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OPTIONAL MECHANISM FOR FORMATION OF FREIGHT BUSINESS STRATEGIES OF SHIPPING COMPANIES

ОПЦІОННИЙ МЕХАНІЗМ ФОРМУВАННЯ ФРАХТОВИХ БІЗНЕС-СТРАТЕГІЙ СУДНОПЛАВНИХ КОМПАНІЙ

Today, maritime transport is in a turbulent business environment, therefore, when analyzing the work of international shipping companies, the current financial performance indicators are related to the long-term planning of the fleet of shipping companies and the dynamics of military influence on Ukraine. Examination of the operation of various forms and types of charter contracts between subjects of the business environment in maritime transport. The research examines the main approaches to risks in sea transport of the strategy of ship cargo insurance. The option mechanism is an option for shipping companies to implement their development strategy in order to preserve the existing positions of the charterer and shipowner in the market. Another area where the option mechanism can be developed is the problem of planning the optimal time to buy or sell a ship, based on the expected conditions on the freight market and the market value of the ship.

Key words: shipping company, options, freighting, charter, business environment, global shipping security.

На теперішній час морський транспорт України, перебуває у стані турбулентності бізнес-середовища, тому розвиток ринку транспорту гальмується та динаміка воєнного впливу морських перевезень схильна до суттєвих коливань і невизначеності. В сучасних умовах, при аналізі роботи міжнародних судноплавних компаній разом із прагненням максимізації поточних фінансових показників функціонування важливими також є питання, пов'язані з довгостроковим плануванням фрахтування флоту судноплавних компаній із урахуванням економічних трендів зміни стану фрахтового ринку та динаміку воєнного впливу на економіку України. Таким чином, постає нагальна необхідність у перегляді організаційно-економічних підходів, якими регулюються процеси фрахтування суден та необхідність поліпшення системи показників ефективності фрахтування морських суден судноплавними компаніями у розрізі стратегічних цілей глобальної транспортної безпеки. Авторами цього дослідження був проведений аналіз функціонування різних форм і видів чартерних договорів між суб'єктами бізнес-середовища на морському транспорті. Авторами було розглянуто організаційно-економічний механізм формування фрахтових стратегій судноплавних компаній на прикладі опціонів. Розглянуто географічне розподілення міжнародних морських бірж з фрахтування суден. У даному дослідженні розглянуто основні підходи до ризиків на морському транспорті стратегії страхування вантажів та суден фрахтувальниками суден. Таким чином, економічний механізм опціонів морських суден є для судноплавних компаній варіантом реалізації стратегії розвитку, щоб зберегти існуючі позиції фрахтувальника та судовласника на ринку. Наразі використовуються такі механізми опціонів для флоту, як суднобудування, купівля суден, лізинг (бербоут-чартер), а також коротко- та середньостроковий лізинг (тайм-чартер). Іншим дієвим напрямком, де даний механізм опціонів може бути розвинений, є дослідження задачі планування оптимального часу купівлі або продажу судна, виходячи з очікуваних умов і правил на фрахтовому ринку, та вимог до ринкової вартості судна.

Ключові слова: судноплавна компанія, опціони, фрахтування, чартер, бізнес-середовище, глобальна безпека судноплавства.

Statement of the problem. With the start of military operations in 2022 between Ukraine and Russia, cargo flows from the Black Sea decreased. The maritime business environment responded to this by significantly increasing freight rates and shipping traffic decreasing, and therefore a significant part of tonnage stopped entering the Black Sea due to military risks and reoriented to other regions. As importers moved from the Black Sea to buying food from Argentina and India, trade flows moved to the Black Sea, which led to more demand for freight in these regions. Thus, the start of hostilities in Ukraine led to an increase in freight rates in other regions. Charterers who have to look for suitable vessels for the transportation of their cargoes delegate this work to intermediaries – brokers. On the other hand, shipowners looking for work turn to freight brokers. Brokers represent the charterer's and shipowner's interests at maritime exchanges, assess the vessel's suitability and negotiate the terms of the chartering agreement. Indeed, some international brokers have implemented electronic (blockchain) chartering. The effectiveness of electronic chartering of ships is still problematic and imperfect, given the large amount of capital invested in digital infrastructure.

