shipping investment horizon can be defined by unpredictable revenues, high fixed operating expenses and expensive assets (like vessels), additionally large fixed expanses in total that future investors could be influenced, making the attractiveness of potential investment extremely difficult. While capital intensive shipping industry tend to reach its finance utility in

many cases there are low winsomeness to the investors especially in risk-averse and rational investors.
Some important financial cases that an investor should take responsible are:

- As fixed expenses are greater than revenues, there is a certain net loss for a shipping company but only in day to day.
- A shipping company has fixed expenses by two basic components, the operating expenses and the financial expenses. Operating fixed expanses includes essence wages, class fees, insurance expenses and all expenses that cost the vessel on fully operation condition. Financial expenses are more related on shipping market performance as the revenues depend mainly in the whole market. If we consider that operating expenses has been eliminated, then a greater profit could be achieved combine the effective management of financial expenses.

### *2.3.1. Shipping Finance Methods*

Shipping finance can be an adequate and workable function when financial managers works under flexibility and willing to downsize expenses. According to this strategy the cost of invested capital tends to be on low levels, while the cost of the vessel that has been financed through borrowing or invested assets can be also low, creating a safe investment environment in cases of bear market and low performance. There are low interest rates offer in most of the shipping companies about vessel finance which allow shipping companies to operate more efficiently in harsh market conditions.
There is always the clue of uncertainty in the world of business, the risks that may be allocated with and the unpredictable facts that could influence the total market. The shipping market is one of these business as it compares volatility due to the variety of segments in shipping industry. Volatility in shipping market can be influenced by plural factors such as the demand for shipping services, the cyclicality in freight rates and vessel pries and the idiosyncratic profile of the shipping industry. Vessels could be realized as assets for a shipping company following a highly rated financial risk as vessels are intensive capital resource.
Shipping companies mostly advocate in continuously adaption of investment projects that can bear growth and lead to positive returns that exceeds required costs. It is also considerable that in a competitive market such as the shipping market, shipping companies always try to combine an effective management by flexible operations strategy and efficiency and dynamic financial liquidity.
In most of the times, shipping companies can grow their profits by offering more services in freight market, either by funding the expansion of their fleet by building (ordering) new vessels or purchasing second hand vessels, as also by issuing a merger or an acquisition of a company. The way that shipping companies can follow for these strategies are very important due to the fact that it is mandatory to plan a great capital financing and support.
Shipping source of finance can be defined by two mainly approaches:

- Internal financing (self-sustained)
- External financing

*Internal financing*: It is the method where the corporate profitability can support the financing, the retained earnings are sufficient to finance investments projects. As in other markets, a shipping company could declare to distribute the profits as dividends and reinvest these funds for financing potential investments.

*External financing*: By this method, a shipping company realize its needs and seek for financing from the capital markets, available to reach their investment requirements. In this case debt financing can be reached from financial intermediaries such as lending or debt markets by issuing corporate bonds or other financial instruments. Equity markets can also support funding, an investment bank can lend capital to the shipping company by offering loans or private placements, public issues of equity or bonds and many times securitization. Capital markets are primary markets that have a dynamic horizon which could sufficiently support investments that can lead to fund raising and achieve growth for the shipping companies. The functions that capital markets follow in the case of shipping market is firstly to provide the required funds for investment opportunities and to maintain business success. By issuing securities, funds are distributed to the issue company for investments and after that these securities can be offered to the secondary capital market for trading.
The structure of shipping finance consists of three classes. These classes are the senior loan, the mezzanine finance and equity. The capital derives from debt and equity. Additionally, equity investors become shareholders and bearing risk of capital where they bear the risk of losing money when the borrower defaults and the investment turned to be risky. However, if the shipping market perform significantly, the investors expects great returns. Debt can be non-risky capital as lenders require collaterals in case of default. Returns of the investment are fixed and not high compared to equity.
For private equity firms that seeking to invest in shipping companies, participation can be settled through equity or by lending money directly to the companies. When a private equity fund gets involved, it can be considered as an outstanding section, with entire private funds and institutions. Most of the financial institutions, whether they are commercial banks or private organizations or independent private banks, observed to participate in the funding and financing of shipping companies by offering equity. This equity in many times can be provided not only by the ship owners or the shareholders but also from additional private sources and private funds that are seeking to be involved. There are cases where these private equity funds can cover more than the 40% of the loan while the rest commonly covered by lending through commercial banks.

In shipping market industry, shipping companies or shipowners keep on considering from times-to-times alternative sources of shipping finance. As the main methods can be considered with conservatism, in great economy there are always integral methods that can lead to better results.

Preparatory to analyzing the private equity funding and its methods, it is worth to be mentioned the basic elements in shipping loan agreements:

- The standard ship mortgage loan with or without assignment of charter party.
- The fixed interest credit for new buildings vessels with issuer the shipbuilder and the bank as the guarantee part of the deal.

- Borrowing by leasing by bearing a purchase arrangement.

The debt that could be created can initiate its repayment condition by the time the shipping company evacuate enough cash flows that satisfy financial expenses considering to remain in the time period of the requirements. Before the global economy crisis of 2008 many of those private funds did not participated in shipping finance, with this great willingness and capability that they are showing today. This over attractive alternative source that this research tries to decompose, used to be unpreferable, second in priority and without dynamic, but nowadays turned to be developed and evolutionary.

### *2.3.2. Private equity*

Capital funding sources to shipping industry seen to be diverge substantially over time. In general, shipping companies tend to prefer equity markets for funding and source of finance as they offer more flexibility on investing for new shipping projects. Shipping market is a market with highly potential investment opportunities and it is an intrigue market due to the combination of upward tendency in capital, with attractive shipping freight markets which can offer great operating earnings and highly cash liquidity. This attractiveness can be observed not only by the capital markets but also from the private equity funds. Private equity can be considered to have a complementary and independent function for financing in the total sample of equity markets. According to the latest research it has been seen that more and more private equity firms examinate and analyzing new industries to enter and invest, with strong capital liquidity and interest, such as shipping companies.

Among other potential and attractive investment projects, many of the private equity funds prefer and compare to their portfolio shipping companies for funding and invest, due to their international activity and opportunities of growth that shipping market can offer in a worldwide scale of operations.

The role of private equity firms in shipping investments is mainly to advise, enterprise and organize financing. Private equity firms and net worth individuals are partially the most of the investors. Private equity funds came in most of the times from US firms, specialized in portfolio management and high net worth individuals are in most of the cases family groups that cooperate with common friendly shipping companies, a phenomenon sawn in Greece. Their main rate of return lies between the range of 6 to 20% and their maturity can reach 7 years.

The structure of this attractive finance method has its establishments in US finance, UK tax leases by leasing groups, KG and KS finance and high net worth individuals of family groups, mostly seen in Greece. The K/S in Norway and the KG in Germany fund companies are considered critical financing vehicles in shipping business.

Meanwhile, the initial purpose of private equity firms is to support shipping companies to enhance corporate value for enabling funds for investments.

However, there is a highly risk element of investments returns for these funds as the shipping market is in many times volatile.

