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The   major economic problems of ship industry

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Abstract

The comprehensive shipping manufacturing make available to some natural problems. As one other manufacturing, it is subjected to prospect confinements for continual development and supportability. Explore on how employment on maintainability is effectively included into frameworks is missing. Thus, to learn the domestic recompense of, in this case shipping organizations, concerning muscular labours and selection is fundamental. The focus of this study is to explore obstacles that calm down shipping organizations to link up with technological progress in logical full-scale sustainability transitions. Semi-structured interviews were used as unique research method for this thesis. Examination of investigational data yielded four areas of interest affirmed as domestic organizational obstructions concerning full-scale obligation in maintainability transitions .The boost in want for petrol in the comprehensive global markets create good ideal circumstances for the oceanic zone to add and get well .However, the shipping industry has a changeable nature that dictate companies to implement new policies to avoid real risks and remain pure competetive during collapse periods.

Therefore, it is authoritative for maritime companies to improve a clear and sustainable strategy, to easy risks and uncertainties, which may lead to serious financial hardships. The world has proficient extreme financial changes past decade; economies has seen its time high with higher GDP, increasing incomes and higher expenditure, but also experienced a total disperse of the financial systems, with companies and even countries informed, bankrupt and many on the verge of insolvency. One of the industries directly impacted by changes in the global economy is the ship industry. This global international industry is driven by cases throughout the whole world, making it is very   combined industry to study. There are some factors that are more essential   than others and this is where my focus has been; the changes in the global world economy, the large   demand for worldwide trade, international energy prices, the accelerated increase of newbuilding orders and huge demand for tonnage. Furthermore the shipping   industry is always evolving and attracting for increased innovation. For the duration of the later years have been very interesting. Main patterns like globalization and containerisation have rectified the industry and carry on to present us with challenging changes now. This active surroundings creates an extremely gorgeous work setting, pushing the aptitudes of the workers to the boundary and setting high-pitched standard fora future co-workers. When looking management the future of oceanic shipping, the minority developing trends can be normal. The major way of this explore was to recognize essential problems being confronted by the international marine segment. A comparative analyse was also working using lucky maritime

tests that a confronted alike issues and were able to surmount them. This work will discuss some of problems, real cases and so

Contents

Introduction

The aspect of maritime shipping in global shipping policy and the overall development of each country are crucial. Conjugate, by volume changeable by typical elastic, demand for international maritime transport. First of all, to regulate global market trends, the world shipping market uses different type of economic standards, and every time interval on the shipping market gives opportunities, so in a middle non-long-term ship owner cash flow can change importantly, which means that the global market value of his stock can change millions of dollars. Maritime is an ability game and that important playing with periods depends on the opportunities to recognize, forecast fluctuation on the shipping market. Those who can well recognize when other unknown "players" on the global market are mistake have the best odds.

The World shipping industry is very complicated and subject to unpredictable very highs and low. In such a changeable industry, marine ports and shipping companies are struggling to stay competitive in terms of payments and services without compromising world shipping standards. Some of Ports are fighting to attract shipping lines and offer efficient business services and better opportunities. On the other hand, shipping carriers are suggesting more energy efficient ships to reduce costs, shedding port assets and third party logistics businesses, and also forming new alliances to cover confident trade directions, share ships and local port operations.

For example, Maersk and MSC – connected forces to form 2M. They can move their the highest cargo across the world's most profitable   trade route and receive money in operational costs.

CMA CGM, third biggest container shipping company in the world , bought Neptune Orient Lines Ltd. from Singapore for S$3.38 billion ($2.5 billion)in 2017 , making it world shipping industry's largest purchase since 2004. Hapag-Lloyd and United Arab Shipping Co. have also declarated plans to join to become the fifth-largest container global shipping company.

Historical Importance

Historically, maritime supply has been an extremely essential issue in the progress of different countries and has created the globe immensely it now. Yet since trade among the primary civilizations started approximately 5000 years before, the benefits of offshore resources were generally understood. Similarly, subsistence and self-sufficiency between people living in cities and towns begun to fade away and barter trade begun to take place, cities realized they did not have to make all they necessary. Cities begun trading with every other in commodities such as gold, silver, raw materials, spices and textures, just to name a few. Even though this form of trade was slow and dangerous, it was rather beneficial and led to the rise of the shipper class. At that time they did not have the luxury of developed road networks as current now so mainly of the trade was seaborne. As accepted, this led to the rise of numerous cities and civilizations along trade courses and marine ports. Several cities grew to prominence as a consequence of their ports being important   for trade. By the second thousand years BC, for model, certain noteworthy cities had risen to prominence as a consequence of their possessions. Cyprus had become a main Mediterranean people by trading it plenteous copper income to the Near East and Egypt, who themselves were rich owing to their own natural resources such as papyrus and wool. Phoenicia, which was renowned for its marine capability traded its capital such as cedar forest and linens dyes all over the Mediterranean. China in the east became wealthy by exchanging jade, spices and later, silk. Britain was not left out of the foray as they shared their tin with the rest of the planet. Alexandria, which grew to be one of the major cities the world had ever known at the time, was founded by Alexander the Great after sweeping Syria in 332 BCE . It was a small port town which grew to prominence by attracting trade from India and Arabia. According to the scholar Mangasarian, it served as the port of Europe .

Political and Security Role

Politically, the attendance of an oceanic industry gives nations influence over other landlocked nations in the area. In spite of mechanical improvements in convey, landlocked nations still face challenges in accessing global trade. This compels them to depend on bordering countries with maritime framework to

facilitate their trade and import needs. This creates the political and ambassadorial tie between nations with a marine hub and landlocked countries, leading to a myriad of benefits for both parties involved. The association between landlocked and maritime nations has been assembled into four major types:

- Dependence on Neighbours" Infrastructure;
- Dependence on Sound Cross-Border Supporting Relations
- Dependence on Neighbours" Harmony and Stability
- Dependence on Neighbours" Authoritative Practices.

The presence of Maritime Resource Donation can also benefit a country in times of disagreement. Countries having Maritime Resource Endowment can utilize its naval group and ships to protect the country from outside assaults. Historically, the attendance of an extremely muscular naval force has benefited a lot of nations such as Great Britain in distribution their territories

Socio-Economic Benefits

Port cities have frequently been a basket of varied societies. This is due to the ordered influx of foreigners who often share their traditions and encounters with the natives living there. Some even go a step further by having children in these harbour towns leaving more than just their parcels behind. The oceanic industry has shaped civilization in so a lot of ways. Notable between them is the selection of the Phoenician phonetic alphabet considered to be the ancestor of almost all current day alphabets by the Greeks. This dissemination was as a result of the naval trade between Phoenicians and North Africa and Europe which was transmitted to the Greeks and afterward the Romans .In fact, carrying has been called single of the four cornerstones of globalization, along with communications, universal standardization, and trade liberalization.Maritime Resource Endowment has over the years given innumerable countries an profitable advantage due to the attendance of a maritime industry. Many nations have leveraged that advantage to reap numerous financial benefits, some of which comprise contribution to GDP, foreign exchange from global trade, revenue generation from duties, taxes on maritime just to name a few.

The importance of shipping in the world economy

Shipping can be defined as the natural movement of cargo and travellers to the ports of demand from the ports of supply. It also involves all other connected activities required to support and make easy such transfer. The movement of cargo by sea is the financial lifeblood of several nations. This is because approximately three-fourth of the earth's surface is covered with water, thus shipping plays an essential role in world trade. Many of the commodities that are transported by sea are frequently raw materials which are serious, dense and have low economic value such as the likes of coal and iron ore. Transporting these products over vast distances by ships is cheap and cost-effective. Marine transport costs are relatively cheaper in comparison to other means of transport and there are also no substitutes to delivery. On the other hand shippers of finished/manufactured cargo also take benefit of the comparatively inexpensive rates charged for sea transport. Ships also have a lot of cargo space and are consequently reasonably free of charge of capacity constraints. Furthermore ships have acceptable journey times. Because of all this 90% of all trade is done by sea, the act of cargo ships brings an annual income of about USD 380 billion in cargo. This quantity is about 5% of the total globe economy. The forecast for the industry's continued growth looks to be strong on account of globalization and on account of the fact that seaborne transport is becoming more effective.

Furthermore marine casualties have dynamically diminished over the last many years and in comparison to land carrying it is also more environmentally friendly and less contaminating. "In his book The Economic History of World Population, Carlo Cippola recommends that the transport industry has been one of the major forces responsible for shifting the world from an fundamentally national system to the global economy that exists in our day". Shipping has made the globe a smaller place and it has succeeded in interfacing confined economies. On account of all of these above reasons, demand for sea shipping is increasing continuously at an exponential charge. Since 1950 the economic development of the shipping industry has been huge. Marine transportation since 1990 has been encountering new heights which lasted in the first years of the new thousand years. But the economic crisis in 2008 brought a decline in shipping division resulting in a decrease in cargo rates and a fall in command for shipping services. In this document Group 5C wants to point out and analyze the hypothesis of the determinants on which the demand for shipping depends on.

The nature of transport demand

Clients of Sea Transport have exclusive needs and these are met by shipping companies who give a range of tailor made services and arrangements. The following are some of the criteria which play an essential role in the customer making a determination when it comes to choosing a mode of transport

Price

Shippers of cargo pay greater awareness to the cargo cost depending on the rate that it makes up of the CIF cost. For example the cost of transporting a barrel of oil from the Persian Gulf to Europe price about 49% of the CIF cost in the 1950s. Because of this the oil majors had their own tanker fleet so as to have greater manage over the cost of ocean transport. But now the cost of seaborne transport is only approximately 2.5% of the CIF cost and therefore the oil majors favour to charter in vessels. In addition in the 1950s the cost of transporting a ton of coal from the Atlantic to the Pacific was roughly USD 10-15 per ton on a 20000 dwat vessels. Today the same coal is transported at parallel rates on 150000 dwat vessel. This has been achieved by economies of level.

Speed

Transit times are basis for shippers of high value cargo. Average speeds of deep sea going storage place vessels have enlarged from 17 knots in 1985 to 22 knots in 2007. In comparison to the price of holding inventories in stockrooms, it is cheaper to ship smaller amounts as and when necessary. Although the cargo rates will be higher it is still lesser in comparison to the overall costs of stocking. In 2009 average transportation speeds when down on account of many carriers slow steaming to beat the worldwide downturn in order to downgrade their costs. At this same interval bunker prices also raised so carriers further slowed down.

Transport reliability

Shippers are ready to pay premium cargo for delivery services which provide just in time (JIT)/Kanban deliveries. Container ships are immediately days being used as floating stockrooms. Speeds can be increased or decreased in order to deliver products exactly when necessary

Security

Shippers are frequently also ready to pay higher cargo for carrying which can security smallest spoil to his cargoes. Safety is exceptionally of main concern in container shipping where the value of cargo being transported can go into millions of dollars. After the events of 11 September, the ISPS Code came into existence. Though this code increased costs and time spent for both ship proprietors and port services, shipping has become a lot safer than before. Right now piracy is a big concern and is   affecting global trade as costs are going up and there are also delays in the carriage of goods. 2010 has seen as escalation in Somalian robbery and efforts are right now underway to curb this menace.