Analysis of recent research and publications. The theoretical aspects of the study of issues related to the study of the formation and modern state of cargo transportation by sea vessels and ship chartering were elaborated in the scientific works of Ukrainian authors: Bernevek T.I. [2], Rudenko S.V., Lapkina I.O., Kovtun T.A., Bondar A.V. [10], who in their research conducted a thorough analysis of development strategies of shipping companies and issues related to vessel chartering. International aspects of vessel chartering by shipowners were highlighted in the works of: Burkinskyi B.V., Ilchenko S.V., V.F. Grishchenko [1], Kolodinskyi S.B. [8], Zakharchenko O.V. [11], and other authors.

Formulation of the research task. The purpose of this work is the analysis of the development of an organizational and economic mechanism that takes into account the

specifics of the trends of the chartering market, which is based on comprehensive monitoring and determines the specific organizational and economic directions of its functioning, which are used in sea transportation during the military influence in Ukraine, taking into account the trends of changes in the junctures of the freight market in the post-war period. Tasks, the paper examines the substantiation of the mechanism of options for the chartering of sea vessels (fleet), which allows making the optimal choice of a vessel of a shipping company, taking into account the dynamics of the military influence in Ukraine and permanent changes in the freight rates of the vessel chartering market.

Summary of the main research material. According to the Merchant Shipping Code of Ukraine (here in after referred to as the MSCU), under the contract of sea carriage of cargo, the carrier or charterer undertakes to transport the cargo entrusted to him by the consignor from the port of destination to the destination and deliver it to the person authorized to receive the cargo (consignee), and the consignor or charterer undertakes to pay the established fee (freight) for transportation [1, p. 12; 13]. Depending on the method of distribution of the right to dispose of the vessel, risks and operating costs, two main types of sea vessel chartering are distinguished: voyage chartering and time chartering. Chartering a ship means providing a ship for the transportation of cargo, passengers or other purposes for one or more voyages for a set fee (chartering the whole ship or part of it) and handing the ship over to the charterer for a certain period of time. Depending on how the right to dispose of the vessel is distributed, the associated risks and operating costs, two main types of vessel chartering are distinguished: voyage charter and time charter. The contract for chartering the vessel was concluded between the charterer and the carrier. The charterer (carrier) and an authorized agent are the parties to the flight charter contract. In the proposal, the shipowner indicates the name and tonnage of the proposed vessel, the expected date of commencement of preparation of the vessel

(i.e. the last day the vessel can arrive at the port of loading), the time required for loading or the daily charge for loading, port of loading: freight rates, size brokerage fees, as well as the desired proforma charter [13]. It is used in the following cases:

- when the ship is chartered for the carriage of cargo (full charter), the charterer must deliver cargo that can be used for the full capacity of the ship (full cargo and full cargo):

- if the cargo of two or three charterers must be transported on one vessel, each charterer concludes a charter agreement with the stipulation that the cargo will be part of the vessel's cargo (part cargo):

- when the cargo of one charterer is transported under the charter contract (the main part of the vessel), and the additional cargo of another charterer is transported under the bill of lading: The terms of the contract between the shipowner and the charterer are drawn up using standard "voyage charters". Such contracts prevail in market transactions. As a rule, they are used to improve the efficiency of the use of the fleet in areas where forward and reverse cargo flows are not balanced in terms of volumes. Analysis of economic approaches to development and trade in the world market of sea freight transportation. Voyage charters are distinguished by their scope of work, contract duration, and number of vessels used for transportation [9, p. 30]. One-way charters are used to transport cargo between two or more ports. The voyage charter provides that the charterer provides direct and reverse loading of the vessel. The shipowner agrees to plan multiple voyages in a single direction under this contract. Operating options of shipowners are characterized by a different "profitability – risk" ratio (Table 1).

Concluding a contract for the transfer of cargo is what voyage chartering involves, and the concession of the shipowner (operator) for the transportation of the cargo is the subject of the contract. Voyage chartering is done through a sea transportation contract called Voyage charter (V.C). For a specific voyage (or voyages), the charterer is only given access to the services of this vessel under the terms of a voyage charter. For transport services, the shipowner receives a fee (freight) from the charterer, which is calculated according to the amount of cargo transported, regardless of the length of the voyage. Vessels chartered under a master contract or contract of charter (CoA (Contract of Affreightment)).