In the last decade, it has been seen that a growing number of private equity funds keep on investing great funds in shipping companies, mainly in countries such as US and China. The main conclusion considering the upcoming years is that as long as investors interests in shipping stocks of capital markets showing less desirable, the private equity fund can take advantage for new financing opportunities in a very experienced market such as the shipping market.
In shipping market and the shipping companies that this assignment analyzes for, when a company raise new funds from outside investors, they must choose which security is the most preferable. The most common finance is through financing through equity alone or through a combination of debt and equity. Both cases affect the weighted average cost of capital (WACC) and has critical implications for the firm's return on equity (ROE) and risk. The shipping firm could obtain growth and enhance corporate value only in case it undertakes investment projects that produce returns higher than their cost of capital funding. There are moments that a misleading finance decision may occur in many forms of higher direct or indirect costs, such as higher cost of capital, lower stock price and lost growth opportunities. Additional, once an unappropriated finance decision occurred then it is likely for the shipping company to increase probability of bankruptcy, to receive higher agency cost and possible wealth transfers from one group of investors to another.

In shipping market there is actually another well-known phenomenon for private equity firms. These firms used to operate and conduct what are known as leveraged buyouts (LBO'S), as they issue large amounts of debt in order to fund large purchase. Then, private equity firms will try to improve the financial results and prospects of the company in the hope of reselling the company to another firm or cashing out through initial public offering (IPO).
This phenomenon can be analyzed and researched through Mezzanine finance. It is a composite mix of equity and debt financing. Usually, Mezzanine finance can be used to finance the expansion of a company and for a market such as shipping, Mezzanine finance offers an alternative vehicle of finance. It is actually debt capital that gives the lender the rights to convert to an ownership or equity interest in the company, if the loan is not full paid or paid in time. It is a dependable mechanism where debt provided by senior lenders, such as banks and venture capital companies.
Mezzanine finance is commonly provided to the borrower in short time with limited due diligence on the part of the lender. Limited or no collateral will occur for the borrower's side. This method of financing for shipping companies is greatly priced, with the lender setting a return at an estimated range of 20-30%. For private equity funds that seeking to finance shipping firms, Mezzanine finance is beneficiary as it is treated liked equity on a company's balance sheet and as a consequence that could make it more possible for the fund to obtain standard bank lending. Shipping companies have always a well-known profile in the finance market, they can easily demonstrate a track record to potential investors and investment funds, show their profitability history and their investment plan for the business, these factors together are indispensable parts for mezzanine finance.

### 2.4. *Literature review*

The shipping market can be considered as rapidly changing environment and in shipping business there are always the perfect finance instruments and methods that can support funding, induce investments and raise capital. No matter how hard is for the shipping companies to survive from the fluctuations of the global economy, the depreciation and the problems that economic crisis cause after 2008, there are always the same strategy that followed through the decades: In shipping business, companies always seek on getting more and more profits that can lead in an increase of their firm value.

According to Modigliani-Miller theorem regarding the Cost of Capital, Corporation Finance and the Theory of Investment (Modigliani, F. and Merton H. Miller, 1950), a firm's value is unaffected by how that firm is financed, in cases where the firm's market is an efficient market that follows a certain price process-random walk, in the lack of taxes, bankruptcy costs and asymmetric information. This theorem supports the idea that besides the type of finance that the shipping company choose for raising capital, either by issuing stocks or selling debt, even the dividend policy that follows, it is the earning power and the risk of firm's underlying assets that determines its value

The study of Exploring the Cyclical Stance of the Shipping Market: Introducing the Shipping climate tracer (Gavalas and Siriopoulos, 2016) stated that Shipping Cycles can be prolific regarding decision making for shipping business. The assumptions that generated through the study of them can provide standardization for the market freight rate and relieve the financial outflows in conditions of market recession.

When a shipping company deals with low freight rates or oversupply in the market's demand, then private equity funds are come to the fore and seeking for ambitious investment opportunities. According to the study of Siriopoulos and Tsartasaronis (2011), private equity hedge funds will fill the gap when the banks withdraw financing of shipping companies. Private funds and investors usually have high expectations for returns on their investments and a time horizon of 4 to 7 years. Private equity funds have brought a more institutionalized approach to invest in, under a specific demonstration of the market capability and flexible time limits.

As Markowitz H. (1952) mentioned in Markowitz's Modern Portfolio theory, investments can vary, there is no such a secure investment but investments that can offer great returns with low exposure to risks. Diversification applies identically in investments such as in shipping. Investors are seeking for an increasingly rate of the expected returns, they can get information from existing investors about the risks that they can bear in shipping market and rely on financial analysis in order to set an agreement.

By recapitulate this literature review, a plead of studies, articles and thesis have been investigated. Remarkably perspectives have been selected and represented in order to report the most prevailed opinions regarding the contribution of private equity in the shipping market and the finance of shipping companies.

## 3. Case study of Star Bulk Carriers Corp.

Significant part on this dissertation will be the analysis of the case study of Star Bulk. It can be concerned as one of the biggest shipping companies in the world regarding the dry bulk market. The way that one of the most significant private investment funds of US, Oaktree, frame it financially is considerable. Initially, references to the special features of the company, data and methodology and lastly the empirical results of the analysis will follow.

### *3.1 The entity*

Star Bulk Carriers corporation is the company that analyzed in the case study. More extensive historical reviews and highlights of company's structure, business and accomplishments will be analyzed bellow.

### *3.2. Profile and History*

Star Bulk's vessels transport major bulks products, including iron, grain, coal, fertilizers, products of steel, minor bulks such as bauxite etc. Established in December 2006 in Marshal islands and maintaining executive offices in Athens, Limassol, Singapore, Oslo, New York and Geneva. It is owned by a Greek shipowner and his family, Petros Pappas and the way that the company managed business clauses and growth opportunities is sustainable.
Moreover, Star Bulk Carriers Corporation is a listed company of Nasdaq Global Select Market since December 2005 with the name SBLK. The company is also listed in Oslo Norwegian Stock Market.
Company's fleet of 116 vessels can be diversified to Supramax, Ultramax and Panamax vessels, Newcastlemax, Kamsarmax, Capesize, Post Panamax size, with aggregate capacity of more than 12,8 million DWT on fully deliver basis in terms of announced sales and purchases of vessels regarding company's information and carrying capacities between 52,247 and 209,537 DWT.

### *3.3. Strategy*

Aim of the company is to provide the best solutions regarding the transport and transshipment of dry bulk cargo with operative services provided all over the world, in the most commercial and biggest ports. By this term, company's strategy refers to the cost efficiency transportation with high quality services. A key strategy is to serve its customers worldwide in multiple trade routes and carrying a wide range of dry bulk products, using a moderate and adaptive strategy of employing in portion of the fleet on longer chartered vessels as the rest of them distributed on short period charters and on spot. Due to company's great experience through the years, they seek to optimize the deployment of the fleet in case of geographical parameters and timing wise. The company's subsidiaries that are located in Athens and in Cyprus with the name Star Bulk Shipping Agencies are the ones that functioning the company in terms of technical operations, allowing the company to be advantageous of synergies and economies of scale. This integrated structure gives Star Bulk the opportunity to

manage operating costs and corporate effectively. After all these great years of experience together with the exceptional management, made the company a well trusted agency with long term relationships with its customers that the company is looking forward to nerve contiguous.
Star Bulk as a contemporary company, following the new environmental regulations, objects to ensure maritime safety standards through its high-quality operations and obedience with the limits on sulphury oxides and emission control.
A cornerstone strategy of the company can be also considered the exploitation of business scopes such as acquisitions which are very attractive for new investors and reliable for its shareholders, maintaining good relations.