Factors influencing the formation of freight rates on maritime shipping markets

Transport, which transports approximately 90 percent of global trade, provides the international community with the basic method of raw materials, consumer goods, basic food and energy supply (www.imo.org). The world economy has had the greatest impact on shipping needs because it supplies the most demand for maritime transport by bringing raw materials for the production or sale of finished products. Globalization and information innovation, rapid and substantial changes in the atmosphere require both individuals and companies and the full community to focus on business rationality and basic activities, while avoiding other activities. Therefore, understanding the examples in the shipping market requires a lot of information about the world economy's development. Maritime trade and industry relations are not easy, so it is important to focus on business, trade, and development. The business sequence sets the basis for freight turnover. Changes in economic growth rates are a maritime trade and are a regular example of demand for ships. It is also affected by the combination of external and internal factors during the working period. External factors include events such as honest changes in wars or commodity prices, and the domestic factor concerns the dynamics of the structure of the world's economy, which implements more circulation performance than direct growth. Indeed, no two business cycles are the same, though most of them may be co-existent and there is no pragmatic formula to predict the future period or the history of a business sequence. long-term relationships between maritime trade and the world economy demonstrate commercial flexibility, considering that offshore trade is faster or slower or at the same rate as industrial production. Financial analysts use flexibility in trade to describe these

relationships. It represents the relationship between the growth rate of sea trade and the rate of industrial production development. There are two reasons for the long-term trade flexibility of separate regions. Firstly, the stability of the existing domestic demand is likely to change over time, and secondly, industrial development leads to changes in demand for a certain burden.

International maritime trade

World-class maritime trade is a crucial component of the freight market and is a result of common tendencies in the human economy. In the present period, this is mainly the result of the demand from bigger and more powerful buyers, ie countries with higher economic balance. The marine market is genuine sensitive and reacts to any change in world trade for any purpose. The amount of world trade is reduced; As a result, the demand for shipments should fit into those oscillations. Perfectly organized and relatively inexpensive sea transport is a driving force of world economy and global trade, and the role of shipping companies is not that big and comfortable .The structure of the global trade fleet is based on the basic types of vessels, quantities and ages, and changes in the dynamics and supply status of the ship ' the structure of the terrorist fleet arises from the formation of the seaborne burden, existing transport innovations, business strategies and market conditions.

Relationships between sea trade and industrial economics are conditioned by seasonal changes in commodities. For example, many agricultural goods are subject to seasonal changes caused by products and their value. Seasonal point markets have disproportionate impacts and it is difficult to plan seasonal agrarian goods, so loaders of these goods are harder to target market bargains for tonnage requests. As a result, changes in the grain market have a greater impact on larger commodities, such as iron ore, which requires a higher level of tonnage over long-term contracts in the contract market. On the other hand, some agricultural products, such as fruit, as well as meat and dairy products, require cooling or ice cream, which requires special ships and refrigerated containers. Although each job is different, there are four types of changes. These changes are as follows: changes in demand for a particular load, changes in the source of the provider's charge, changes resulting from the change in the area of growth of the object, which can be directly attributable to the volume, such as the amount of seaborne and the changes in the type of ship and changes in the transportation order of the consignor.

Five trends shaping the global maritime industry

The maritime sector from ships to freight routes continues to be transformed into financial, political, statistical and technological trends. These tendencies are to understand professional knowledge and action and to provide the most up-to-date business strategy to understand. In this report, the next ten years of industry, the IHS Maritime and Commercial Cleaning

Commodity supercycle:super no longer

At a time when the majority of the developing world slows down, IHS predicts long-term vulnerability to commodity prices over the next decade. Coal, iron ore and crude oil costs will fall into depression over the next few years. For most loaders, the slow growth of growth 5-10 years ago becomes a daytime payment for shipping to extremely dry cargo. Completing the Cost Failure Panamax is the most fleet of fleet, with the exception of fleet coal and grain shipments, and is less likely to reduce its capacity. As a result, it is quite painful and can maintain balance in the balance. An exception to this trend is the delivery of tankers expected to remain burly shortly. In the first half of 2015, there was an increase in cargo in the zone as a low cost of crude oil that encouraged the economy to burn oil instead of coal. Extremely large crushed carriers on the Middle East Gulf - $ 10,000 in April 2014 and $ 60,000 per day crossing rates in April 2013. The optimist gains continue to decline in oil prices for the rest of the year. Even though lower prices in the short run cause more oil consumption, IHS expects that the total demand for oil will be only 0.6% by 2040. This is due to the fact that the global economy is adopting alternatives to economic growth and the weakening of the relationship between oil and hydrocarbon fuels and the fuel consumption of the car

China slowdown slows down shipping

China has been involved in the commodity period. A new slowdown in China's economic growth is exposed to many national industries and offers for the global economy. China's national demand is neutralized in 2016. As a result, the

construction industry deepens. At the same time, slow and unstable global economic progress will not be able to send it to China. In 2014, the IHS estimates that 7.3% of China's GDP in 2016 will decline to 6.3% ahead of the decline in 2016.

Due to the demand for Chinese goods, the demand for dry cargo will be detrimental. Before the change, China imported 70% of the world's offshore iron ore and 20% of coal. Coal coal imports declined by 12.0 percent in September 2015 compared to September 2014 and declined by 17.9 percent in January-September. The latest news on China's crude oil softening, with China's and China's cheap iron ore imports from Brazil and Australia, up to an annual 5-8% increase in demand for foreign iron ore. Instead of demanding maritime imports, it will simply stabilize. So far, Chinese steelmakers have been able to find buyers abroad. Nevertheless, anti-dumping rules are required to push the industry back

This breaks down between the expectations of entrepreneurs and tenants in the carrier industry between three and five years. New Building Costs Even bigger Asian shipyards seem to be stable, smaller shipyards, particularly vulnerable to offshore and offshore markets. Challenge for shipping is semiconductor in the region. Such a change in coal supplies is part of the relocation of thermal power plants in China to reduce the pollution of major cities in the east of China. The growth of nuclear and alternative energy sources also diminished the demand for imported coal from Australia and other countries.

Expandable container marketplace. In the routes to the Western United States, the volume will increase by 8% in 2016 and 6% on European routes, which is part of the growing demand for cheap oil and oil products.

Lifting of Iranian sanctions: a positive for shipping

Iran and the P5 + 1 nations - China, France, Russia, the United Kingdom, the United States and Germany - reached a nuclear deal known as the Joint Joint Plan of Action (JCPOA) on 14 July. The center of the treaty is the limitation of Iran's nuclear program. The European Union and the United Nations Security Council have ratified the treaty of July 20 and Iran has officially adopted a nuclear deal. All documents signed by JCPOA officially accepted the agreement on October 18 that activated Iran's JCPOA commitments. Many analysts expect the EU and US sanctions against Iran that the IAEA has confirmed that Iran has acquired JCPOA commitments. Some sanctions are expected to be about half a million barrels of oil per day on international deliveries until the end of 2016.

The re-entry of Iran to the oil export market will not directly help tankers, since the oil is likely to be shipped via the Iranian Tanker Company carriers Imposed sanctions on the Persian Gulf. Adding half a million barrels a day will not add to global supplies - both Saudi Arabia and the US are 10 million barrels a day - this additional barrel should already lower its oil prices; exacerbating demand for oil, gas and gasoline products in the near future; and general international shipping assistance. China is now more powerful than any major industry.

Big Data, less drama

In addition to the expected low volatility in the products, loaders often use high resolution crystal balls based on their high estimates. Big Data Analytics's shipping information and enhanced benefits are boats with good visibility and trends in the market, and help minimize industry-specific boom-and-bust times that they normally drown. One example is the Big Data Analytics provided by the Automated Classification System: it gives more insight into the satellites' boats and analytics loading systems. The presence of analysts based on such data ensures the progress of tactical choices, allowing decision makers to choose optimal routes, taking into account weather conditions, fuel consumption and robbery risk. While the analysts combine this information with cargo transportation, shipping strategists are better aware of how to get and sell routes over time. Big Data Analytics itself can not end the industry's patterned character or eliminate all geopolitical uncertainties. Nevertheless, it will allow the players to turn their hopes into an optimistic general for reducing the risks.

Long-term demographic shifts

Changes in macroeconomic indicators and population growth rates, along with long-term economic growth. The middle class is growing in the future promising economies of Asia, Africa and Latin America. As a lump-sum gains increase, imports of goods and finished products should be added to imported products. India is expected to rise to 7.9% by 2017 and 7.3% in 2014. India's consumer spending accounts are about 60% of the economy and are the main drivers of economic growth. As the price increase and global commodity prices rise, real homeowners will continue to improve. A result for the market's growth. Additional and larger container ships will have to spend on ports,

frames, technology and services. As an asteroid, this is a serious problem. Sailors are older than elsewhere in the world, because small cadets are trained to replace high-ranking officers. The most difficult part of the Asian shipbuilding sector. About half the workforce in Japan is between the ages of 50-60 and there are several young graduates in the industry. A dilemma that sees low technology, such as transportation, aviation, automotive and technology. To attract a future generation of maritime specialists, shipyards must be more innovative and advanced and must compete in shipping. Although the autonomous ships are far from the province, these innovations have the potential to protect the imagination of a new era and help pour new blood into the marine industry.

Average profit

The demand for ocean transportation depends on the distance to which the freight is transported, and this distance is usually called the "average profit" of maritime trade. In order to calculate the normal profit, we usually specify the demand for maritime transport and the "ton-mile" condition that the tonnage of cargo transportation increases with the average gang that falls on it. As an example, the closure of the Suez Canal, which radically expanded the distance between some ports, has led to the increase in cargo demand and increase in the cargo market in almost every case. While analyzing changes in standard profits, commodity trading can be an actual complex that requires information in a detailed trader's frame. Often, the key issue is the stability of long-term and short-term contractor revenue

The influence of political disturbance on the shipping demand

Special features of the marketplace, when they appear, can cause unexpected and sudden changes in the market. In addition, they are able to turn down the freight market. The term "political events" refers to incidents such as nationalized nationalization, wars and strikes. In the marketplace, everything in the market has the potential to create a difference.

Transport costs

Various changes in maritime trade. Crude materials will only be transported from remote sources. Indeed, this makes the cost of supplying the industry so important. Over the last few years, great work has been done. The presentation of more profitable external transport has had a great impact on world trade. It also opened new trader routes and made new offshore employees.

The level of freights on the maritime shipping Market

The cargo is the latest regulator of the market and facilitates long-term costs reduction. A cargo carrier is a ship. This is a shipyard. The third part of the supply market covers supply and demand-oriented supply markets.

His method is perfectly easy. Ship holders and shipbuilders negotiate to determine shipping levels. If there are many ships, the goods will be lower and vice versa. Once the scene has been created, shipowners and shipbuilders have the ability to combine suggestions and suggestions .This process includes analyzing, proposing function, demand function, and balance value
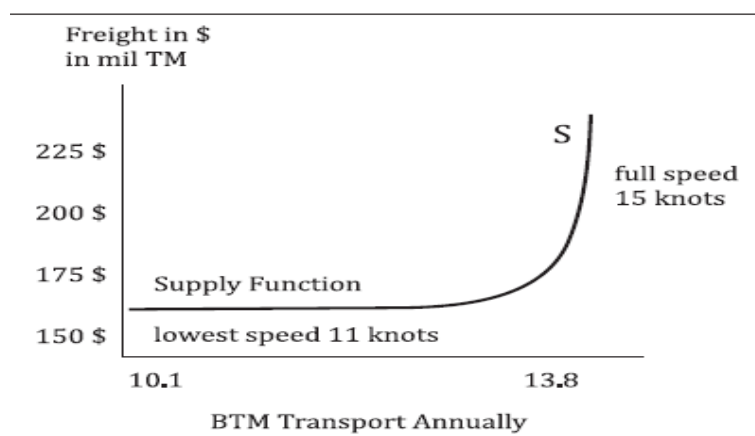
Graph 1 Supply function

Source: Stopford, M.: Maritime economics, Rutledge, Tavlor&Francis group, 2009, pg. 140.