The general contract is a document that confirms the agreement between the shipowner (carrier) and the charterer to transport large-tonnage cargo between specific

ports for a specific period. Depending on the nature of the contract, it is sometimes called a "quantity contract" or a "carriage contract". A typical contract may include several consecutive flights. To fulfill its obligations to the charterer, the shipowner can use several ships, the operation of which is similar to the liner service in terms of the frequency of calls to the port. Indeed, within the framework of linear services, there are also master agreements. Standard contracts have different bases. For example, the shipowner undertakes to transport a certain amount of grain from port A to port B in one year, the shipowner has the right to transport all the oil imported by the charterer for two years, the shipowner has the right to transport all the vehicles exported by the charterer for two years, and the charterer guarantees at least seven shipments in one year. At first glance, voyage charters appear to be more advantageous for the charterer when compared to time charter contracts because they minimize risk. When freight rates drop, charterers frequently use time charters to increase their tonnage reserve for the charter period. By doing this, they can be ready for claims when freight rates increase. From the charterer's point of view, the advantage of time charter is that when freight rates are low, shipowners are reluctant to charter voyages in the hope of higher rates, and the charterer is forced to offer higher freight rates. Time charter is less risky for shipowners than sea freight. Time charter is favored by shipowners who expect a decrease in demand for tonnage or a drop in freight rates within the next three to six months [8, p. 35]. The activity of charterers on the time charter market increases during periods of improvement in the market situation in order to secure tonnage in advance before periods of increase in voyage freight rates. Almost all risks are assumed by the charterer during the charter period. Bareboat chartering is a type of bareboat charter. In this case, the ship is handed over to the charterer without a crew and the charterer bears the costs of crewing the ship. A bareboat charter contract is a vessel rental contract. Bareboat contracts can be classified into four different types: lease of the vessel with subsequent return to its owner; rent with subsequent purchase of the vessel, lease of a vessel under construction (from the moment of completion of construction until the moment of returning the vessel to the owner): lease of a vessel under construction from the moment of completion of construction until the moment of redemption of the vessel by the charterer. Time charter and bareboat charter are used for long-term contracts (3-5 years or more), when the shipowner cannot control the intensity of the charterer's work. Such contracts provide the shipowner with a fixed

Table 1

Basic operational options of shipowners

Types of operational options	Distribution of costs and risks between the parties to contracts of transportation and chartering of vessels	Ratio between profitability and risk
Option A: Chartering the vessel on the spot market	Most of the costs and risks of NFIS are borne by the shipowner	A high degree of profitability and risk, the difficulty of forecasting the market situation
Option B: General centrist	Most of the costs and risks are borne by the shipowner	Inflexible pricing, more profitability / lower level of risk
Option C: Time chartering	Most of the costs and risks are borne by the charterer or operator	Relatively low returns and relatively low risk

Source: the table was developed by the authors

income and guarantee him protection from adverse market conditions, but at the same time reduce the ability of the shipowner to take advantage of the increased demand for chartered vessels during periods of high market conditions and receive additional profits. Vessels have the option to be chartered immediately after delivery, more frequently, or throughout their life. Depending on the type of transportation, different types of bills of lading are used, such as direct, through and combined bills of lading.³ Liner bill of lading (liner VL) is used to confirm the contract of sea transportation in liner shipping. Many vessels shipping companies use conlinebill, the standard BIMCO (Baltic and International Maritime Council). The vessel chartering process consists of three stages: preparation for negotiations (prefix); contract signing and administration (postfixation). In most cases, the charterer and the shipper give a quote (or indication) that describes the location of the cargo and vessel. The brokerage company is responsible for receiving this material, summarizing it, and sending it to clients who may be interested [11, p. 522]. The charterer provides information about the type and quantity of the cargo, loading and unloading ports, and vessel position in the offer. i.e. the time of the vessel's arrival at the loading port, the freight rate and the counterparty that pays it, the charter proforma and the deadline for a response. The types of vessel charter agreements can be divided as shown in Figure 1.