### *3.4. Milestones*

In this part and regarding the scope of this assignment, how a private equity fund could be involved financially through funding a shipping company, it is worth to be referred to the profile of Oaktree Capital. A US based company with alternative and pioneer portfolio of investments, Oaktree capital is an asset management firm and one of the largest credit investors in the world. Oaktree's portfolio can be diversified to distressed securities and debt, corporate debt with high yield debt and loans. Strategy of this sustainable private fund could be described as opportunistic, seeking for occasions that offer a safety margin and that are risk-controlled private equity investments.
As we mentioned before, private equity funds and their investors usually have high expectations for returns on their investments and a time horizon of 4 to 7 years, as they brought a more institutionalized approach to invest in with flexible time limits.

Bellow the key milestones that turn the Star Bulk with the association with Oaktree Capital one of the top shipping companies in dry bulk shipping market:

*In August 2013*: Oaktree capital announced the very first purchase of 18.61 ownership stake of Star Bulk Carriers with 3.865.888 shares of the Nasdaq Global Select Market listed company. The offer agreed to 75 million USD with offering price per share up to 5.3 USD and the agreement approved as a backstopped equity rights offering that allowed Star Bulk to rise equity capital.
*In June 2014*: Star Buk initiates the procedures for acquiring the Oceanbulk Shipping LLC and Oceanbulk Carriers LLC in an all-stock deal. This acquisition made Star Bulk the largest US-listed dry bulk shipping company. In this period the dry bulk shipping market recovered from a downturn and the balance of the freight rates was ahead as the demand for dry bulk products started to grow rapidly, especially in Asian market. By issuing 54.104 million new shares, the company bought Oceanbulk and the value of this acquisition was nearly to 653 million USD. Star Bulk also benefits by scrapping older vessels. These newly issued shares obtained later by Oaktree capital management and Star Bulk's owner Petros Pappas, dividing company's capital structure to 61.3% owned by Oaktree capital and 12.5% to the shipowner. The fleet expanded to 15 more vessels from Oceanbulk and the acquisition of contracts for orders of building 26 new vessels, all of them fuel-efficient eco design, ready to be delivered until 2016.

*In August 2014*: Later this year and after this acquisition that “axed the seas”, Star Bulk and its chief executive shipowner Petros Pappas, together with Oaktree capital, acquired one more shipping company, Excel Maritime Carriers. A fleet of 69 vessels expended and benefit by acquiring 34 more vessels from Excel Maritime Carriers. Both of these companies are owned by Oaktree capital regarding this deal, but the way that this accomplishment financed is observableness.

According to Naftemporiki *( 20th August, 2014 - Star Bulk creates a ship-Colossus*), the purchase of the vessels financed through issuing 29.917 million shares and 288.39 million USD in cash by Star Bulk. These assets financed from Oaktree capital and another private equity fund, Angelo Gordon & Co, through credit. Moreover, the acquisition of Excel Maritime’s vessels was valued by three independents estimators to 634,9 million USD. Star Bulk dominates its position to dry bulk market as one of the top companies and its market capitalization raised from 1.09 billion USD to 1.49 billion USD with price per share to 13,12 USD. Oaktree capital after this acquisition owned the 57,3% of Star Bulk.

*In September 2017*: The shipping market of dry bulk cargo was entering a period of balance as the years 2015, 2016 and half-year of 2017 was a period of extremely recession. This crisis caused due to the low freight rates that are not capable to fulfilled operation costs. Most of the companies of the market announced losses in terms of millions USD and many of the smaller dry bulk shipping firms turned to be collapsed or bankrupted. Since June 2017, the market illustrates its recovery trend.

*In May 2018*: Star Bulk announced the acquisition of the Norwegian shipping company specified in dry bulk seaborne Sogna Bulk by issuing 13725 new shares and 145 million USD in cash. The finance of this investment came after the leasing deal with the Chinese firm China Merchants Bank Leasing. In this deal it is also agreed the acquisition of 15 innovative new ships of Sogna Bulk and afterwards to initiates public offering of shares of Star Bulk in Oslo’s Stock Market. Star Bulk also compares managers and executives of Sogna Bulk to its corporate team in order to obtain more experience. In the meantime, 3 new vessels from Ocean Bulk that are pre ordered to build, was ready to delivered and together with the acquisition of Sogna Bulks’ fleet, increased company’s fleet to 108 vessels.

*In June 2018*: Oaktree capital sold part of its stake in Star Bulk in a discount of its share prices. More specific, Oaktree Capital Management LP issued secondary public offering of 5 million shares in price of 13,10 USD per share, as a consequence the stake of Oaktree capital minimized from 50.8% of shares to 43%. This occurs to the decrease of Star Bulk Carriers Corp to -1.41%.

*In April 2019*: Despite the recession of the market in the previous years and together with this expanding strategy of Star Bulk regarding company’s fleet and its youth age of the vessels, increase the value of its assets (vessels). In general, this acquisitions that followed until 2019 from Star Bulk and Oaktree capital management, upgrade the value of company’s fleet from 1.9 billion USD to 1.28 billion USD.

*In May 2019*: Star Bulk continued this acquire strategy, completing a deal with Delphin Shipping by acquiring 11 more vessels of dry bulk carriers. Delphin Shipping was a subsidiary company of Kelso and Company and the deal closed to 139,5 million USD. This deal was a common purchase method for Star Bulk like the previous, issuing 4.503 million shares of the company and 80 million USD in cash. In addition, Kelso and Company obtained the 4,6% of the stake of Star Bulk shares.

In January 2020: Oaktree capital management took advantage of its large owned stake and proceed by placing one of the managers to Star Bulk board of directors. The fund that is the biggest shareholder of the company by 40.2% of shares, illustrate its private equity fund policy by willing to control the management of its investment and setting 3 out of 10 executives in board of directors.

### *3.5. Data and Methodology*

This case study applies to the analysis of two main parts. Firstly, we will concentrate to the ratio analysis of Star Bulk shipping firm, specialized in dry bulk market, for the last six years from 2014 to 2019. The ratio analysis responds to company's profitability, efficiency, liquidity and leverage. At the second part, this research intends to analyze how the finance through a private equity firm can be beneficiary for the investors through investment and valuation ratios.

The data that have been collected and interpret to ratios and time series analysis, deducted from the annual reports of Star Bulk Carriers Corporation. From year 2014 to 2019 shipping market faced with extremely risks and challenges of the market. However, the way that Oaktree capital finance and participated in Star Bulk's board of directions decisions and investments, is undeniable, important and efficiently.

Through profitability ratios a company indicates the amount of the assets and equity that turned to be company's profit. There are two types of profitability ratios, those are the rate of returns and margin rate. For the purpose of this research, the Return on Assets (ROA) that are referring to derivation of revenue occurred by company's assets and Return on Equity (ROE) that are referring to derivation of revenue occurred by its equity, has been selected and analyzed. As for the margin profitability ratios that may concerned, the analysis relies on Margin Earnings Before Interest and Taxes (EBIT) ratio and Net Income. Margin EBIT referred to the profitability of the company, excluding interest rate and taxes.