The private ship's supply function is shown in paragraph 1. It shows the amount of transit of the owner given at the round curve and at each stage of the load. In this case, a VLCC of 280,000 dwt (very large crude carrier). If the amount of cargo is lower than $ 155 per mtm, ie, if the cargo is insufficient, the owner of the vessel, which does not offer the vehicle, abandons the vessel. The ship will be put into operation once the load is more than $ 155 per mt, and at a speed of at least 11 knots per hour to save fuel. It will speed up $ 220 per mtm at high load levels; the ship sails at 15 knots at full speed and provides annual transportation of 13.8 btm ocean, which is more than just a ship. The profitable hypothesis helps us manage the supply brake. Marketplace supply is totally competitive; the ship's boat increases marginal price (equal cost of ships) by increasing the income of the ship by equalizing the ships' boats. It can be assigned as a link between speed and load

Whereas:

$$S = \sqrt{[R/(3 \cdot p \cdot k \cdot d)]}$$

R - load volume
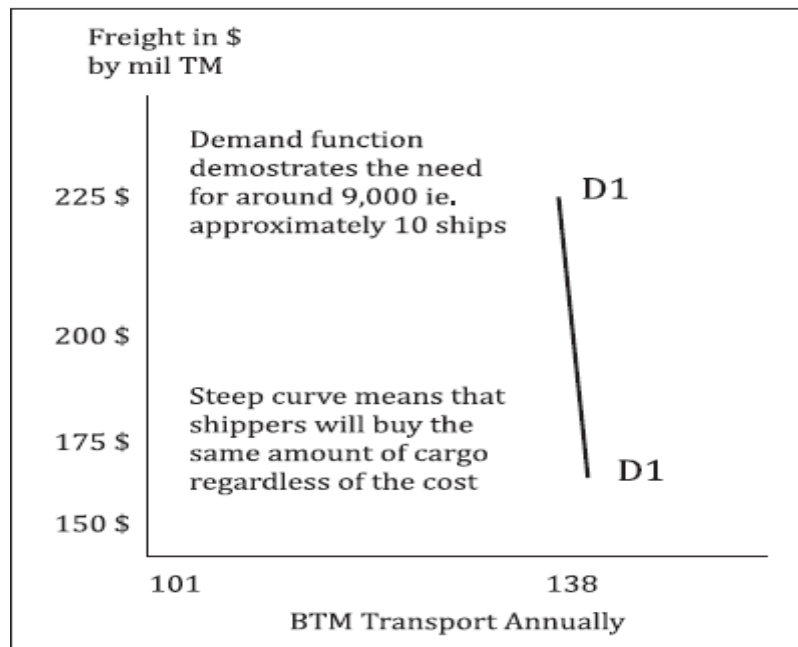S - mile / day optimum speed
p - load level on the journey
k - boat fuel constant
d - Distance

This method identifies the supply definition definition. The optimum speed depends on the fuel price and the ship's being ready for long journeys. In fact, the purpose of the supply is much more complicated than the simple relationship between load and load. Driving is not the way the source answers the burden. The owner may use the benefits of low loads to stop the vessel or to conclude a short-term storage agreement. Short-term supply curve reductions depend on three components that control the savings in marginal ships' costs; First, the old ships have a general overhead costs, so the goal of saving will be higher levels of burden; Secondly, larger ships have lower transport costs compared to smaller ships, so both boats and larger vessels compete for the same load, the larger boat will have a smaller savings point, and typically a small depression of smaller vessels . The third reason for speedy connection was announced.

The student's function shows how charterers adapt to changing prices. The student curve is almost vertical. This is basically a hypothesis, but this figure

has several similar reasons for each bulk cargo. The most convincing goal is the lack of delivery method. When it comes time to conclude alternative contracts, suppliers are required to load, regardless of price, need a ship. Instead, low prices will not be attractive for the shipper to buy another ship.

About Google TranslateCommunityMobileAbout GooglePriva

Freight in $
by mil TM

Demand function demostrates the need for around 9,000 ie. approximately 10 ships

225 $

D1

200 $

Steep curve means that shippers will buy the same amount of cargo regardless of the cost

175 $

D1

150 $

101   138

BTM Transport Annually

Balances and curves of time, supply and demand are accumulated at a considerable price. At this point, buyers and sellers generally find the right price, and buyers are ready to pick up a certain number of ships and are ready to have a specific boat. Balancing is done. In the real world, the value that the buyer and the merchant want to trade depend on the time they need to adjust their market positions. This should be considered three or three times: present or present balance, short-term equilibrium and long-term equality. This harmony describes the contractual burden levels for "emergency" vessels and freight, which leads to a temporary rise and fall. It is the owner of the market that regularly monitors the risk of traveling on a ballast for regular loads or better loading points. The parties are holding bilateral meetings to find a value that can be met. Short-term harmony means that owners and tenants have more time to respond to load changes after the start of the ships and the ships' demolition. The market situation is short in short-term supply. When less effective vessels operate, the equipment is very small, but boats gradually return to operations and supplies are growing. If the navy is at maximum speed in the sea and it's completely in the sea, the load will be loaded, and the rest of the ship will start eating. Finally, there is no sea transport until the new ships reach. It's easier to see how the load is fixed during short-term requirements. The marketplace is under a burden that supplies supply.

When the demand is low, the load stabilizes. An important increase in demand will increase the burden, possibly, ships will be reused to meet the expanded demand. It is enough to increase the burden three times to make a decision requiring a market price to attract the highest and smaller ships. As a result, without the existing vessels, the tenants are struggling with each other for the need for transport. Expenses can then be restricted. However, carriers are looking for less expensive sources and high loads are almost always "crazy" investments from entrepreneurs and loaders. In long-term harmony, the fleet can be developed by ordering innovative ships and breaking old ships. The long-term regulatory condition of the regulatory instrument restores supply and demand with three types of market and market: sales and procurement, new construction markets and demolition markets.

Strategic management of oil tanker companies during pressure

Oil market

Oil transportation is a function of consumption in industrialized countries. The International Energy Agency (IEA) predicts that international crude oil will increase by 8.4 million barrels per day in 2018, reaching 103 million barrels per day in 2018. According to the IEA, this increase in oil production in Iraq and North America. Meanwhile, the international demand is expected to reach 96.7 million barrels in 2018. In May 2013, the price of oil was above $ 100 per barrel. Increasing the demand of the world economy on the Chinese market. He added that the IEA will be presented to member countries of the Organization of Economic Cooperation (IEA). Iraqi oil supplies will reach 8.3 million barrels in 2035 (IEA, 2013). On the other hand, oil production in the world is expected to run faster than the Middle East. Middle East is a major part of the international oil reserves, which is 66% (IAGS, 2013). Middle East estimates faster oil production than international oil production. Therefore, oil plays an important role in the development of the world economy, and it is difficult to replace it in a short time. There is no alternative source of energy for alternative energy sources and alternative energy. As a result, oil needs are ineffective.

Volatility of crude oil tanker market

In 2008, the world economy faced rarely the economic recession. The investment environment and faith for future development were great, until the day of collapse. This experience was deadly for many and it seemed very difficult to recover. The appearance of the crisis has apparently been in all segments. One of them is the crude oil tanker market, which invests heavily in a company's large ships. Crisis industry has grown and costs are strongly influenced by profitable trends. Both shipping markets and fuel markets are characterized by high explosive nature. The cost of the cargo is determined by supply and demand, and this balance is largely dependent on the global economic environment. The world's oil market has a direct impact on shipments of ships' boats and the bunker's volatility. The main cause of the maritime movement is the risk of burden and bunker fuel. He underlined the importance of a strategic initiative for the financial crisis, risk organization and shipping companies that rapidly hit the shipping industry by the end of 2008. Another important source, oil prices, are the economic crisis, such as the uncertain future, the Middle East and the Middle East. On the other hand, the weakening of demand has played an important role in the oil price weakness. According to experts, the purpose of strategic preparation is to thoroughly analyze the company's business and mission principles. The right plan is to increase profits and help progress. If a company practices an incorrect strategy, it can have a bad impact or may have a major economic impact on the company. Shipping is subject to great volatility and macroeconomic conditions in the world market. Both revenue and operating costs are in the shape of a bunker, characterized by high instability. The shipping market is contrary to a number of difficulties that lead to the compromising of tankers that are threatening their jobs and companies. Cash flow hedges, especially for incoming money. Owners of oil tankers and other difficulties include the volatility of the bunker price, which is likely to cause serious financial deficits in oil tanker companies. Oil transport industry is very important for the international economy because the volumes of freight rates should be studied carefully. The aim of this dissertation is to evaluate the harmful effects of lowering the load. On the other hand, the loading speed of the oil tanker is crucial for good planning and policy issues, ranging from modeling and evaluation to short-term and long-term training. Meanwhile, the demand for oil tanker trucks is due to the recent deployment of oil transportation systems and VLCC tanks. in the marketplace, in the market and in the market. Clarkson Research Limited provided extensive information on performance in the shipping market. Therefore, the analysis of the cost ratio is the contribution of this dissertation. In addition, it is an effort to assess the quality of the goods. The important contribution of this dissertation is the ability to explore different types of tankers in different dimensions and different routes. In other words, different models simulate different interests under different load

rates. Additionally, the 3-year-period regime introduces a security deposit. Freight risk is an important issue. In recent years, the amount of risks has increased significantly. There is uncertainty in the freight market. For a company to live in such a market, it is important to be insured against such a negative price. An important contribution to this dissertation is an attempt to explore the different tanker dimensions and the possibility of different freight tariffs on different routes. In other words, different models simulate different interests under different load rates. Additionally, the 3-year order regime reflects the contribution of security cash. Freight risk is a matter of maritime traffic due to market volatility. In recent years, the amount of risks has increased significantly. There is uncertainty in the freight market. It is the basis for a company to survive on such a market for such price changes. As a result, it is important to know the market place to get the right result. Nevertheless, anyone should have high-quality information about components affecting the shipping market to develop the right methodology to look for future freight tariffs. The purpose of this dissertation is to answer the following questions:

• How can shipping companies use economic equipment to predict future cargo volumes and bunker fuel markets, which is to survive during the recession?

• What are the benefits of the risk management tools available in the shipping market to protect companies from changing the rates of freight and bunker prices?

• According to the IEA, indicating the ambitious production level of the Middle East crude oil in the near future, the expected decline in oil reserves in other parts of the world will prolong the distance between oil producers and buyers in the near future. As a result, the offshore sector can be a perspective for growth and competitiveness of the tanker fleet for the safe transfer of the growing production of new players. In addition, revenue from dispatch is very useful when it is in the peak period of the market. Expansion of offshore companies is based on well-planned methodologies for competing in the complex freight market. With the use of risk-building tools, the dissertation tries to emphasize the possibility of such vehicles being successful in the shipping market by crude oil companies.

Research Methodology

Shipowners should have a predictive capacity on the future course of the shipping market. It is desirable for the shipowners to be questioned when making a decision for shipowners. The organization has the chance to use an evaluation tool to protect its companies. Thus, it is important to evaluate the

basics of risk management and equipments. The principal decision for shipowners is the option to enter a point or time chart in accordance with the point that we use best for the ship in the future. The decision depends on the expectations of the market. The linear regression model will be used as an arithmetic application for testing the shipping market of tankers. The regression model allows predicting the dependent variable behavior by knowing the value of the light variable. The effect of one variable on another can also be assessed.

$$y_t = a + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_t x_t + u_t \ldots \ldots \ldots \ldots (1)$$

Where Yt, hanging variable, Xt is a variable variable, and Yut is the wrong term. The key step in forecasting is to define the character of the model by defining explicit variables that explain dependent variables (1). By knowing and measuring the historical data of factors, relationships between them are calculated and known as parameters. These settings should be tested before use. The reason for the test is to see whether the relationship between an independent variable and an independent variable is significant. For the purpose of this thesis, various oil tanker segments, such as VLCC, Suezmax and Aframax crude oil tankers and Voyage regulations for medium Range product carriers will be used. It should be noted later that there is no precise tool to maximize revenue. Nevertheless, shipowners can manage risks through appropriate equipment to stabilize their cash flows. In this case, they should want to lower the load. On the other hand, the main shipping costs are bunker fuel prices, while VLCCs account for 47.6% of travel costs. The purpose of risk management (hedging) equipments is to stabilize revenue and expenses and improve presentation in relation to the accounting market. As a result, the result of VLCC's 3-year charter model will be used to further enhance stability and stability of offshore companies' revenues. In addition, the form can be used as a hedging instrument due to the lack of freight and bunker derivatives.