The analysis shows that although dime-size charters are not common now, there are quite a few vessels chartered under a similar concept called bareboat charter. Most of the contractual agreements that are concluded belong to the types of non-demise, voyage and time charters. In addition, there are hybrid charters, which are a mixture of certain features of both time and voyage charters. Options are contracts that allow you to buy or sell stocks, commodities, and other assets in the future at a predetermined price. Freight orders are the basis for brokers' offers for ships and cargoes. The shipowner is bound by the charterer's order to enter into a charter contract with the broker on the terms specified in it. Usually, the charterer's order contains the following information: on the cargo side: transport characteristics of the cargo, volume of the cargo, margin, whether the cargo is one-off or part of a long-term contract, ports of discharge, possible dates of cargo loading, concept

of freight rates, terms of payment of freight rates and any special ship requirements. The shipowner's order usually includes: the name of the ship, technical and operational characteristics, the register and age of the ship, the planned ports (or regions) of the voyage and dates of preparation, possible destinations, a list of unwanted cargo. The owner of the option has the right (but not the obligation) to execute the option – to buy or sell the asset specified in the option, and the seller of the option (issuer) has the obligation to execute the option at the request of the owner – to sell or buy the asset. The execution of a call option has meaning when the market price is higher than the exercise price, and a put option – when the market price is lower. The company's presentation of offers to potential charterers marks the beginning of negotiations. At the final stage of negotiations, the charterer or his broker must, within a minimum period of time, prepare and send to the shipowner a document called a fixit recapitulation (fixed without the right to change), or abbreviated fixit chap, containing all the conditions agreed during the negotiations [5, p. 169]. The broker performs a special series of operations known as post-fixing after the deal has been closed. The charter agreement is prepared by the charterer's broker and the vessel is rented according to it. When working with a permanent partner, the charter may not be concluded. The charterer is able to receive freight invoices prepared by a shipowner's broker, calculate and bill for demurrage and dead freight, and evaluate voyage performance. The shipowner's broker has the ability to create freight invoices, calculate and bill the charterer for demurrage and dead freight, and evaluate voyage performance.

A slot charter is not a contract under which one party (the customer) rents a certain number of containers (a slot on a container ship) for a certain fee, and the other party (the carrier) assumes responsibility for supplying space on the ship to transport container cargo. The liner is covered by the contract for a specified number of container seats. Usually, the contract is concluded for a period of 6–12 months and is subsequently extended. It makes no sense to conclude such a contract for one fright a specific rent is paid to the lessor of the slot for a part of the vessel's capacity, regardless of its actual usage and the lessee of the slot receives the right to act as a carrier for the shipper, even if he is not the owner of the vessel or the charterer under the bareboat

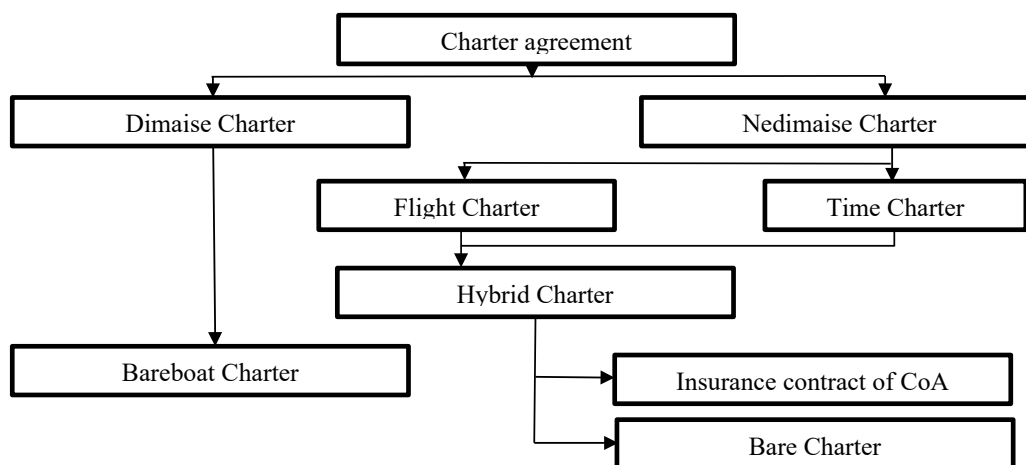


Figure 1. Types of sea vessel charter contracts

Source: developed by the authors based on data [10, p. 112]