Moreover, the efficient ratios indicate how effective the company manages its assets and its liabilities. For the purpose of our research three types of efficient ratios have been analyzed. Those are receivables turnover which are the cash that generated through sales, inventory turnover that refers to the efficiency of the company to manage its inventories and payables turnover that referred to the ability of the company to receive payment obligations from the suppliers.

Additionally, the leverage ratio is also an important ratio that indicates company's activity. Leverage ratio indicates the financial management of the company regarding its obligation and responsibility to pay its liabilities. In this research current ratio, quick ratio and net working capital has been deducted for the purpose of the analysis. The ability of the firm to meet the demands of its short-term liabilities illustrated through current ratio, while the quick ratio can illustrate the same but excluding inventories because they own the lowest liquidity in comparison with the rest assets. Current assets excluding current liabilities is the frame that indicates the Net Working Capital and most of the companies seek to cover liabilities through current assets.

In the sections of leverage ratios, there could be concerned the debt ratios as long-term debt to equity and equity multiplier. Long-term debt to equity ratio indicates

what part of the equity is capable to cover the long-term debt. Despite this, equity multiplier indicates the total assets with debt included over the total equity.
As already be mentioned, the way that Oaktree capital private fund finance through equity the investments that Star Bulk accomplished, is spectacular. For this reason, valuation ratios have been analyzed for examinate if Star Bulk is a worth investment. Valuation ratios is one of the most precisely investment ratio if we can consider from investor's perspective. It can be calculated through Earnings per Share outstanding as it is a measure of corporate value and indicates the amount of earnings that the company achieve for each share of its stock. Moreover, valuation ratios can also be calculated through p/e ratios as we can indicate if the share price typifies the projected earnings per share and price to book ratio as it is a measure of company's valuation regarding the total market.

### *3.6. Limitations*

The analysis of Star Bulk's financial ratios is restricted and inference that followed about profitability, efficiency, liquidity and leverage are based only on the results from the ratios. The results represent the current condition of the firm and cannot be used for a future comparison. In most of the cases that Oaktree capital finance Star Bulk Carriers Corp., the information came through responsibleness news and tidings of newspapers, most of them issued publicly, making this research empirical but also based on real events.

## 4. Empirical Results

In this section, we will analyze and interpret the evaluation of Star Bulk Carrier's financial performance. In order to achieve this, major financial ratios will be analyzed for highlighting the financial strengths and weaknesses of the company. Such as ratios will be the profitability ratio, efficiency ratio, liquidity ratio and leverage. In correspondence to the finance method through equity offering and how a private fund invests in a shipping company, there will be additionally analysis and evaluation.

### *4.1. Ratio analysis*

As we mentioned, the ratio analysis of Star Bulk has its establishments on four additional ratios, profitability ratio, efficiency, liquidity and leverage. In our case study, we examine how a private fund contributes to the finance of a shipping company. In theoretical part we mentioned that the average lifetime of a private equity offering in a shipping firm through private funds is between 5 to 7 years, for this case we adapt an extensive analysis of Star Bulk's performance through the last 6 years, from 2014 to 2019.

*Profitability*

Profitability ratio includes three additional ratios: Return on Assets (ROA), Return on Equity (ROE) and ratio of Earnings Before Interest and Taxes (EBIT).

ROA: calculated as Net income divided from the Total Assets of the fiscal year.
ROE: calculated as Net Income divided by Shareholders Equity. EBIT Margin calculated as follows: Revenue in total for the fiscal year of the company divided by the EBITDA. Where EBITDA is equal with the sum of Net Profit plus Taxes plus Interest plus Depreciation and Amortization.

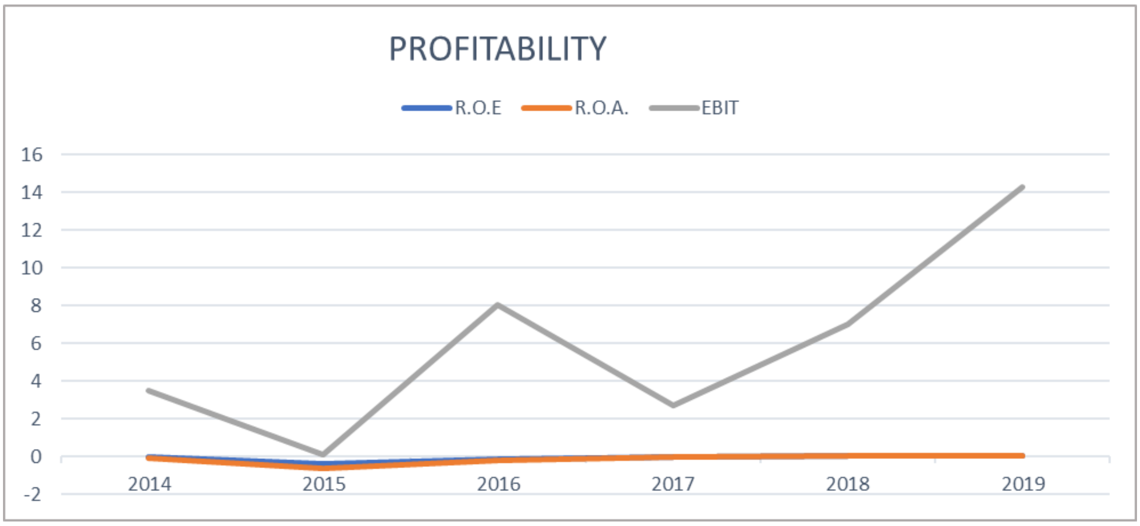


*Figure 2: Profitability Ratios – Source: Author' s calculations*

| PROFITABILITY | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| R.O.E | -0,0101 | -0,4035 | -0,1486 | -0,0089 | 0,0384 | 0,0104 |
| R.O.A. | -0,0568 | -0,2116 | -0,0767 | -0,0045 | 0,0193 | 0,0051 |
| EBIT | 3,582 | 0,701 | 8,257 | 2,732 | 6,943 | 14,287 |

*Table 1: Profitability -Source: Author's calculations*

As we can see from the table, from the year 2014 to 2017 there are negative percentages regarding R.O.E and R.O.A. because these years, the Shipping Market was facing the biggest recession. This crisis features the market with oversupply regarding vessels availability and decreasingly rate of demand and as a consequence, year by the year, the Net Incomes for the company were fluctuated negatively. We can see that ROA and ROE for the year 2014 were close to -0,1%, situation gets worsted for the year 2015 as they keep on decreasing, with 2016 to saw a little retrieval, with ROE -0,148% and ROA -0,076%. In year 2017 the market showed that it starts to recur but also with negative ROE -0,0089% and ROA -0,0045% but limited. The year 2018 was the total rebalanced period for the Shipping Market with the Net Income of the company returned to positive results, ROE to 0,038% and ROA to 0,019%. This continues and remains stable regarding positive percentages for the year 2019.
As far for the EBIT Margin, despite the fact that the company for the year 2014 had high earnings, the year 2015 was, as we told a very critical year for the total market

but as Star Bulk continues to acquire companies of the same sector and their vessels, the services and the operations of the company were increased from year to year. As a consequence, the EBIT Margin highlights this activity and strategy of the company. The rest years EBIT Margin overate 100%, up to 270% for year 2017, 694% for 2018 and 1428% for 2019.