Prior to the insurance of the market of derivatives and the availability of money, shipping companies used a usual risk organization to avoid uncertainty in the market. Owners normally sort their money. In several market segments, several types of sorting are used, such as the use of ships in real estate and in banks, exchange of goods in different commodities or direct charter contracts. The smaller ships can handle the different types of freight, and thus the gains are less varied compared to specialized ships capable of being extra volatile. However, finding which market is more affordable takes more time with additional costs, reflecting a serious burden on the company's growth. As a result, the delivery company is aimed at limiting its influence through the derivative market, which offers numerous risk protection such as future contracts, future bonds, swap contracts, and decision making. The derivatives market is effectively operated and creates a modern investment strategy. In addition, they reduce the risk for all market participants. Derivatives are the

economic software used to protect against the risk of a future exchange of contracts between the buyer and the supplier at a later time. They made the money more predictable and facilitate the company's future investment table

Dissertation structure

• Frequency consists of five chapters. In the main part, the use of oil and gas tanker coalescence occurs.
• The chapter is a new overview describing the type of relationships that the two markets have coordinated. In addition, the oil tanker analyzes and analyzes the market. It also analyzes the shipping method to reduce the shipping cycle risks.
• The third chapter is a research methodology that combines classical linear regression-type components, frequency ranges, the theory of tests, and the impact of existing data.
• Chapter Four contains the discoveries of the research technique and the measured production of data. It also analyzes seaborne trading forecasting models and short and long term estimates.
• Chapter 5 is the oil tanker market. In addition, owners of oil tanker companies are advised that the ideal company methodology can be ordered due to volatility
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Shipping company strategy

Companies avoid the risk of being sufficiently cautious enough to provide sufficient and consistent liquidity, such as operating costs, bank loans, and other liabilities. Companies have learned to take advantage of the opportunity compared to the year in which the market was restored. Lorange (2005) is very flexible and nauseating. As a result, it is a company that works and is not in danger in such a natural world. Received
The benefits of competence. preparation and implementation of an effective methodology. In addition, Lorange (2005) believes shipping is an international

business. As a result, the use of openings to expose and grow the international economy is needed. They should always know what is happening in the shipping industry; it is important that a company survive, if it changes, is excessive, slow, or uplifted. There are also some external components that should be aware of the company's political turmoil, economic research and innovation. In the shipping business, we must take into account all the necessary conditions that prevent the company from gaining profit. At the same time, the main concern of shipowners is to provide good cash flow that improves the company's survival and achievement. Survival is the most important purpose of a strategic organization. The director tries to earn a short and long term profit.

However, if the management receives its financial preferences to eliminate uncertainties in the market from a negative financial impact, the company may have long-term benefits. Cash flow is an important source for the company to stop in a stormy market. Scientists have suggested that cash flow is a distinction between the cash flows and the business. The deductible money is mainly the cost of crew and bunker fuel costs. Bunker fuel costs are already a major concern in shipping, because bunkers' costs increase operational costs. High bunker prices can also minimize the shipping company's profit margin. Owners of a crude oil tanker, which are mainly freight revenues, provide earnings and maintain cash flows on the registered market. The main purpose of escaping from recession is to stabilize cash flow through optimization of loading rates and low oil consumption.

Tanker Freight Market

Tanker spot market analysis

The crude oil tanker market doubled in 2013 due to the high demand from China, which is expected to increase international oil deliveries to 90.6 million barrels in 2013 and 11 percent more crude oil tankers. new ships on the indicator. The 5-year time limit for VLCC, Suezmax, Aframax dropped by 2.4%, 1.3%, and 1.6%, respectively. The release rate was extended to 0.8% during the summer, but a long Range tanker for 5 years. The most destructive routes are those serving the needs of Europe and the United States. Unlike these Asian routes, they use the Indian and Chinese expansion. The new tendency of crude oil flows has the most significant changes to the ongoing traffic from the Middle East to Asia.

The flow in the Middle East and Europe has diminished and parallel to North American imports has also fallen. Supply of tankers with a capacity of 60,000 m / t increased in 2012; Compared to 2011, total tonnage of 60,000 m / ton was 347.8 million dwt in 2010, with total tonnage of 370.7 million dwt in 2012 and 386.5 million dwt in 2012. At the same time, the disintegration tonnage in 2012 was expanded. it is not enough to absorb the leading edge of new ships. Consolidation of supplies supply and reducing demand led to a constant reduction in freight traffic.

VLCC tanker market

The basis of the VLCC market is the US, European and Far East exports, based on the main uses of crude oil in the Middle East. VLCC, which serves US and European routes, is widely affected by the 2008 economic crisis. China and India's demand continued in the Middle East - the Far East route. The standard point of VLCC traveling from the Middle East to Europe was WS37 in 2011, WS32 in 2012, WS9 in 2013, and $ 15.461 in normal earnings, $ 18,296 and $ 6,497. WS60 was rated WS60 in 2011 and WS40 in 2013 .These figures show the potential market volatility. At present, the VLCC fleet consists of 609 dual-body tanks. In addition, the rate of return is quite high. New ships will be available in the market, so the fleet volume will reach 193.9 million tons in 2013.

VLCC activity has increased in all routes in 2013. Exceptionally, from the Gulf of the Middle East to the US Gulf and the Far East thanks to the high export of Iraqi oil. Additionally, the West African / Far East route runs across the VLCC tonnage. Globe scale reached WS40's MEG / Far East stage and a little gain for VLCC owners improved

Suezmax tanker market

Suezmax vessels carry between 120,000 and 200,000 m / ton of load. It is mainly deployed on routes like West Africa - US Coast and Black Sea / Mediterranean - US coasts. The average spot rate varies for different routes. West Africa - US coasts are estimated to be WS81 in 2011, WS78 in 2012 and WS62 in 2013. Nevertheless, the standard spot for the Middle East and the Middle East is estimated to be WS61 in 2011 and WS48 in 2012. WS32 in 2013. The Suezmax fleet consists of 471 Dual Craft tankers. At the same time, modern ships are currently booked. The new transmitted tonnage has added an additional 3.1 million kilograms to the fleet planned to increase the reach of 72.2 million tons by the end of 2013. In the future, there will be more supplies to increase the capacity of the destroyed tonnage, with 0.3 million dead loads

Aframax tanker market

The Double Gulf Aframax tanker ranged from 80,000 to 120,000 m / t. AFRA's letters are an abbreviation of the old chartering interval, which is derived from Medium Cost Estimates .Ships may be placed on some markets, or crude oil can be transported on special routes, such as Caribe - US Coast or Probable Goods. In 2012, the total tonnage of Aframax tankers has significantly increased, which is 97.6 million dwt compared to 2010, which is 87.8 million dwt of total tonnage. The increase in supply has also been substantially expanded. Meanwhile, the demand dropped from 53.9 to 50.5 million dwt, respectively, in 2010 and 2012. Falling global demand is due to the decline in oil imports in North America. 2013 is marked twice with adverse effects. Caribe - Reduced US route has resulted in increased US oil production and competition between Suezmax tankers. The other reason is that the European financial crisis has an impact on the Aframax market, which has resulted in a decline in freight volumes. Aframax ice grade tonne, sailing to the Baltic Sea, normally gets stable during the ice age. Unexpectedly, the market had grown to reach WS215 in April 2013, but the ice loss dropped to WS50 when it was over.

Shipping market

Freight market

The rate of transit is linked to the amount of loaded load compared to the tonnage available in the market (Stopford, 2009, p.160). Also, the cargo market is affected by trade, for example, cargo volumes in the North Atlantic differ from the cargo market in the Far East market. On the other hand, there are features such as the freight market, the type of goods, the distance between freight and ports, port facilities, harbor fees, and fuel costs. Pace (1979) wrote that the load limit reflects the stability of the existing fleet and the load to be transported

freight transportation of various types of anchor vessels

Different tanker sizes are subject to the market supply and personal needs of the market. The Submarket has a different seasonal cycle in the tanker industry or at various times or in different sizes of tankers. The following market characteristics were based on the period from January 1990 to March 2005

a) The spot market of small tankers is less variable than large tankers. The VLCC market shows the volatility of user volumes from the tanker market. The market of Aframax tankers and Suezmax tankers is also more volatile than the Handy-sized market, but is less fluid than the VLCC market. Diversity in tanker sizes, therefore, is a great choice for tanker owners operating in the spot market to minimize their load.

b). Different differences in cargo volumes are reduced when all volumes of tankers deal with the charter within one year. Changes that are inconsistent with the volatility of freight rates are eliminated for a three-year statutory and longer term. Therefore, shipowners with large tankers can operate at long-term regulatory parties to prevent the risk of load.

c) Of course, the spot market is highly variable because it is affected by a number of factors such as market conditions for the day, bunker costs and

unemployment risks. On the other hand, one-year charter rates are lower than spot prices. The local market is expected to win an average

Tariffs for various term contracts

The three-year charter supply response is less than a one-year charter curtailment when market changes are made. Also, when traveling on the market, travel insurance rates have a significant impact. Figure 2.5 shows that the three-year discipline is compared with charter and travel regulations within approximately one year in response to the demand and load limit changes. The supply curve of the three-year statute is less flexible than the supply curve. As a result, it is one year's charter supply curve

Shipping Freight Markets for Different Duration Contracts
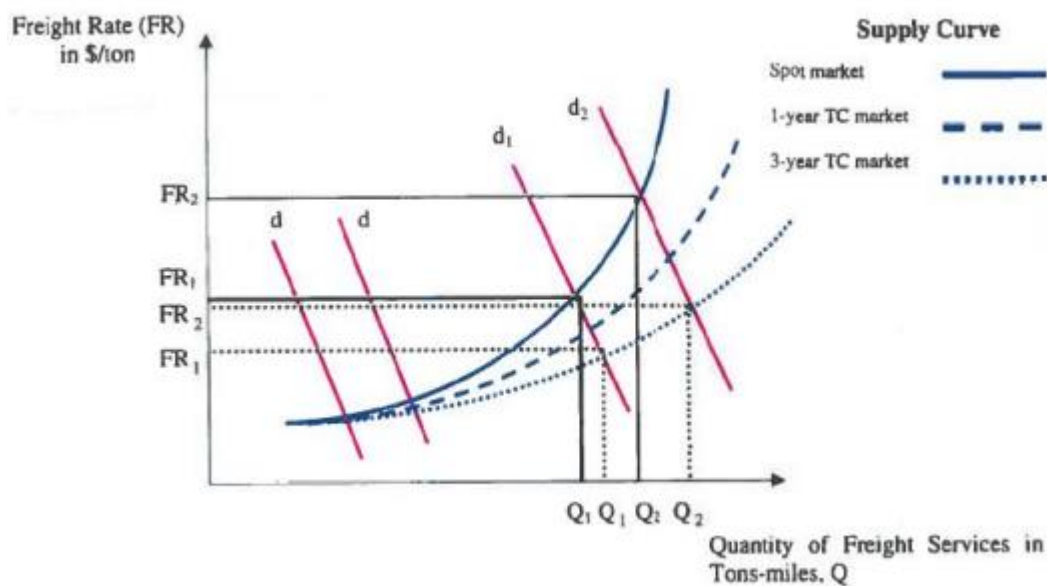
Ship

Shipbuilding is an important volatility that affects load rates and regulates supply. Speculators order new ships when the transportation rates increase. Additionally, new installations increase the excellence of maritime transport. On the other hand, theories are ordered by ships when the marketplace rises. Therefore expectations and forecasts are important. New structure trends are based on supply and demand. The impact of a new building, the cost of ships on the other hand, books and demolition prices. Sometimes orders for modern structures. Shipbuilding requires great investment, so choices are made. This is a low cost procedure

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Storage

Scrap market changes. Older ships are denied, minimizing operating costs. An important issue that affects the scrap market is the new force that IMO is obliged to stop single-body tanks. The new double-decker tanks must meet the requirements of the environment. However, the tonnage is the tonnage of the shipping market .Control of such a substance is a complex substance, and there are some components that affect the age of the ship, technological wear, and scrap cost, and the ship is expected to come.