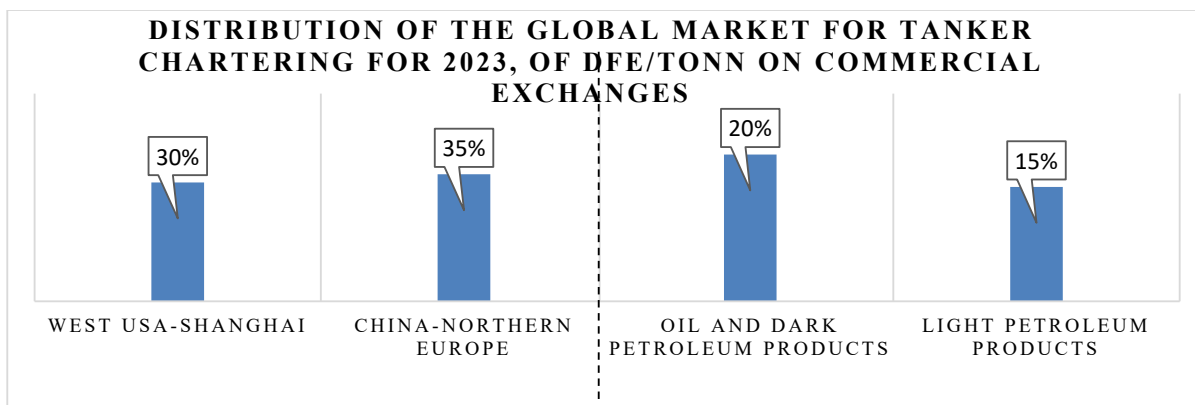


Figure 2. Analysis of the distribution of chartering on the example of the tanker fleet in the world market for 2023

Source: compiled by the authors based on open data [12]

charter or time charter. Slot tenants are operators who do not own the vessel, that is, carriers who do not control the operation of the vessel (NVOCC – Non-Vessel Operating Common Carrier) [3, p. 280]. A slot charter is a unique contract with its own characteristics. It does not belong to either time charters or voyage charters. The slot charter combines the features of both contracts and therefore can be called their hybrid. Unlike time charters, where the entire vessel is chartered, slot charters only charter a fixed amount of container capacity (slots), albeit for a certain time. In contrast to voyage charters, in slot charters the charterer charters the vessel not for a voyage, but for time and a fixed number of slots. If the ocean liner company does not have its own small container ships for feeder transportation to foreign ports, or if the volume of transportation is so large that the use of its own vessels for such transportation is economically impractical, the ocean liner company enters into a slot charter agreement with the local liner operator for the required capacity of the ocean liner of a liner to perform slot charter flights. Two or more liner operators serving a certain direction enter into an agreement to provide each other with shipping capacity on the basis of a slot charter. The larger the ship's tonnage, the lower the transport costs, but the small number of large container ships makes it impossible to ensure a competitive frequency of calls to the port. The mutual provision of shipping capacity through the slot charter system allows individual shipping lines to significantly increase the frequency of cargo flows without attracting new tonnage and to take advantage of the economic advantages of operating large-capacity vessels without the need to increase cargo flow. For large forwarding companies that concentrate large container flows on certain sea routes and shipping lines, slot charter container shipping is significantly cheaper than shipping at regular liner rates. Depending on the type of slot charter used, different chartering systems apply. Risk transfer can be achieved through traditional insurance, other than life insurance, or through hedging through specialized derivatives. Marine insurance covers all interests related to merchant shipping, such as ships and ships under construction, cargo, freight, charter, other claims secured by ships, cargo and freight, and shipowner's liability. In addition, there is insurance for war risks, strikes, etc. Hedging with derivatives can also

change the market risk profile. The freight rate derivatives market includes the following main types of derivatives. a) the first type of derivatives traded on specialized exchanges includes freight futures contracts, which are standardized contracts similar to other types of futures contracts [2, p. 7]. b) futures contracts, which are now common in the maritime transport sector, are individual contracts between counterparties. futures contracts are traded on the Baltic Exchange, New York Mercantile Exchange and International Maritime Exchange IMAREX (The International Maritime Exchange). A simplified scheme for concluding forward contracts for the purpose of hedging can be described as follows. A shipowner, chartering a ship to a certain destination, expects that the freight rates will decrease. The shipowner sells a certain amount of FFA (for example, under the chartered volume). If the shipowner has correctly identified the trend in freight rates, he can profit from the forward operation by buying the same amount of FFA (Forward Freight Agreements) at a higher price, which ideally compensates for the decrease in revenue in the real freight market (excluding the costs associated with the forward operation). The charterer, on the other hand, hedges against an increase in freight rates: by selling the FFA at a higher price than the purchase price, he receives a profit that compensates for the additional costs of chartering the vessel. It is profitable to issue options to counterparties who are able to cover the risks associated with the actual increase in the price of assets compared to the amount specified in the contract. Therefore, large brokerage firms and stock exchanges often act as sellers. Both a professional stock market player and a beginner can become the owner of the contract. During periods of market weakness, losses incurred in the actual demand market are substantially offset by gains made in the forward market. Conversely, forward contracts reduce profits when there is an unanticipated opportunity to profit in the spot market. This is due to the fact that under such circumstances the shipowner has to buy back the freight at a higher price than during the previous sale [10, p. 114]. The third type of freight derivative is a freight option. The basic asset of freight options, as well as freight derivatives (freight futures and freight forward contracts), is the cost of sea freight transportation, reflected in freight rate indices and freight rates for specific directions of cargo