*Efficiency Ratios*

The efficiency of Star Bulk's financial performance illustrates a well efficient company with stable performance from year to year. We obtain three main parameters, as they can be considered the ratios that serve the expenses for the revenues that generated. Efficiency ratios are the return on revenue or the profit that the company generates. These are the Accounts Receivable turnover ratio, Inventory turnover ratio and Accounts payable turnover ratio. Among these, Accounts receivable days, days of inventory, payable days and cash cycle has also been calculated in order to indicate the way that the company manages cash flow and liabilities.
Inventory turnover ratio indicates the velocity of Star Bulk's management to turn inventories into cash and has been calculated as the Cost of Goods Sold divided by the Average Inventory. Accounts Receivables turnover ratio, as well, calculated through Net Income divided by the Average Accounts Receivable and Accounts Payable determined through the Total Supply Purchases divided by the Average Accounts Payable. Every amount has been deducted from consolidated balance sheet of Star Bulk's financial statement and from data that matched with Thomson/ EIKON database.

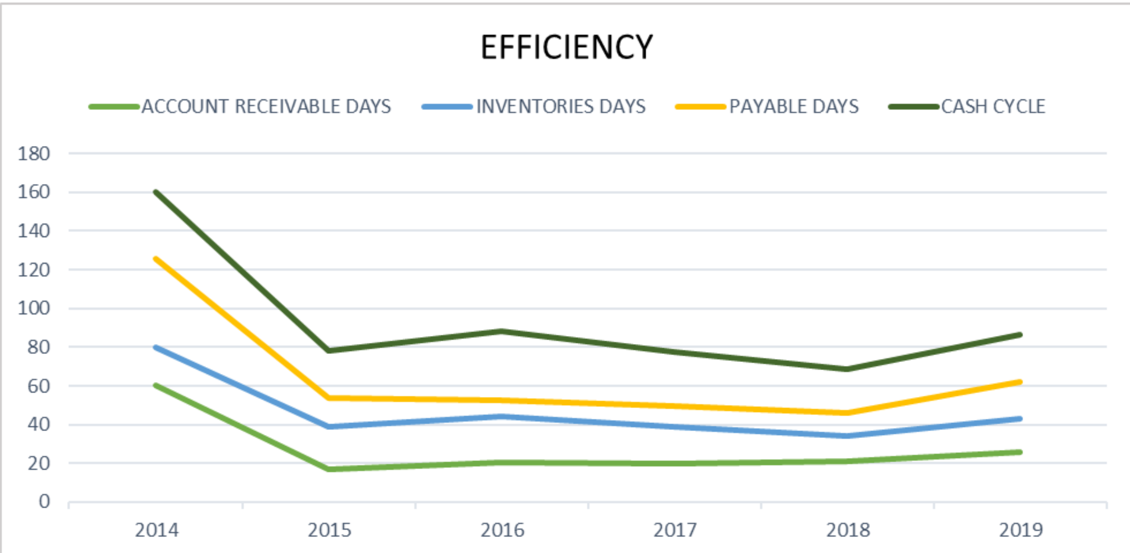


*Figure 3: Efficiency Ratios – Source: Author's calculations*

| EFFICIENCY | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| ACCOUNTS RECEIVABLE TURNOVER RATIO | -0,8383 | -25,701 | -13,147 | -0,628 | 2,072 | -0,345 |
| INVENTORIES TURNOVER RATIO | 10,539 | 13,142 | 18,934 | 21,353 | 22,892 | 16,902 |
| ACCOUNTS PAYABLE TURNOVER RATIO | 12,738 | 16,772 | 30,389 | 44,477 | 42,691 | 26,517 |
| ACCOUNTS RECEIVABLE DAYS | 60,48 | 16,73 | 20,37 | 20,08 | 21,21 | 25,76 |
| INVENTORIES DAYS | 19,65 | 22,29 | 23,64 | 18,62 | 13,1 | 17,46 |
| PAYABLE DAYS | 45,78 | 14,7 | 8,54 | 10,93 | 11,58 | 19,01 |
| CASH CYCLE | 34,35 | 24,32 | 35,47 | 27,77 | 22,73 | 24,21 |

*Table 2: Efficiency -Source: Author's calculations*

Efficiency ratios from the table 2, indicates that the firm needs on average 27 days to collect its receivables from the customers. Despite the initial of this analysis fiscal year of 2016, where the receivable days reached to 60, the rest of the years are stable and on average of 20 days. Actually, this is worth to be mentioned regarding the sustainable relation with the customer's obligations to the company, as it gives the opportunity to the company to control the payments within less than a month. Inventories days also, are suitable and corresponding to receivable days, the company can turn the inventories into cash within 19 days.
Payable days on an average are close to 19 days. This means that the company has a well-established relation with its suppliers, before the expiration of the month, Star Bulk meet its obligations with them. With account receivable days to 60 and payable days to 45, 2014 was a volatile year regarding cash flow for the company but for the rest of the years Star Bulk shows that the liabilities regarding payments is priority and part of a respectful strategy for the company correspondence to its creditors.
The Cash Cycle indicates a crucial fact about how the company turned to be such efficient. Star Bulk needs on average 28 days to convert its investments, services and operations into inventories and income. There is a great balance of management of these cash received, as the company has 20 to 30 days (generally within a month) to sell its inventories, collect receivables and meet its obligations with payments and fees that always be concerned.

*Liquidity*

In the sector of liquidity great assumptions acreage. Liquidity, as the measure where the liquid assets of the company can fulfill its financial obligations, can be described by the examination of the Net Working Capital. Sufficient measure regarding the liquidity is the Current Ratio which refers to the ability of the company to pay its short-term obligations (within a year), taking under account total current assets and total current liabilities of the company. For the same purpose another commonly indicator is the Quick Ratio, which also indicates the ability of the company to pay its short-term obligations, in correspondence to its current assets and excluding the inventories and any additional financing.

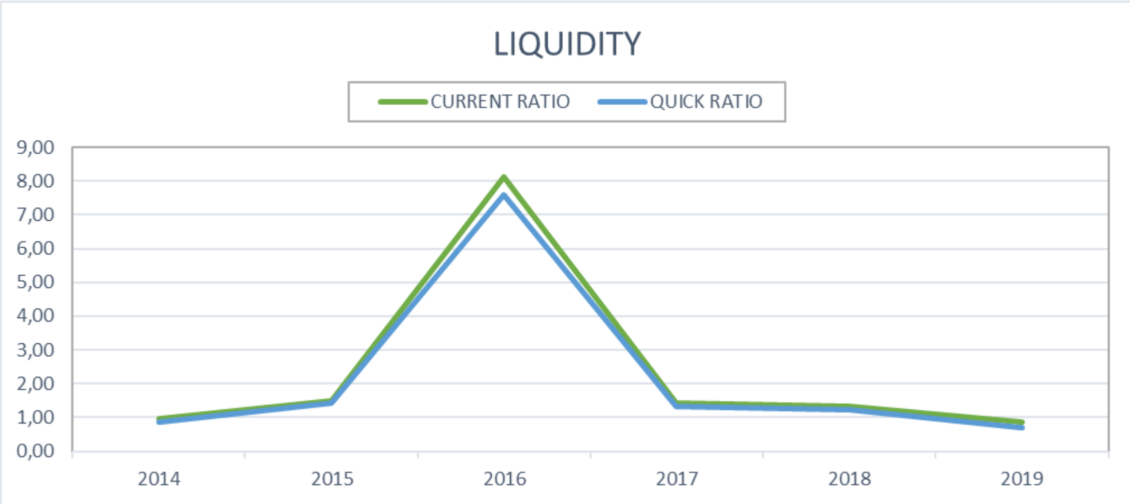


*Figure 4: Liquidity Ratios – Source: Author's calculations*

| LIQUIDITY | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| CURRENT RATIO | 0,958 | 1,509 | 8,124 | 1,425 | 1,341 | 0,855 |
| QUICK RATIO | 0,856 | 1,424 | 7,608 | 1,337 | 1,218 | 0,691 |
| NET WORKING CAPITAL (NWC) | -5768 | 85109 | 200347 | 93352 | 76119 | -44889 |