Second Hand Market

Secondly, the market is not the same. This market can be used by buyers who buy cheap and high quality high-quality watches. But the financial burden can be strong. Low shipping rates are far from the market. As a result, the owners of the ship are obliged to sell because of the long-term rail market. On the contrary, they maintain their ships during heavy rains and boost rates

Integration of the four-pronged market

In the four transport markets: freight, new buildings, second hand and scrap markets are highly correlated. Changes in prices are completely affected by other markets. Shipowners are generally prohibited by ship or by vessel owners (COA). Can be collected from an old ship, which is more useful during other cash collections. The flow of cash flows to the market. An example of cash flow wave will increase if the demand increases. As a result, the second party is united. On the other hand, it is the same thing as it is.

Speculators who know the market's uncertainty earn good money for depression. Otherwise, weak financial workers do not have liquidity to support their ships, and when market protection.

Shipping market cycle

The shipping market consists of four stages, then restored, leads to a peak in the market, and then comes to the stage of the collapse of the market. The shipping period can be classified in three types. The first is 60 years. The increasing flow of the cycle shows that revenue has increased, but has been moved down. In some cases, the decline is very strong, and it is possible that the vessels are put on ships. A type is a short-term period or a business phase. The period cycle varies from 3 to 12 years, from peak to altitude. It is marked by sky-wavy fluctuations and is measured as a problem in shipping business. The third cycle of the cycle is a regular period.
This period changes regularly. For example, an increase in oil demand in the Baltic Sea may be a bit short of the load rates

Risk management strategy

Financial professionals designing such variable markets are exposed to cash-related risks because the main purpose of the investment is to minimize the use of high yields. That's why wise investors should use every information and market research they prefer. The key elements of the shipping market are the revenue and expenses of the ships. The volume of cargo represents a major source of income and represents the main source of oil pipeline. That's why vessels operating in suspicious world markets have a great deal of work hazards. But risks are not always inevitable.

Well - planned companies will closely analyze the market cycle and protect the aggregated data on variables affecting the shipping market from a terrible time .Over the middle of March 2008, freight rates dropped sharply, with a decline of 95 percent at the end of 2008. The uncertainty of the freight rate affects the profitability of the shipping company. At the same time, the bunker, which is used as a energy billboard in ships charging energy in the freight market, is exposed to the main cost volatility represented by oil spending. Bunker costs are short and long in the Globe oil market. In this way, it is necessary to earn the

expected earnings and provide income and expenses by financial professionals to prevent the vulnerability and the environment. Over the years, a large-scale financial expert has created a highly risky market, and it is extremely clear that risk management is important. This creates a shock situation when shippers are so high that the ships' long-term discipline and shipment of long-term charter shipments after cargo falls. In addition, Charterers regret that the ships have a long-term shipment when the navigation rate is low based on the wrong expectations. In addition to the above results, a study by tankers market trends for different regulatory arrangements for different sub-sectors between 1990 and 2005 has been modified for a period of volatility in the freight rates.

Undoubtedly, supply and demand are the main specific variables that take the tanker freight tariffs.

The supply will already cause the cargo to fall. As for tension, increasing demand raises product growth. However, the freight market is uncertainty, for example, political unrest in oil extraction areas can lead to a breakdown of oil pressure and may lead to unexpected turbulence for the load curve. As a result, the shipping companies' cash flow risk is at risk. As a result, investors need to know and calculate dynamic market components that will significantly help the future of the oil tanker market. The use of statistical facilities to predict future market patterns is inevitable. The classic weakening model is a useful tool that can be used to predict and understand the oil transportation market.

Prediction

Estimated or quantitative assessment tool is an assessment of the variable or stochastic value expected from the future. There are various predictive techniques developed in recent years. Approximately an assessment organization is usually carried out to help with future planning and decision-making. Any market depends on demand and supply? Tanker freight market also ensures the mutual influence of demand and supply. The volume of cargo is the price that the ship pays for the carrier's freight or freight carrier. Thus,

commodity tariffs can be predicted by means of econometrable monetary economics, which are used statistical methods for economic hazards. The main purpose of this research is to analyze the movement of oil tankers and to provide an approach to the oil tankers to add a precise model for their goods. On the other hand, the analysis of volatility for oil tanker freight rates is a key issue for oil tankers owners and other players in the market to succeed and reduce the risk of money. Therefore, it is vital to understand the instability of freight rates. This research points out the shipping market information. The outcome may help maritime oil companies, through capital transactions, increase their investment decisions, and increase their investment decisions. At the same time, shipowners are exposed to financial risks by speeding up risk management by using freight and bunker derivatives.

Regression analysis

Regression valuation analysis is an important tool used to predict the value of a variable based on the value of different variables. The stochastic variable is a variable or a result variable. Its association can also be clarified by other factors. Linear regression is a predictive strategy that is used to create a link between the changing and independent factors. On the other hand, adjusting the indicator variables to predict the situation to create a regression condition that is capable of predicting a variable

Regression compared to correlation

Figure 4.17 shows the strength of a linear link or linear combination between two factors. The association leads to the investigation of important data and their combination. When two factors are involved, they are treated with a completely symmetrical method. In regression, both variables are treated differently. The dependent variable value is stochastic and its transmission is explained by the non-stochastic independent adjustment that defines the principles of repeat tests.

To graphically portray the meaning of the linear correlation coefficient, we present various degrees of linear correlation in Fig. 4.17.

(a) Perfect positive linear correlation $r = 1$

(b) Strong positive linear correlation $r = 0.9$

(c) Weak positive linear correlation $r = 0.4$

(d) Perfect negative linear correlation $r = -1$

(e) Strong negative linear correlation $r = -0.9$

(f) Weak negative linear correlation $r = -0.4$

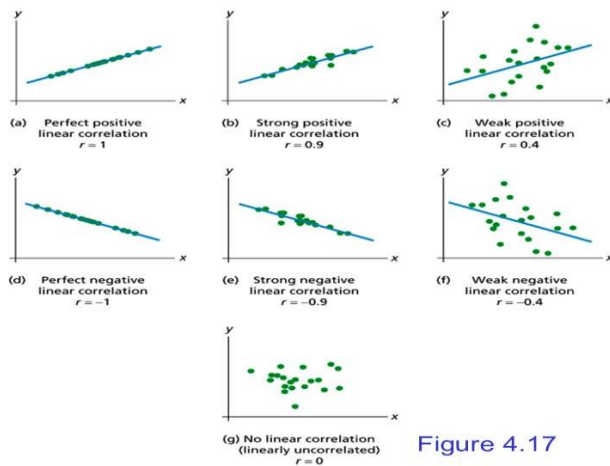(g) No linear correlation (linearly uncorrelated) $r = 0$

Figure 4.17

Multiple Linear Regression Model

It has the kind of predetermined ability. It is clarified by the stochastic variable nonstochastic variable. Stochastic or dependent variable Y or non-stochastic or selectable

The mixed (α) is the responsibility of the position at the center where the direct line passes. Or if x is nil, x takes average values. Regression is the same as changing the model. But in most cases. It is therefore advisable to use multiple informative variables and consider the specific effects of all regressions

$$y = \alpha + \beta 1 x 1 + \beta 2 x 2 + \beta 3 x 3 + \ldots \ldots + \mu t \ldots \ldots \ldots \ldots \ldots (3)$$

Accordingly, many regression is a statistical strategy used to predict the value of a variable. But in fact, the data of self-governed variables does not correspond to a line. Therefore, the erroneous situation applied to the situation is more real. Figure 3.2 The term of the fault means u. As a result, wrong terms are summarized to eliminate each other. In other words, it has an average value equal to that of the wrong terms. Then, the remaining amount of squares (RSS) is square and minimized. Thus, the estimation of the $\beta 1$, $\beta 2$, βt quantities gives the best value for the x1, x2, t factors. . In addition, the approximate residual estimate is the vertical distance between the regression line and the data target .There are some probabilities for linear regression: Firstly, linear regression may be due to these informative or self –
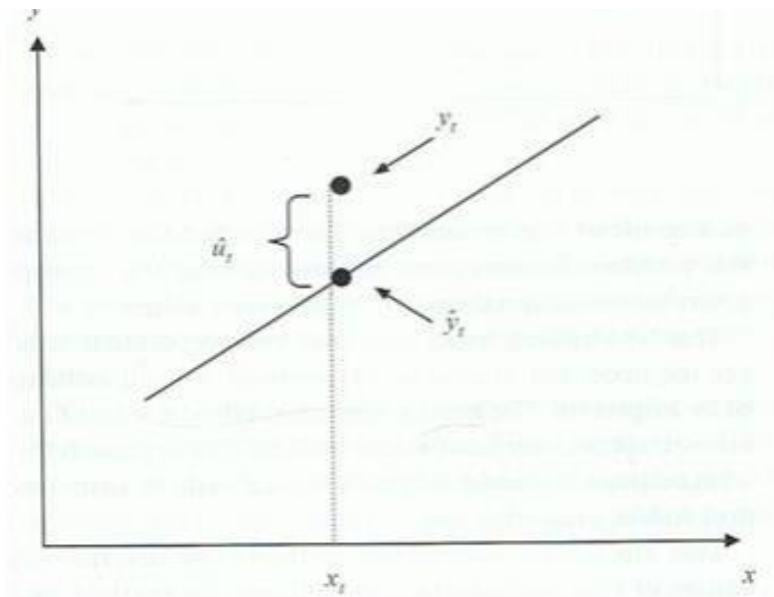
Depending on the variable 3.3, the Scatter area is reviewed, which reviews the relationship between the variables. On the other hand, it is an important step in determining whether the factors are related (association and power of the association). The mixed area is a graph with a variable axis variable x and the other axis self-acting variable x. In addition, linearity signs are positive or negative. Of course, if y grows, y will increase; is a negative sign that if y increases, x decreases. The second probability is typical (Figure 3.4); the self-governed variable should normally be distributed to approximately the average value. For each variable, the distribution number is checked by skewness and kurtosis. Kurtosis measures the peak of the distribution time of the transparency process in which data is symmetrically distributed. The normal placement is symmetrical and is not curved depending on the mean and is expressed in Mesocytes. When data is distorted, the average sharing is not in the middle, so the data is not transmitted normally.
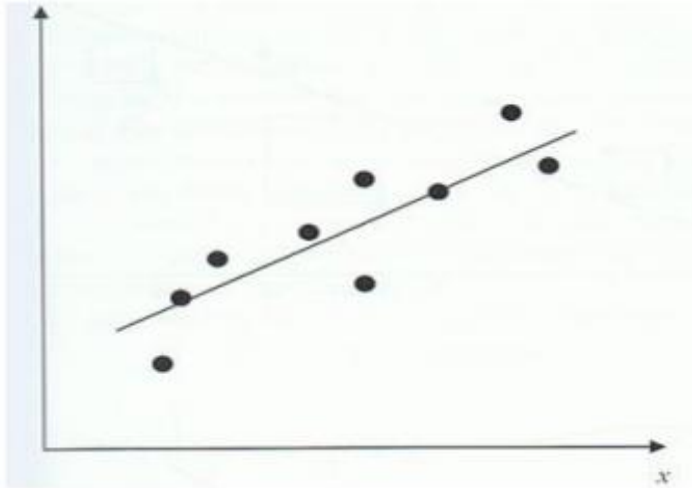
On the other hand, the normal shape is not too high, and is not too straightforward. The cost of the uniform should not exceed 3 or less than normal spread
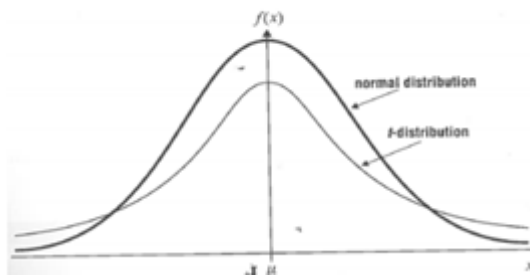
The third probable homocardasticity; describes the conditions in which the error term is similar to all the values of the independent factors. In addition, the remains are almost identical. In contrast, the size of the heteroscedasticity error condition varies with the values of the independent variable. Looking at the rest of the plan,