transportation. Options are state-of-the-art derivative instruments increasingly used in the shipping industry. They are more flexible than forward contracts. Unlike futures and forward contracts, which fix the obligations of the counterparty, options give the buyer the opportunity to fulfill the contract. However, if the buyer chooses to exercise the option, the seller of the option has no choice. There are two types of options: call options and put options. A call option gives the right to buy an asset at a specified price. A put option gives the right to sell an asset. A call option whose actual price turned out to be higher than the strike price is said to be "at the money." Conversely, for a put option, this is the case when the value of the shares is lower than the redemption value. The amount for which the contract is "in the money" is the intrinsic value of the contract. A shipowner's economic strategy is that if freight rates are high and expected to continue their upward trend, they can use FFA to contract months ahead. Conversely, if freight rates are low and charter rates are expected to continue to decline, wait until the last minute to complete the charter at the lowest cost to the shipowner. This gives the shipowner some flexibility and the ability to take advantage of the opportunity to confirm the charter at a lower rate. However, the approach to determining the index, which consists in combining several routes, led to the decline of the BIFFEX market sale [10, p. 113]. For example, shipowners and traders fixing short routes in the Pacific Ocean did not want to make deals linked to the index, which is a basket of routes around the world. These market problems led to the development of Freight Futures Agreements (FFA), which are no different from BIFFEX (Baltic International Freight Futures Exchange), with the only difference being that the contracts are bought and sold privately between principals. Charterers anticipating an increase in freight rates provide their brokers with the necessary information to purchase FFA. This method of trading is known as "over-the-counter trading": the market was largely unregulated and secretive due to the private nature of its operation. One of the advantages of this unregulated market is that market participants can freely change the terms of their contracts sale [1, p. 11]. Nevertheless, each contract focuses on three interests in particular: vessel information, commercial information, and duration. To satisfy commercial interests and determine if the vessel is suitable for cargo loading and unloading, the charterer requires information about the vessel's structure and operations. Shipowners and charterers have a wide range of shipowner and charterer agreements. The charterer is interested in the specifics of the vessel while the shipowner is interested in the specifics of the agreement to determine their commercial and operational interests. This information includes cargo quantities, ports of discharge, planned routes and other important details. Finally, it is the duration of the charter and the conditions associated with it that determine the type of contract. The shipowner and the charterer agree on a certain period of time during which the shipowner is obliged to bring the ship to the port of loading, ready in all respects to load the agreed cargo. Private FFA transactions are not free from the risk of counterparty default, unless such risk is shared by certain large shipbrokers, financial institutions and other similar entities, also known as clearing houses. In recent years, the involvement of these large clearinghouses in trading has contributed to the growth of the freight