*Table 3: Liquidity – Source: Author's calculations*

Correspondingly, Quick Ratio and Current Ratio has the same fluctuations and small gap between each volume. The year 2016 was a remarkably year if we consider that Star Bulk's liability of redeeming the contracts that signed from 2014 after acquiring Ocean Bulk Shipping and orders for new vessels were delivered, reached its maturity and made the company the biggest listed Dry Bulk Shipping Firm. Bigger assets (such as expanding current fleet) occur to bigger liabilities and this can be indicated from Current Ratio of 8.12 and Quick Ratio of 7.6. For the rest of these years the Current Ratio has an average rate of 1.22 and the Quick Ratio additionally 1.1. It is a fact that current assets are just above current liabilities but as we mentioned, from 2015 to 2017 the company was facing a market recession and it is observable that Star Bulk confronted and survived from this crisis. Star Bulk managed to meet its obligations through its current assets, without determining inventories as we can see from the Quick Ratio of 1,218 in year 2018. The fact that until 2019 the company continued to acquiring companies and keep on expanding its fleet, illustrates that total current assets did note overtake enough total current liabilities.

*Leverage*

Leverage Ratio indicates how capable is the company to meet its financial obligations. Measurements of the leverage are the Debt-to-Equity ratio and equity multiplier and assumptions will follow in the case where Star Bulk can pay its liabilities through its debt or equity or both.

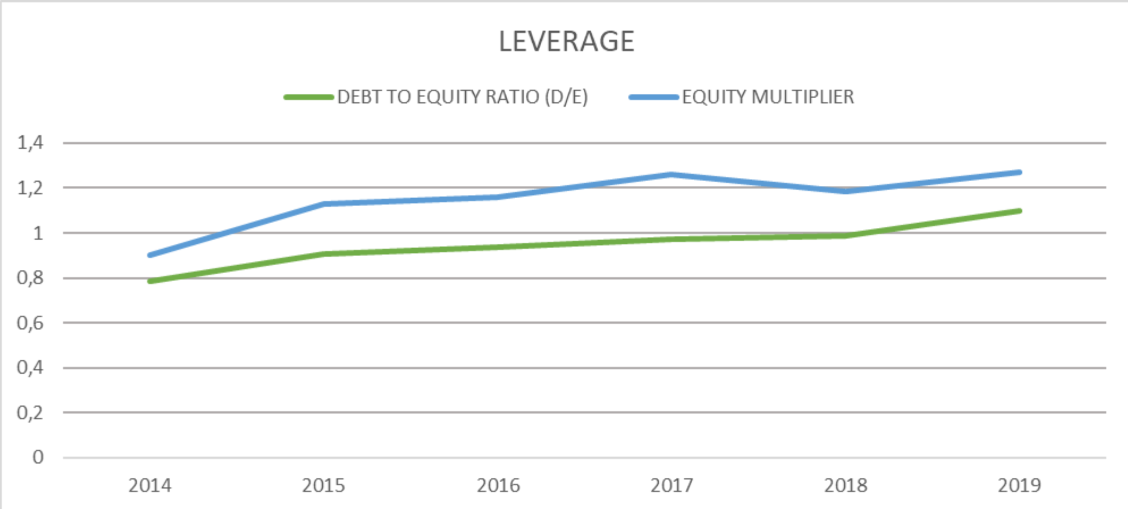


*Figure 5: Leverage Ratios -Source: Author's Calculations*

| LEVERAGE | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| DEBT TO EQUITY RATIO (D/E) | 0,786 | 0,906 | 0,939 | 0,972 | 0,988 | 1,097 |
| EQUITY MULTIPLIER | 0,116 | 0,222 | 0,22 | 0,287 | 0,196 | 0,172 |

*Table 4: Leverage- Source: Author's calculations*

As we can see from the Table 4 Debt to Equity Ratio has a higher rate than Equity multiplier. It can be observed that the Debt-to-Equity ratio has an increasingly tendency over the years, from 0.786 in year 2014 to 1.097 in year 2019. From year 2015 to 2018 the Debt-to-Equity Ratio is almost 1, determining the capability of the company to finance its investments through its equity and not by issuing debt. Equity multiplier performed stable tendency among the years and between 0,116 in year 2014 to 0,287, the highest, in year 2017, indicating that the company prefer to issue funds through its equity offering by its shareholders. A common figure from both indicators is that Star Bulk's financial management focus on finance its activities from equity than debt.

*Investment Ratios*

In this section we will evaluate how attractive Star Bulk was for its investors from 2014 to 2019. Investment ratios are financial tools that assist investors to make decisions regarding an investment opportunity.

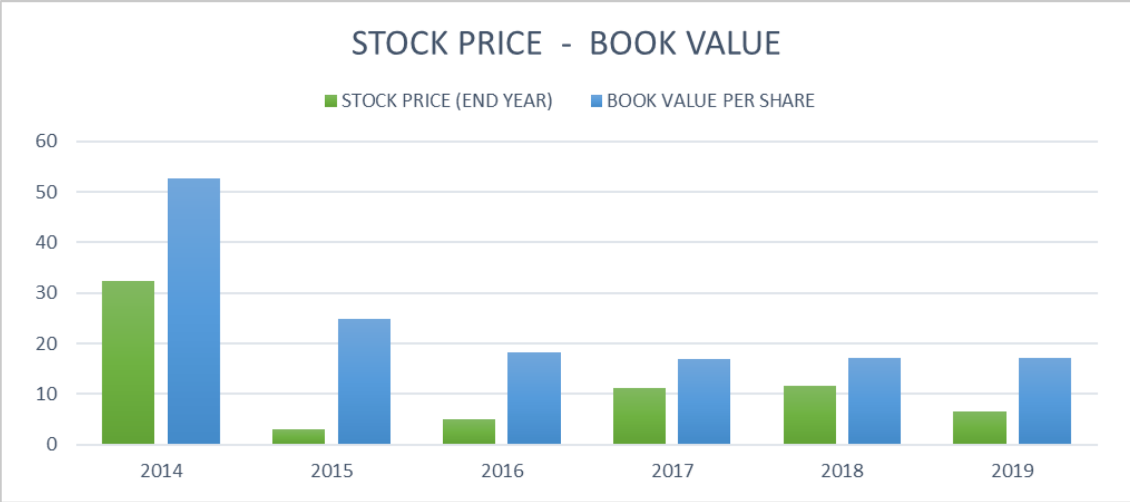


*Figure 6: Stock Price of Star Bulk from year 2014 to 2019 in comparison to Book Value – Source: Author's calculations*