When the residual area has the same width for all the values of the dependency regulation, data is homoscedastic. Heteroscedasticity usually emerges by a larger group because the values for the proposed variable are larger and their characteristic symmetrically extended to the x-axis. Homoscedasticity detection in the linear regression model is at the stage of white test

The fourth hypothesis is multicollinism; any indicator is described as in any case, and is combined in a very convenient way with another self-adjusting variable compared to the dependent relative variable. The goal is to assume that the person's predictor's contribution is a kind of crisis. Finally, if the high

difference is correlation, one of the two factors must be erased from the model. The final hypothesis is serial correlation; Cov (ui, uj) = 0 is the violation of the assumption; this leads to auto merging. That is, the values of the wrong term are not independent. For a while, mistakes in a given period affect errors in another period. Additional errors or mistakes between autocorrelation errors are consistent

It is a hypothesis of the following unfulfilled conditions;

1. The linear assumption is that the error nil E (μt) = 0

2. Homosecurity hypothesis, interpretation, change of false conditions independent variable var (μt) = σ2

3. Autocorrelation assumption, that is, the mistakes are statistically independent of each other Cov (μt, μj) = 0 37 4.

4. The error is not related to the corresponding x options Cov (μt, xt) = 0

5. Errors are usually distributed.

Equation parameters

The result of an independent change over the behavior of a magnetic variable is determined by the limitation of the line slope. Multiple regressions are measured after eliminating the effects of other variables. For example x2, x2, x2, x3, ..., the effect x is calculated by b2 after the constant xt effect. In another article, regression coefficient is the coefficient of factors, interpreted as a change in response to a single change in the explanatory change that coordinates all other variables

Hypothesis test

The classic linear regression type must be tested for the reaction of the independent variable x result y. However, after β = 0 the variables are not related. Using the theory that tests the relation between X and y, the empty

hypothesis can be tested as H0: β = 0 and the alternative hypothesis is H1: β ≠ 0. The theory used to determine the relationship between X and Y is important. Certain tests of hypothesis regarding multiple regression problems, mold parameters, are useful in measuring mold. Additionally, a simple and multiple regression hypothesis test requires that the wrong terms in the regression pattern are independent and normally mean nil and σ2. In fact, the tested hypothesis is an unacceptable hypothesis. The remainder of the interest reflects the alternative

speculation. The error time should be recognized after the normal transmission and the space theory for the measurement test.

Distribution is mainly due to presumptions in the mold. U (t) is partially affected by the value Y (t). Hence, Y (t) is an opportunity to divert considerable HO from null theory from time to time. In another paper, H (o) is the ability to deny H (o), given the significant level H (o), the hypothesis testing rules are likely to be significantly smaller than the significance of the error, and is often an indicator 0.05 (Figure 3.5), is used 0.1 times a few times
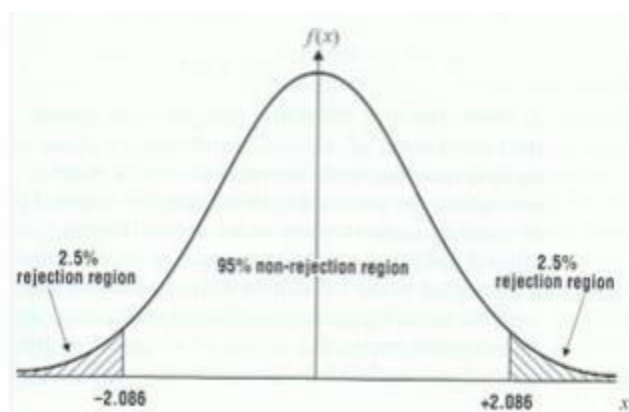

impact ratio

Regression is R^2 i a statistic that will guide you to the model's well-being. this is R^2 defined as the ratio of change between actual and relevant data for observation.

$$R^2 = \frac{ESS}{TSS}$$

Where the ESS has an amount of illuminated squares, and TSS is the total sum of squares. The coefficient of R^2 ᵢ correction is a statistically significant amount indicating that the regression mold is rough or actually good. Also, the correlation coefficient is defined as square. The lie is between 1.0 and 1.0 percent. R2 = 1 of one of the values of 1.0 indicates that the regression model is best suited to date (Figure 3.6). On the contrary, the value of the nil value represented by a straight line (Figure 3.7) indicates that the regression model does not provide a data quality. In some cases, the place used increases and decreases as model increments change. Finally, when more variables are added than the model, there is no improvement while trying to add more variables to model changes, and adjusting the number of variable variables in the model. Used in the adjusted model to determine the effectiveness of the change. In other words, the high value indicates that all variables are important.

Figure 3.6 All data points lie exactly on the estimated line R^2 ᵢ *=1*
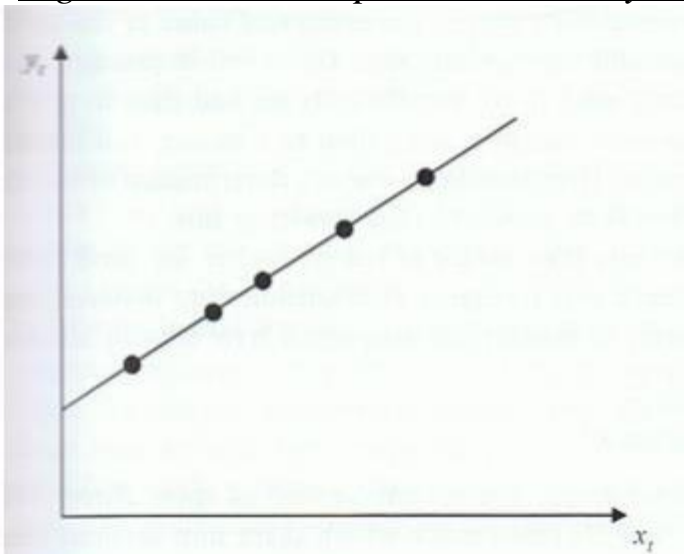
Figure 3.7 Flat estimated line R2 =0
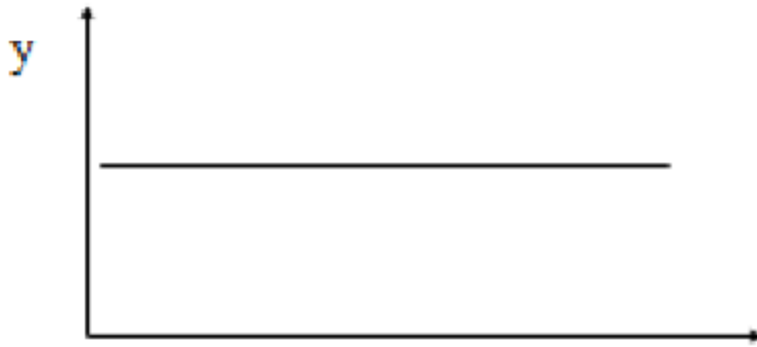
Data collection

Shipping market model

Clarkson's intelligence network (2010) was collected and analyzed. Clarkson, in response to this question, disseminates the information as the cost of the second party and the cost of scrap ship. The model is calculated using the classic linear regression model. When someone else is wrong, the owner will have the best openings on the market - this is a complete peak. As a result, how financial experts have been created and must provide a theoretical explanation to explain the complexity of the freight market. The prices are determined by the owners, operators and tenants. Oil tanker market is extremely complicated. As a result, the first step is to simplify the mold. On the other hand, unnecessary information can be ignored. Impact of Supply Zone. These are summarized as follows; Demand a) Growth of GDP or industrial production b) Offshore oil trade c) Political riots d) Prices of bunkers. A) New installation b) Available fleet c) Rejecting. Other factors, such as actual distance counting distance. For example, distances between MEG and China or India can be obtained accurately. That's why material variables are productive enough to explore (.The model's method works in two ways. Increase product productivity and product supply. Finally, the demand for more oil supplies has declined. The value of the presentation is crucial for decision-making, but it is a decision to be taken. On the other hand, shipowners should examine the trade balance and determine their outcome. In addition, ship owners should be provided with marine market analysis . The existing fleet in the supply segment reflects the availability of

short-term tonnage. Supply is larger and less expensive than new buildings before. The amount of proposed tonnage depends on the speed of oil tankers, in particular the ships. For example an oil tanker. Steamboat. The volatility of the fleet's efficiency is expressed in tonnes of tonnes. Additionally, the supply is a pair of productivity per tonne and is considered a ton of kilometers. Finally, the demand and supply model is important because they increase competition that creates price changes. There is a great need for competition and price hikes among tenants. On the other hand, supplies are over.

Model consistency

The cargo market offers offers and offers. A pivot point that controls the supply and demand balance. When the tonnage is short. At this point the owners begin to buy new tonnage and tenants. When the tonnage is over, the cost of the supply. Unfortunately, at this point money flows to traders' financial statements. Market and balance relations are essential for the market. In other words, demand is indefinable, unexpected, and variable. On the other hand, the supply is slow and loses time to change. Finally, if predictive prediction is based on reliable information, then it is possible to see the predictive future closely

$$R_t = = \frac{P_{t} - P_{t-1}}{P_{t-1}} \times 100\% \dots\dots\dots\dots\dots\dots (4)$$

When Rt, T and P relate to basic revenues, Brooks expresses its value in time (2008), if the smallest squares of the standard, if the regression model conforms to the assumptions, is effective and impartial, the model parameter evaluator. In another article, the best line of the model is known as an impartial evaluator (Blue). Therefore, the first process is to determine whether the independent variables are significant. If the variables can explain the variables related to the F test, the independent variable p-value should not exceed 5 percent or more than 10 percent. Then, one of the highly correlative variables to prevent multicolourism. After a while, the typology is tested and the mannequin variables applied when balances are in contrast. Application of Dummy Variables is a great way to eliminate major shortcomings in data. In addition, consistent correlation and heteroskasticity is ineffective or there is no Blue coefficient of evaluation. White correction is used if approximate equations are heteroscedastic, but not directly correlated. However, Newey West is used for both heteroscedasticity and autocorrelation. When autocorrelation exists, it will be inflated for its true value. An auto-associated residual model can be solved by adding the associated variable or delayed values of the informative variable. Additionally, the delayed value of the dependent variable claims that the

independent variables are non-stationary, although the coefficient estimates are still consecutive. Additionally, checking the sequence of parameters can be done using the Chow test to detect broken points and the Ramsey test to ensure typical structural stability. Furthermore, Brooks (2008) states that the standard of minimizing the least squares applies to states that are the same as the true principles of quantitative values

$$E(\hat{a}) = a \qquad \text{and} \qquad E(\hat{B}) = B$$

Reports that estimates are not reliable and are not very different from one sample within the given population; valuation standard errors. The default error is the overall calculation of the Regression Parameters' accuracy.