forwarder derivatives market. Futures trading in the freight of chartered vessels. Trading in futures derivatives began with the establishment of trading on the Baltic International Futures Exchange (BIFFEX). The underlying asset for these derivatives was the Baltic Freight Index. Charterers who expected spot prices to rise bought BIFFEX contracts from shipowners who had opposing views on future market trends. On the day of settlement, the transaction was closed at the prevailing BFI level. A number of sub-indices have been introduced that cover different segments of dry cargo trade. Baltic Panamax Index (BPI), Baltic Capesize Index (BCI), Baltic Handymax Index (BHMI) and Baltic Supramax Index (BSI). Indices were also developed for the tanker industry. These indices are weighted averages of highly liquid shipping routes associated with a certain segment. Selected routes are assigned a certain weight, and the "basket" of such routes determines certain indices that reflect the daily dynamics of spot and time charter rates. The International Maritime Exchange (IMAREX) cooperates with the Norwegian Clearinghouse for Options and Futures (NOS) for the trading of freight futures, as well as for the clearing of futures contracts and freight futures. Cargo Options Cargo options are alternative derivatives that market participants can use to manage risk. Similar to options trading in the financial markets, freight options trading involves standard freight options "put" and "call" with specific expiration dates. Unlike futures contracts, option contracts give the buyer the right to buy ("call" option) or sell ("put" option) the underlying asset in the future, but do not oblige him to do so. but not a commitment. The main advantage of buying a call option is that the loss on the trade is limited to the premium paid for the option (FFA/FIS option (Fidelity National Information Services)). A broker who buys a call option can profit when the freight rate rises, while a broker who sells a call option can profit when the freight rate falls. Similarly, a customer buying a put option must anticipate a downward trend in freight rates in order to profit. Conversely, the seller of a put option can anticipate an upward trend in the freight market. Options are traded through brokers on both sides. Brokers can work between principals, in the over-the-counter market or through a clearing house, as in the case of hybrid mutual funds. The prime broker negotiates the contract price and agrees the premium to be paid for the shipowner's right to buy or sell the underlying assets (in this case, freight rates). The premium is determined in dollars per day for time charter contracts and in dollars per ton for voyage contracts (FFA/FIS option) [1, p. 10]. It is profitable to issue options to counterparties who are able to cover the risks associated with the actual increase in the price of assets compared to the amount specified in the contract. Therefore, large brokerage firms and stock exchanges often act as sellers. Both a professional stock market player and a beginner can become the owner of the contract. The main freight derivatives markets are the following: (trades FFA and calculates various freight rate indices) Baltic Exchange in London;

- (NYMEX) New York Mercantile Exchange;
- (IMAREX) International Maritime Exchange in Oslo;
- (SGX) Singapore Stock Exchange.

Thus, an option is an insurance for a trader who is not sure of the future course dynamics. If the quotes continue

to rise, the contract holder buys shares at the price set in the contract and earns the difference. Insurance allows ship owners to minimize their risks from maritime hazards and other unforeseen events. Analyzing the redeployment of the fleet to new destinations from the Black Sea region (the closure of the port of Shanghai, China as an example) affected the Baltic Dry Index and led to its moderate decrease recently. At the same time, it does not fly down, its fall is restrained by fundamental factors affecting the market and, above all, by the limitation of tonnage growth. Let's put it this way, if everything was as it was before the start of the war between Russia and Ukraine on February 24, 2022, then freight rates would increase due to a small increase in tonnage and the implementation of predictive factors that were discussed before the start of the Russian-Ukrainian war. Insurance (H&M (Hull & Machinery)) is the main type of insurance for vessels. Hull and machinery insurance (H&M) is the main type of insurance for shipping companies. Depending on the chosen level of protection, the following risks are covered.

- damages due to the complete death (actual or temporary) of the vessel or the cost of repairing damage to the hull, mechanisms or equipment;
- damages due to the unexplained death of the vessel;
- damages, costs and contributions related to general accidents;
- necessary and reasonable expenses for saving the ship;

– necessary and reasonable expenses to prevent, reduce or determine the amount of damage caused by the insured event, as provided by the policy. Loss of cargo may also be included in the terms of comprehensive insurance. H&M insurance policies may include protection against additional risks such as cargo loss risk, war risk and collision risk. Third-party liability insurance (protection and indemnification insurance, P&I) is carried out by shipowners' mutual insurance clubs. Mutual insurance clubs (P&I clubs) are a special form of marine insurance organization on a mutual basis between shipowners. Mutual insurance clubs guarantee the shipowner's liability to third parties. In these clubs, shipowners receive protection (Protection) and compensation (Indemnity) from risks that are not covered by property insurance. Shipowner's liability for death or bodily injury of crew members and passengers:

- collision of vessels;
- damage in the port;
- cargo damage;
- pollution of the environment with oil, oil products, etc.