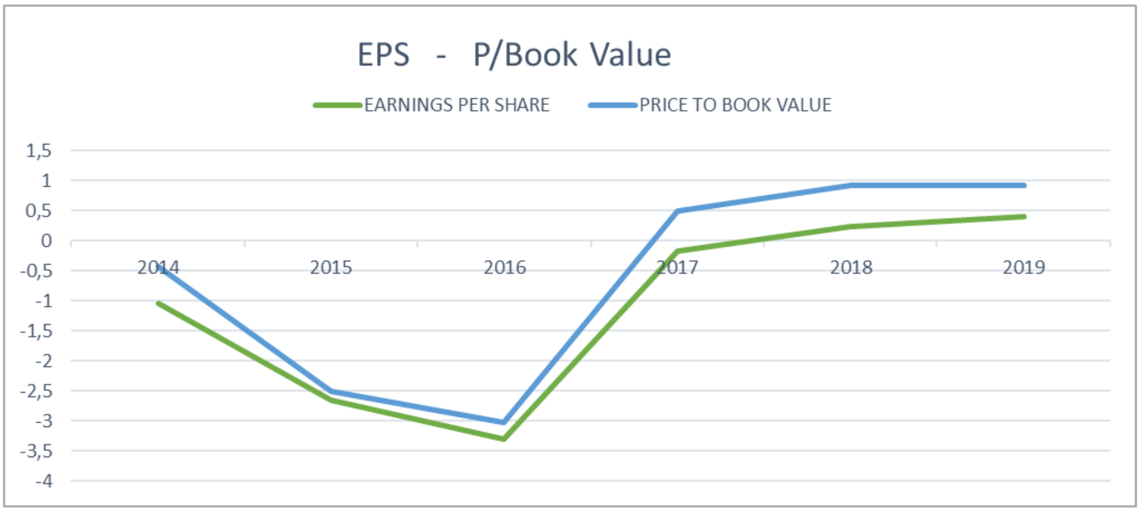


*Figure 7: Investment Ratios, E/S comparable to P/Book Value- Source: Author's calculations*

| INVESTMENT RATIOS | | | | | | |
|---|---|---|---|---|---|---|
| YEAR | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| STOCK PRICE (END YEAR) | 32,46 | 2,99 | 5,06 | 11,14 | 11,51 | 6,6 |
| EARNINGS PER SHARE | -1,05 | -2,65 | -3,3 | -0,17 | 0,24 | 0,4 |
| P/E RATIO | 0 | 0 | 0 | 0 | 47,96 | 16,5 |
| BOOK VALUE PER SHARE | 52,74 | 24,8 | 18,32 | 16,96 | 17,1 | 17,1 |
| PRICE TO BOOK VALUE | 0,62 | 0,15 | 0,28 | 0,66 | 0,67 | 0,51 |

*Table 5: Investment Ratios – Source: Author's calculations*

We can observe that the EPS for Star Bulk from the year 2014 to 2017 were negative due to the market recession of these years. From 2014 to 2016 the EPS decreased tremendously due to the lack of earnings for the company that caused from shipping market's crisis. However, from year 2017 the company showed to recur and reached -0,17 in EPS. From year 2018 the EPS were positive, at 0,24 and by 2019 EPS almost increased twice, up to 0,40, presenting the company as profitable. This higher EPS for the last years is a noticeable fact for the investors that are willing to pay more for company's shares.

P/E ratio as a relative measure regarding company's earnings did not performed from years 2014 to 2017, as EPS were negative. Nevertheless, from 2018 where Star Bulk has a lot of earnings, the P/E ratio, as a related indicator to company's share price to its earnings per share, showed a value of 47,96. At this time, company's investors expect high growth rates in the future. In addition, in 2019, the P/E ratio decreased to 16.5 but continued to describe investor's behavior and expectations in more logical way.

A markedness figure regarding P/Book Value rate is that the rates among all the years are under 1. This fact can be considered by the investors as a worth to be noticed company, a potential investment, with a stable course and sustainable financial activity.

## Conclusions

The purpose of this dissertation was to analyse the fact that private equity funds are more likely to finance shipping firms than past years. After the global economy crisis in 2008, banks and financial institutions failed to finance shipping firms properly and market changed completely. The recession that follows the upcoming years turn out many challenges that has been occur and shipping firms must face with. In the meantime, banks confine liquidity, while shipping companies require more capital as they must confront with low freight rates, enormous operational costs and overaged fleets.

The market recession in 2015, where banks withdraw finance and loans, made the shipping companies to look for alternative resources. Private equity funds and investment groups are more likely to be draw by this kind of investment opportunities. For this reason, we focused on the prepossessing case study of Star Bulk Carriers Corp and Oaktree Capital.

From one side a well-operated company, one of the leaders of dry bulk market with extensive course through the years, with a great financial performance for the last years. An honourable ship owner, Petros Papas who took out the company from the tempest of shipping market crisis and by acquiring companies established Star Bulk as one of the biggest dry bulk shipping companies regarding its fleet. On the other side, Oaktree Capital Management a well-known private equity management group, with a plead of investors who are strictly connected with fund's policy, obtaining part of the control (through the board of directors) of the company, offering a diversified portfolio and maintaining low exposure to risks.

The collective data derived from Star Bulk's annual reports. Profitability ratios interpreted that there are enough profits to fulfilled the demands and the investment opportunities for these years, such as acquisitions, which shipping company priorities and finalized. Liquidity ratio on other side, indicated that the company has enough liquidity to offer for its financial activities or in cases that sometime it may need to pay dividends to the shareholders. Efficiency ratios illustrated how capable is the directors of the company to manage efficiently assets or liabilities. The way that equity funds can be compared to the finance of shipping firm's activities can be leveraged and leverage ratio indicated this.

Investment ratios through valuation ratios indicated that Star Bulk is a stable company to invest, with growth opportunities from year to year, if we take into account the strategy and the performance of the company since 2018.

Likewise, from investors point of view, Star Bulk is a company familiar with the new trends and regulations. Even if its depreciation regarding its fleet may be risky, the company support its policy of keeping a vessel for at least 8 years. Part of its fleet is eco-friendly new vessels with low exposure to environmental infection, so we can locate a great future for the company. This dissertation ensures that Star Bulk is a powerful key player in dry bulk services and in a period of augmentative trending of the shipping market, can offer diversification in their portfolio.

## Bibliography


Wayne K. Talley (2012). *The Blackwell companion to maritime economics. Iron trade flows, Steel trade flows (pp72-77), Shipping business model archetypes (pp269),* London, UK.

David P. Stowel (2010). *An introduction to investment banks, hedge funds and private equity: the new paradigm. Financings (pp41-62), Mergers and Acquisitions (pp63). Private equity impact on corporations (pp325), Private equity issues and opportunities (pp361), Hedge fund investment strategies* (p219), London, UK.