Uncertainty is the solution model of the charter market of time

According to Fearnley's (2013) assessment, a one-year charter for VLCCs (T / C) will cost $ 20,000 by the end of 2013, an annual T / C of $ 16,500 for Suezmax / day and an annual T / C for Aframax will cost $ 14,000. Now, an annual T / C market for three sections is $ 17,500, $ 15,000 and $ 12,750, respectively. Another Drewry shipping consultant is expected to remain in the first quarter of 2012, with the overall image of the tanker time charter market falling. Additionally, tankers on the supply continued to be less expensive compared to trucks. Time is accompanied by lack of confidence in the charter market. On the other hand, the annual rate dropped by 2.5% from the fourth quarter of 2011 .This is similar to the fact that the time layout covers a longer period and requires an ideal chance to justify prospects in the market. Additionally, the valuation of a timetable depends on the spot market predicted load point relative to the charging time achieved and the residual value of the oil tanker when the charter ends. Coincidentally confused by political disturbances and warfare distorts the stability of the economic structure and leads to the transformation process and increases uncertainty. Thus, the calculation in the short-term market is beneficial. On the other hand, the long-term forecast is not reliable.

Variables affect navigation rates

The Baltic Exchange Global Tanker Routes (BITR) consists of the Baltic Exchange Dirty Tanker Index (BDTI) and the Baltic Exchange Clean Tanker Index (BCTI). BITR (see Table 3.1) for 14 dirty tanker routes from the 19 international rankings and a list of devices every day. Daily reviews of the BDTI index provide for daily crude oil tankers' daily loads and worldwide loading of dirty tanker routes. Additionally, BCTI conducts an assessment of the future behavior of navigation tariffs that provide routine assessments of world-class pure tanker routes. Thus, the BDTI examines the capacity and shortage of freight prices for crude oil tankers. In addition, the Baltic Stock Exchange (2013) states that freight transportation plays a crucial role among 45 other factors related to cash flows. However, load rates depend on the number of external factors that control the behavior of freight charges

(i). The navy fleet is a crucial variable that contains fleet size and operational efficiency, innovative construction orders, scrap price, and built-in ships. Thus, the increasing fleet size means lower freight rates. On the contrary, the reduction of the volume of active fleet envisages the overcharging tariffs.)

(iii) Air disintegration has a great impact on the rate fluctuations, such as the large impact of the harbor on ice or flood levels. Bunker Costs: Normally, bunker costs are the major part of the cost of the boat. As a result, the high price of bunker prices has a great impact on the shipping market. Increasing the cost of the bunker increases the shipping costs of the ship.

(v). Chock attention; this factor endangers the tanker freight market and violates the reliability of ocean freight. The clogging increase means almost safe loading and unloading times because most of the world's oil flows through compressed and relatively narrow channels such as the Suez Canals, Bosphorus and Hormuz Gardens. Additionally, the risk of conflicts, clashes, and terrorist attacks is likely to cause the transport lane to overload .In addition, there are many unexpected variables that can affect freight prices as the closure of one of the world 's largest oil refineries in the U.S. Virgin Islands, which results in a short - term decline in country trade .On the other hand, high competitiveness in emerging oil refineries the optimistic impact on the tanker load. Other causes, such as political unrest in Libya, have resulted in 300,000 barrels of oil per day, from 1.57 million barrels per day. At the same time, the bad climate leads to stagnation in the Bosphorus, leading to increased tankers loading. There is a large amount of oil per day, due to this difficulty

| ---	From	To	Size	Class
TD1	MEG	USG	280,000mt	VLCC
TD2	MEG	Singapore	260,000mt	VLCC
TD3	MEG	Japan	250,000mt	VLCC
TD4	WAF	USG	260,000mt	VLCC
TD5	WAF	USAC	130,000mt	Suezmax
TD6	Black Sea	Mediterranean	135,000mt	Suezmax
TD7	North Sea	Eur Continent	80,000mt	Aframax
TD8	Kuwait	Singapore	80,000mt	Aframax
TD9	Caribbean	USG	70,000mt	Aframax
TD10	Caribbean	USAC	50,000mt	Panamax
TD11	Mediterranean	Mediterranean	80,000mt	Aframax
TD12	Antwerp	Houston	55,000mt	Panamax
TD14	Indonesia	Japan	80,000mt	Aframax

SWOT Analysis of China Ship Industry

The international shipbuilding industry has now slipped to Asia, primarily as China, South Korea, and Japan; The world's three shipbuilding power. At the beginning of this century, China is carrying out shipbuilding as a strategic industry to build itself as a major naval force. Now it is the world's main shipyard in terms of gross tonnage and value. This paper seeks to discover China's shipbuilding efforts and methodologies, allowing the country's shipbuilding industry to be competitive and effective. This research is based mainly on data collection from China's shipbuilding stakeholders and SWOT analysis based on Chinese shipbuilding. Seaborne in terms of the cost of around 90% of world trade on the world economy. Sea trade is about 7 billion tons every twelve months; typically gives 15% of global GDP [1]. The global main shipbuilding industry has now slipped to Asia, such as China, South Korea and Japan; Three ships in the world. At the beginning of this century, China tried to establish itself as a naval force and implemented a shipbuilding methodology. Now the world's largest ship manufacturer in terms of gross tonnage and value; both Korea and Japan. China is the largest trade nation in the world and the World Bank believes that it will continue its economic development in the future [2]. CNN [3] reported that China's total trade volume for 2013 was $ 4.2 trillion. China will become the world's largest trading country and production economy bearing the US in 2014. China's shipbuilding initiative and strategy enabled the country's shipbuilding industry to compete and challenge the foreign industry's industry analysis. Acquisition of information across China is a

major problem. However, it was under the reasonable control of everything in China for the direct involvement of the researcher in physical presence and industry. This research work is important in terms of China's economic status, global economy, shipbuilding trend, shipbuilding experience in the modern world, global shipbuilding order, china shipbuilding and Chinese Ship Industry Threats Challenge Threat (SWOT) Analysis.

Reasoning strengthening of shipbuilding industry in China

Shipbuilding is considered one of the most strategic, oldest, most open and very competitive markets in the world. The shipbuilding industry prefers eternal maritime countries, and it generally has extensive experience in peaks and weaknesses in the economy. Since shipbuilding is a very efficient investment intensive industry, strong government support and political stability are a prerequisite for this industry to cope. The key components of the market's growth are GDP, global seaborne trade, trade and industry growth, rising urbanization, fossil fuel prices, and steel production worldwide. The Chinese economy knows a 10% average annual GDP growth rate over the past decade. [5] It is expected that by 2020 it will continue its growth rate and pass to the US GDP. The high savings rate, rich and ever-reaching beyond all the countries of the world by 2020, includes talented labor, healthy trade, social security, and potential urban development to reach China at the highest levels. Figure 1 shows China's GDP growth predicted by the Global Monetary Fund (IMF). On the other hand, China's socialist market economy is the second-largest economy in the world with the world's largest economy and the world's largest economy, gaining the power of the IMF [6]. Is a world-class center for Chinese production and is the world's largest exporter, the world's largest exporter, the largest US-based manufacturer. China is also the fastest growing buyer market in the world and the second largest importer in the US. Services In the years 2007 through 2011, the Chinese Account Balance has always come to light and is a net importer of the Chinese Service product. China is the world's largest trade country and plays a very important role in international trade and is engaged in more trade organizations and contracts in recent years. China has free trade agreements with many countries. However, according to the per capita income, China in 2013 was 89th in nominal GDP of GDP in 2013, according to the IMF. The provinces in the coastal areas of China are more industrialized and the hinterland regions are less developed.
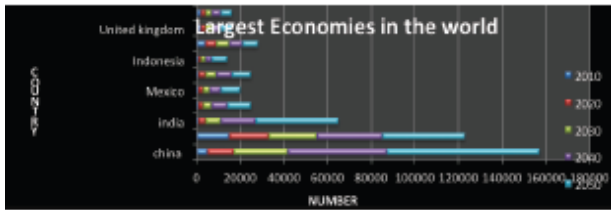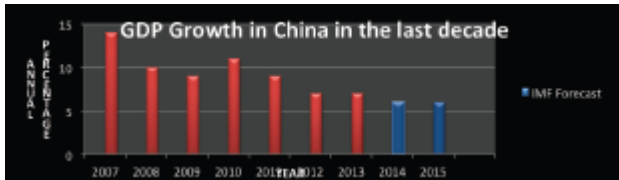
China Ship Strategy and Current State

Shipbuilding has been recognized as a key area for growth in China [7]. In the current year, there has been significant expansion of the potential for the creation of new facilities and upgrading existing shipyards. Like all other industries, shipbuilding has aggravated East over the previous 40 years [8]. In this period, western European shipbuilders were eroding market share - first of all by Japan, South Korea, and lately by China. China is a structure that is trying to establish itself as the main naval force. It is now the world's largest belt structure in terms of gross tonnage and value, leaving behind Japan and South Korea. China's development strategy is to change the trend of financial development based on cheap work and expansion to achieve progressive productivity in achieving growth and production transformation with methodological and technological development. Chinese shipbuilding company combines war and trade efforts [9]. Once upon a time, ships, servicemen and organizations, which were building military ships, were transformed into commercial interpretation of cargo and other vessels, and continued to build and modernize ships in response to the needs of the Armed Forces Armed Forces and the Armed Forces. The China Shipbuilding Industry Corporation (CSIC) is one of two major shipbuilding conglomerates in China, and the other is the Chinese State Shipbuilding Corporation (CSSC). The Government was formed

on July 1, 1999 by companies that were expelled from CSSC. They fall under the direct management of the State Enterprises (CCI) and the State Council (the Chinese Council). However, more than half of the country's shipbuilding is actually ending with thousands of private and small shipyards. In such yards, about half of China's overall shipbuilding and about half of all ships have been during the year. They also considered it part of the country's shipbuilding work [10]. The Chinese flag merchant fleet has more than 2000 ships statistics and nearly half its tonnes of 10,000 tonnes (DWT), giving the name of the China Ocean Shipping Company (COSCO). China is preparing to expand Chinese fleets to expand its trade. The following Table 1 illustrates the available statistics for 2014 and key figures in China's shipbuilding industry.

Table 1: Production Stats and Market Dimensions of the Chinese Ship Industry (2014)

Revenue around US$ 80 billion.	Annual Growth average 2.5%
Profit average 10%	Direct Employment around 500,000
Total Businesses 685	Indirect Employment around 5000,000

Global Ship Order and China's Shipbuilding Development Over the past decade

The Chinese shipbuilding market has grown since 2008. It is now grown at the peak of the international shipbuilding market in 2007. The Chinese shipbuilding industry comes in the highest place in 2011 and is gradually slowing down. the development of international shipbuilding has changed

SWOT Analysis of China Ship Supply

A Swot analysis (another Swot matrix) is a planning method used to evaluate strengths, weaknesses, opportunities, and threats to a job or business or industry. This SWOT analysis, closely monitoring shipbuilding procedures, supply chain, project management, frameworks based on field statistics collected by the shipbuilding industry. strategies, etc. For a long time, the author has remained in China for a shipbuilding.

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Power

• The position of the whole industry in the Chinese financial system has continued to grow since the last three decades. Immediately China is the largest industrial nation and leaving behind the United States. As a shipbuilding country, China is also one of the world's leading humanity in South Korea and Japan. In 2014, the completion of ships in China, the new orders and the quantity of commodity orders remained unchanged [11].

• Shipbuilding industry is rapidly developing in China. The sum of the boats in China has grown rapidly since the 1990s, transforming China into one of the shipbuilding centers on the planet. The shipbuilding industry has been instrumental in areas such as water transport, fishing and maritime development, since China was connected to the WTO in 2001. Shipbuilding industry is a raw material, shipbuilding infrastructure, capability, engine, gene set, machinery, equipment, deck fittings, electrical and electronic goods, panel, insulation, furniture, cable and almost all shipbuilding material.

•. The shipbuilding area in China has a great forward and recycling industry. 95% of China's shipbuilding material. The vast majority of world-renowned manufacturers, firms and industries have set up factories in China and produce uninterrupted production [13]. Therefore, the boat material is available here and the total costs are low.