The share of P&I insurance costs corresponds to 6–10% of current costs in the shipping company's budget. As a general rule, standard P&I insurance does not cover the amount of unclaimed freight and damage related to vessel lay-up, but such items may be insured separately or included in P&I insurance, subject to agreement with the club. Freight, demurrage and protection (FD&D) clubs are formed by groups of shipowners under certain flags to insure and advise their members on the terms of charter and shipbuilding contracts. FD&D insurance is usually in addition to third party liability insurance and hull and machinery insurance. FD&D insurance covers risks that are not covered by comprehensive insurance or third party liability insurance (H&M). This type of insurance

is designed to protect the shipowner's income and profit from the use of the ship for transportation [9, p. 108]. The shipowner shall bear the costs associated with the representation of his interests before the owner of the cargo or, depending on the circumstances, before the judicial authorities. These costs are reimbursed to the shipowner through FD&D (Freight, Demurrage & Defence) insurance. The benefit of FD&D insurance is that clubs are not simply reimbursed. Clubs can provide support through a network of correspondents in major ports around the world or through affiliated law firms so that shipowners do not have to spend time searching for qualified lawyers. Acceptance of the risk means that the management of the shipping company takes the risk upon itself. This option is not the best, as it can lead to a negative profit. Limiting current expenses, investments and debt financing does not mean establishing a system of limits. In the case of shipping companies, limits can be applied to the total amount of investment, debt financing and operating expenses sale [4, p. 180]. By reserving funds as a means of reducing the negative impact of risk events, the company can create a separate fund to compensate losses at the expense of its own funds, rather than utilizing all of its own money. Stable positioning of the shipping company in the cargo transportation market can be achieved through the use of the following strategies. Broadening the company's investment activities by diversifying its investment activities in new segments of the freight transportation industry, which can result in an increase in profitability and a wider range of activities. The creation of various associations (for example, alliances, pools) with other companies allows shipowners to more efficiently use the transport capacity of their fleet, increase the frequency of transport services, reduce operating costs, increase efficiency and reduce capital investments. For example, the creation of a pool of shipping companies can stabilize cash flows due to the concentration of tonnage supply and the maintenance of large cargo flows under a general contract [14, p. 52]. Minimizing deviations from expected cash flows through improved investment planning processes enables the reduction of negative deviations. During planning, alternative investment projects to fill the fleet should be included along with more alternatives. Bank loans or bond issues, the acquisition of new vessels for finance purposes, a five-year loan with a low spread to labor, a seven-year loan with a high spread, the purchase of a five-year vessel or two 15-year vessels, etc. and other sources of financing may be considered. The level of risk in vessels can be decreased by enhancing their commercial and technical management, in order to reduce the risk involved. The primary strategies to lower the risk of market fluctuations are the risk reduction approaches. The process of returning to a previous date seems to be working. For vessels chartered for more than three months, the time charter rate reflects the shipowner's and charterer's expectations of future trends in the voyage charter and spot charter markets. This is similar to the hedging mechanism in the futures market. In order to reduce technical risks associated with disruption of production processes, failure of ship equipment and damage due to emergency situations, either by the ship owners themselves, or by involving the management of shipping companies [9, p. 107].

Conclusions. Shipping companies' income composition is determined by freight rates, which influences their

organizational and economic mechanism through ship fleet options. It is worth mentioning that ship charterers tend to focus on their own commercial operations (sometimes with the help of companies that manage commercial ships). Shipbuilding corporations can use the organizational and economic mechanism of marine vessel choices to create a development strategy that enhances the existing market position of charterers and shipowners. Shipping companies' fleet strategy is influenced by various factors such as emerging freight exchanges, developed market demand, ship prices, opportunities to expand, and competitive factors. Currently, such fleet option mechanisms are used as shipbuilding, purchase of ships, leasing (bareboat charter), as well as short- and medium-term leasing (time charter). Another area where the options mechanism can be developed is the study of the problem of

planning the optimal time to buy or sell a ship, based on the expected conditions on the freight market and the market value of the ship. The price also determines the amount of cash outflow, as shipping companies pay fuel costs for vessels operating on voyage charters (irregular charters) or line charters (including continuous charters) of vessels. Further research in this area may concern the scientific spaces of complex diversification of chartering by age, type, carrying capacity, versatility of sea or river vessels. The novelty of the study consists in the application of the option mechanism for the purpose of time factors to the freight rates operating on international freight exchanges. Thus, it prevents and reduces the economic risk of increased freight rate fluctuations for shipowners, as freight rates are formed for a long-term perspective of 6 months to 3 years, which insures the risks of maritime business entities.

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