Douglas Cumming (2013). *Venture capital and private equity contracting: an international perspective.* Florida, US

Douglas Cumming (2009). *Private Equity: fund types, risks and returns, and regulation*. Florida, US

Phillip Pangalos (2012) *Shipping: can Greece maintain global dominance. Retrieved from a conference*. Athens, Greece

Peter Brodie (1999) *Commercial shipping handbook*. Dunfermline, UK

Gelina Harlaftis (1995). *A history of Greek owned shipping: the making of international tramp fleet, 1830 to the present day*. Piraeus, Greece

Costas Grammenos (2010) 2nd edition. *The Handbook of Maritime Economics and Business. PART 3-Economics of shipping market and shipping cycles (p180). PART 4- Economics of Shipping Sectors(p318). PART 9 – Shipping Investment, Finance and Stategy (p709).* London, UK

Manolis Kavussanos, Ilias Visvikis (2016). *The International Handbook of Shipping Finance: Theory and Practice. Overview of shipping finance (pp 71-104).* Malmo Sweeden

Hübner, J. H. (2016). *Shipping markets and their economic drivers. In the International Handbook of Shipping Finance* (pp. 8-39)

Orestis Schinas, Garsten Grau, Max Johns (2015). *HSBA Handbook on Ship Finance. The German KG system (p. 710), Equity Capital Market in shipping* (p.88)

Modigliani, Franco, and Merton H. Miller (1958), "*The Cost of Capital, Corporation Finance and the Theory of Investment,"* American Economic Review 48(3), (pp 261-297)

Theodoros Siripoulos, Michalel Tsartsaronis (2011) "*Maritime Policy & Management: The flag ship journal of international shipping and port research"*- "The corporate governance model of the shipping firms: Financial performance implications". Chios, Greece

D. Gavalas, Th.Siriopoulos (2016) *"Exploring the Cyclical Stance of the Shipping Market: Introducing the Shipping climate tracer"* International Journal of Transport Economics. Chios, Greece

D. Gavalas, Th. Siriopoulos (2014) "*An Integrated Credit Rating and Loan Quality Model: Application to Bank Shipping Finance"* -Maritime Policy and Management. Chios, Greece

Star Bulk Carriers Corp. ANNUAL REPORT (2014) – Retrieved from https://www.starbulk.com/gr/en/annual-reports/
Star Bulk Carriers Corp. ANNUAL REPORT (2015) – Retrieved from https://www.starbulk.com/gr/en/annual-reports/
Star Bulk Carriers Corp. ANNUAL REPORT (2016) – Retrieved from https://www.starbulk.com/gr/en/annual-reports/
Star Bulk Carriers Corp. ANNUAL REPORT (2017) – Retrieved from https://www.starbulk.com/gr/en/annual-reports/
Star Bulk Carriers Corp. ANNUAL REPORT (2018) – Retrieved from https://www.starbulk.com/gr/en/annual-reports/
Star Bulk Carriers Corp. ANNUAL REPORT (2019) – Retrieved from https://www.starbulk.com/gr/en/annual-reports/

Th. Syriopoulos (2007). "*Financing Greek Shipping Modern Instruments Methods and Markets*"-Chapter 6. (pp.171-219) Piraeus, Greece

Martin Stopford (2009) *Maritime Economics, 3rd edition, chapter 9 - Shipping Market Cycles*. London, UK

Xu, J. J., Yip, T. L., & Marlow, P. B. (2011). *The dynamics between freight volatility and fleet size growth in dry bulk shipping markets.*
Atrill P. and McLaney E. (2008), *"Accounting and Finance for non-specialists", Pearson Education Limited, 6th Edition.* Edinburgh.

Elliot B. and Elliot J. (2006), "*Financial Accounting, Reporting and Analysis*", Pearson Education Limited, 2nd Edition, Edinburgh,

Accountings Explained, Accessed on September 2020 http://accountingexplained.com/financial/ratios/advantages-limitations

Accounting Tools Website, Accessed on September 2020 http://www.accountingtools.com/questions-and-answers/what-are-the-limitations-of-ratio-analysis.html

Investopedia Website, Accessed on March 2020 http://www.investopedia.com/exam-guide/cfa-level-1/financial-ratios/uses-limitations-ratios.asp

Naftemporiki 2014 - *Star Bulk creates a ship-Colossus of over 103dry bulk vessels*- from the newspaper on 24 August 2014 Naftemboriki, Athens, Greece

Marinos Mastorakis, Costas Siriopoulos (2011), "*Financial Characteristics of Companies Audited by Large Audit Firms" - CESAL* - 9th International Conference on Enterprise Systems, Accounting and Logistics, Research Development Session. Crete, Greece

Athanasios Pallis, Ioannis Theotokas (2007), Maritime Transport: *The Greek Paradigm - Chapter 3 On Top of World Shipping: Greek Shipping Companies'* Organization and Management (p63-93). Chios, Greece

Alexandros Goulielmos (2019*), Forecasting the Next Dry Cargo Shipping Depression beyond 2018,* Retrieved from Scientific Research-Open Access. Department of Maritime Studies, Faculty of Maritime and Industrial Studies, University of Piraeus, Piraeus, Greece

Nedal Al-Fayoumi (2019), *Applied Economic Letters, The banking sector, stress and financial crisis: symmetric and asymmetric analysis*. Jordan

Sven Anders, Aaron Sanchez (2016), *Shipping and Private Equity, Master Thesis in Finance & Energy, Natural Resources and the Environment,* Norwegian School of Economics. Bergen, Norway

Thorsten Hens, Kremena Bachmann (2008*), Behavioral Finance for Private Banking*, chapter 3 Behavioral Biases. Sussex, UK

Marina Maniati, Evaggelos Sampracos (2017), *Measuring the Technical Efficiency for the Shipping Banks—An Approach Using Data Envelopment Analys*is. University of Embu.

Mantalis, Lemonakis, Garefalakis, Vassakis (2015*). Relationship between efficiency and ship class of Greek-owned shipping companies, listed on the NYSE*. 4th International Symposium & 26th National Conference on Operational Research. Chania, Greece

Soren Pico (2018) "*Oaktree picks up large stake in ship management company"* article retrieved from shippingwatch.com

## Appendix

| YEAR | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| NET INCOME | -11,723 | -458,177 | -154,228 | -9,771 | 58,397 | -16,201 |
| TOTAL EQUITY | 1154,302 | 1135,358 | 1037,23 | 1088,052 | 1520,045 | 1544,04 |
| EBIT | 42,512 | -331,254 | -24,286 | 124,075 | 236,223 | 201,555 |
| TOTAL ASSETS | 2062,084 | 2148,846 | 2011,702 | 2145,764 | 3022,137 | 3238,671 |
| SALES | 147,387 | 234,286 | 222,106 | 331,976 | 651,561 | 821,365 |
| RECEIVABLES | 25,01 | 12,098 | 14,924 | 18,752 | 40,008 | 60,274 |
| COGS | 100,8 | 201,648 | 174,224 | 175,697 | 352,334 | 567,281 |
| INVENTORY | 14,368 | 14,247 | 14,534 | 19,345 | 27,436 | 51,153 |
| PURCHASES | -437,075 | -397,533 | -13,216 | -127,101 | -325,327 | -279,837 |
| PAYABLES | 18,487 | 9,436 | 5,2 | 9,944 | 20,959 | 42,779 |
| CURRENT ASSETS | 2062,084 | 2148,846 | 2011,702 | 2145,764 | 3022,137 | 3238,671 |
| CURRENT LIABILITIES | 907,782 | 1013,488 | 974,472 | 1057,712 | 1502,092 | 1694,631 |
| TOTAL DEBT | 765,308 | 768,56 | 792,476 | 623,137 | 734,229 | 1009,41 |