• Permanent social and political climate contributes to sustainable development of shipbuilding in China [14]. China is the easiest and cheapest transportation cost compared to any country in the world.

• China's shipbuilding industry faces serious pressures / problems in the shipping industry in terms of economic depression. Macroeconomic recession

reduces overall trade and commercial fleet over 5 years. 3. Fierce competition from all shipbuilding countries over the last few years.

• The joint venture between the emerging Chinese shipbuilding industry and established Japanese and Korean yards helped move technology, engineering skills, and the Chinese manufacturing industry. Now Chinese shipyards recognize a standard to satisfy foreign customers and further improve class and size in the near future.

• Chinese builders are more competitive in the world markets, especially with dry cargo, container boat, bulk / ore carriers and crude oil tankers. Japan's Kawasaki Heavy Industries has established a joint venture with COSCO to produce Nantong Ocean Ship Engineering Company (NOSEC). This collection has already built the largest ship repair facility in China.

• The majority of Chinese manufacturers have gained a high level of skill over the past two decades, with the ability to increase both the benefits of both employees and machines to increase their benefits. However, Chinese shipbuilding is strong and strong

Weakness

1. China's shipbuilding industry has faced significant pressures / problems for the economic depression in the world's transport sector.
Macroeconomic recession reduces overall trade and commercial fleet over 5 years.
3. Fierce competition from all shipbuilding countries over the last few years.
Shipbuilding and acceleration and acceleration of mergers and acquisitions for a number of years can boost the entire industry.
5. The low cost and the increased costs of labor and raw material in China deepen the crisis.

6. Construction supervision in the Chinese shipbuilding industry, lack of midfield management and talented workforce.
7. In the new building in China it is necessary to improve the dignity of shipbuilding and construction work. 8. Design capability for a custom ship (passenger ferry, LNG carrier, pleasure boat, warship, etc.) should be improved.
9. Partners and relevant manufacturers (in CSSC and CSIC) have extra and inexpensive workforce. This additional workforce is responsible for the industry.
10. Accountability and reliability of shipbuilding personnel need development

11. Compared to all markets in China, it is the highest rate compared to the world market.
12. Reduction of orders caused cash inflow to weaken.
13. The shipbuilding industry is a highly competent industry. There is a serious competition and a small place to grow. As a result, it is now more than a chicken.
14. Efficiency is another tragedy in the shipbuilding industry

Opportunity

Since 2013, China's largest shipbuilding industry has exclusive vessels such as high-tech ships and exclusive luggage such as LNG & LPG carrier, VLCC ships, superb storage space ships, dublex stainless steel chemical ships, sea law ships, and public service ships. and fishing vessels.
2. China shipyards have received bulk orders from large numbers since 2013.
3. China's shipbuilding industry is likely to develop in the coming years. On the one hand, costs are lower in the Chinese shipbuilding industry than in Japan and Korea.
4. Expansion of domestic demand in the Chinese shipbuilding industry will attract international investment. 5. Chinese governments make adjustments to improve industry, making money and non-monetary motivation.
6. Taking into consideration the old fleet of ships in the world with approximately 40% (sea ships) over 20 years of age. China is soon skeptical of receiving these orders in the competition prize.
7. Recent studies have suggested that the likelihood of canceling orders in the shipyard would be in the near future (2015 and later).
8. Growing competition in the shipbuilding industry is achieved between large enterprises and the capital process is added and more frequently. China is in the direction of shipbuilding.
9. Domestic ships are more focused on industrial market research. China continues to pursue the same path as Japan and South Korea to reach the sea.
10. The industry has created a great chance of expanding military units

Danger

1. Achieving pleasing quality from low-tech Chinese low-income shipbuilding industry remains a problem.

2. According to global clients, the superior quality-test examiner is a prerequisite for a new building in China.
3. Production is low and it is difficult to achieve higher quality measures at Chinese shipyards compared to advanced shipyards in Japan and Korea.
4. In the design and development of high-end equipment, it is difficult to break the power of the developed countries in the short run.
5. The category of Korean enterprises in the field of ocean engineering and equipment construction will not be changed.

1. Domijan-Arneri: Poslovanje u morskom brodarstvu, Redak, Split, 2014.
2. Glavan, B.: Economics of Maritime Shipping, Školska knjiga, Zagreb, 1992.
3. Stopford, M.: Maritime economics – 3rd Edition, Routledge,New York, 2009.
4. Bistričić, A., Jugović, A., Kuzman, Z.: The role of Ship Management in Shipping Companies' Business, Pomorstvo – Scientific Journal of Maritime Research, Vol. 25 (2011), No. 1, pp.29–44.
5. Dundović, Č., Rudić, D.: Guidelines and Dynamics of Croatian Maritime Shipping Industry Adjustment Conditions Created by the World to Seaborne Trade Market, Naše more, 48(2001); 171–181.
6. IMO and the environment – brochure, 2009, http://www.imo.org.
7. ISL: Shipping Statistics and Market Review, Vol. 58, No. 1/2,2014.
8. Mitrović, F., Kesić, B., Jugović, A.: Management in shippingand ports. Split: Faculty of Maritime Studies; Euroakma,2010.
9. Radonja, R., Jugović, A.: Shipowners Business Policy in theContext of Development in Environmental Legislation,Pomorstvo– Scientific Journal of Maritime Research, Vol.25(2011), No. 2, pp. 319–341.
10.   Zelenika, R., Zanne, M.: Business policy on the function of increaseof competitiveness shipping companies, Naše more,55(3–4), University of Dubrovnik, 2008.
11. Alizadeh, A. and Nomikos, N. (2009). Shipping Derivatives and Risk Management. Palgrave Macmillan, UK.
12. Baltic Exchange Information Ltd., (2013). Shipping market Information. www.balticexchange.com , UK
13. Bovas, A. and Ledolter, J. (1983). Statistical Methods for Forecasting. John Wiley and Sons, USA
14. . Branch, A. (1998). Maritime Economics, Management and Marketing. Third Edition, Stanley Thornes Ltd, UK.

15. Buckley, J. and Kendall, L.C,(2008). The Business of Shipping. Cornell Maritime Press A Division of Schiffer Publishing Ltd, USA.
16. Brooks, C. (2008). Introductory Econometrics for Finance. Second Edition. Cambridge University Press, U K.
17. British Petroleum (2012). BP Statistical Review of World Energy 2013. . http://www.bp.com/content/dam/bp/pdf/statistical-review/statistical review of world energy 2013.pdf
18. Bunker World, (2013), Bunker World Index. http://www.bunkerworld.com/
19. Chrzanowski, I. (1985). An Introduction to Shipping Economics. Fairplay Publications, UK. Clarkson Research Services Ltd, (May, 2013). Oil and Tankers Trades Outlook. Volume 18, No.5.
20. Cullinane, K. (2011). International Handbook of Maritime Economics. Edward Elgar publishing Limited, USA.
21. Drewry shipping consultants Ltd (May, 2012). Mild recovery masks pessimistic outlook. www.drewry.co.uk
22. 86 Farnum, N. and Stanton, L. (1989). Quantitative Forecasting Methods. PWS-KENT, London.
23. Fearnleys (Jan, 2007). Oil and Tanker Market No. 4/2006. Fearnresearch, Norway.
24. Fearnleys (May, 2013). Sector Report.Crude Oil and Product Tankers. Fearnresearch, Norway.
25. Grammenos, C. (2010). The Handbook of Maritime Economics and Business. MPG Book Ltd, London.
26. Harwood, S. (2006). Shipping Finance. Third Edition, Euromoney Institutional Investor Plc, UK.
27. Hellenic Shipping News World Wide (2012). Medium-range product tankers grow bigger, offering opportunities in the smaller sizes
28. http://www.hellenicshippingnews.com International Energy Agency (2013). Oil Market Report.
29. http://www.iea.org/oilmar/Licenceomr.html
30. INTERTANKO (Jan, 2001). World Scale – A Tanker Chartering Tool.
31. International Association of Independent Tankers Owners, Norway. Institute for the Analysis of Global Security (2013), The Future of Oil.
32. http://www.iags.org/futureofoil.html
33. Institute of Chartered Shipbrokers (2013). Economic of Sea Transport and International Trade. ICS, UK.
34. Kavussanos, M. and Visvikis, I. (2006). Derivatives and Risk Management in Shipping. Witherby Shipping Business, UK.
35. Kavussanos, M. and Visvikis, I. (2011). Theory and Practice of Shipping Freight Derivatives. Risk books a Division of Incisive Financial Publishing Ltd, UK.
36. 87 Lorange, Peter. (2005). Shipping Company Strategies, Global Management Under Turbulent Condition. Emerald Group Publishing Ltd, UK.
37. McConville J. (1999). Economics of Maritime Transport, Theory and Practice. The Institute of Chartered Shipbrokers, Witherby, London.
38. O'connell, R. and Bowerman, B. (1979). Time Series Forecasting, Unified Concept and Computer implementation. Second Edition, Duxbury Press, Boston, USA.
39. Pace, M. (1979). Determination of Ocean Freight Rates, Towards New Formula. K & M Ltd, Valetta- Malta.
40. Veenstra, A. (1999) Quantative Analysis of Shipping Markets. Delft University Press. The Netherland.

41. Visvikis, I. (2013). Quantitative Methods and Market Analysis. Unpublished handout, WMU, Malmo, Sweden.
42. Visvikis, I. (2013), Shipping Management, Unpuplished handout, WMU, Malmo, Sweden. Weiss, N. (2008). Elementary Statistics. Pearson Addison Wesley , USA.
43. Stopford M., 1988. Maritime Economics, Unwin Hyman Press, London, 1988.
44. Paul G. H., 2012. Environmental Policy and Sustainable Development in China. University of Bristol Press, UK, 2012. [
45. Cable News Network, USA, edition.cnn.com
46. Lixing Zou, 2009. Development oriented finance and economy in China: A historical review and prognostic assessment. Printed in Bloomington,
47. Indiana, USA, 2009. [
48. Michael Dillon, 2010. China: A modern history, I B Tauris and Co Ltd, London, UK, 2010. [
49. Evan F, 2003. China?s Techno-warriors. Stanford University Press, California, 2003.
50. Frederick M. H., Cheryl A. W., 2004. The Philosophy of Shipbuilding: Conceptual Approaches to the Study of Wooden Ships. Texas A& M
51. University Press, 2004.
52. Sawyer, L.A. and Mitchell,W. H. 1985. The Liberty Ships: The History of the "Emergency" Type Cargo Ships Constructed in the United States
53. During the Second World War, pp. 7-10, 2nd Edition, Lloyd's of London Press Ltd., London, England, 1985. [
54. Jaffee, Capt. Walter W. 1997. The Lane Victory: The Last Victory Ship in War and Peace, pp. 4-9, 15-32, 2nd Edition, Glencannon Press, Palo
55. Alto, California, 1997.
56. Herman, Arthur, 2012. Freedom's Forge: How American Business Produced Victory inWorldWar II, pp. 135-6, 178-80, Random House, New
57. York, NY, 2012. [
58. Ship Building Market Research Report, Dec 2014. (http://www.ibisworld.com/industry/china/ship-building.html).
    a. Research Report on China Shipbuilding Industry, 2014-2018 (https://www.bharatbook.com/marine-and-shipping-market-research-reports-
59. 354707).
60. Paul G. H., 2012. Environmental policy and sustainable development in China. University of Bristol Press, UK, 2012.
61. Jonathan Story, 2003. China: the race to market; what China?s transformation means for business markets and the new world orders. Prentice
62. Hall Press, 2003.
63. China Shipbuilding Industry Production & Marketing Demand and Investment Forecast Report, 2013-2017
64. (http://en.qianzhan.com/report/detail/3c9944de618e465f.html).