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Analysis of Shipping Financing Sources in the Context of Uncertainty

Abstract
The article is *aimed* at identifying the peculiarities of financing shipping under conditions of uncertainty and analysing the sources of financing of shipping companies. *Methodology.* This study is based on the analysis of trends in the socio-economic, military-political and environmental situation, which cause global uncertainty and limit the ability of shipping companies to obtain external financing. The article compares the Petrofin Global Ship Finance Index with the dynamics of seaborne trade volumes for the period from 2008 to 2022, determines the correlation coefficient of these indicators and identifies the leaders among the banks-creditors of the shipping industry in terms of the volume of shipping loans in the loan portfolio. *Results.* The study shows a direct correlation between the shortage of shipping financing and the three main forms of global uncertainty. The results of comparing the Petrofin index with the growing dynamics of seaborne trade indicate a decrease in the role of banks and an increase in the role of alternative sources to cover the shortfall in shipping financing, such as raising resources from capital markets, financial and leasing companies, private equity funds, private equity and venture capital investments, investment platforms, hedge funds, state capital, and capital from international organisations. The main reasons for the change in the structure of shipping companies' funding sources are the conservative lending policy of banks in the crisis, tighter regulation, higher interest rates, lending only to borrowers with a positive credit history, and increased loan collateral requirements. Instead, the advantages of alternative sources of financing are flexibility, speed, less regulation compared to banks, the ability to provide large volumes, new types and forms of financing, and more competitive rates. *Practical implications.* The volatile external environment complicates the process of finding financing for shipping companies, which directly affects fleet renewal, the increase in the cost of ship construction and refurbishment, and the digital and environmental modernisation of shipping. Therefore, shipping companies should diversify their sources of financial resources, have a margin of safety in equity, and redistribute their borrowing portfolio between bank loans and alternative forms of financing. *Value/Originality.* The analysis of traditional and alternative sources of financing for shipping in the context of macroeconomic instability allows to identify key trends in investment policy towards shipping companies, to identify the specific needs of shipping companies in the face of various forms of global uncertainty and to outline the features of the most common sources of financing.

Keywords
shipping, shipping finance, uncertainty, traditional sources of shipping finance, alternative sources of shipping finance

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1 Introduction

Shipping contributes to the development of global trade, exports and imports of goods, has a lower cost, and is a more environmentally friendly mode of transport. That is why the demand for shipping companies' services is growing, prompting shipowners to expand their fleets and modernise their existing fleets, which requires significant investment.

The search for sources of financing for shipping is one of the most significant problems in the industry, which has historically been due to high risks and insufficient profitability. The development of forms and methods of financing for shipping companies has been paralleled by the development of financial markets, products and services, and has been adjusted to the needs of maritime transport companies. In recent decades, the shipping industry has managed not only to reduce the negative impact of risks, improve productivity and efficiency, but also to develop intensively and increase its potential for profitability. Currently, in the European Union, sea freight accounts for 80% of total exports and imports by volume and about 50% by value (International Chamber of Shipping). The United Nations Conference on Trade and Development (UNCTAD) also predicts an annual global growth of more than 2% in maritime trade from 2024 (UNCTAD). This growth allows this sector to take a leading position in the global transport services market and be attractive to various creditors and investors. The relevance of this study lies in the fact that the growth of seaborne trade outpaces the growth of efficiency of shipping companies (International Chamber of Shipping), which forces them to look for new ways to finance their own fleet and modernise it.

The global nature of shipping companies' operations means that global financial, military-political and environmental crises inevitably affect their operations. Global economic uncertainty is leading to changes in the structure of shipping financing sources, which is contributing to the involvement of a wide range of financial institutions – banks, financial companies, leasing companies, investment funds, as well as state capital and investors. Modern methods of shipping financing offer more innovative solutions, which is particularly attractive to shipping companies in an uncertain environment.

The objective of this study is to address the question of whether, in the context of global uncertainty, standard sources of financing meet the current needs of shipping companies, and whether these needs are sufficiently convincing to convince potential investors and lenders to invest and risk their own resources.

2 Global Uncertainty and Shipping Finance

The international nature of shipping companies' operations, on the one hand, makes them more vulnerable to national and regional crises and disasters, and on the other hand, provides a wider choice of funding sources than companies in other industries whose operations are geographically limited. However, it is well known that the behaviour, expectations and strategy of investors and lenders are directly dependent on various factors, and the impeccable reputation and financial position of a shipping company is not always crucial when making investment decisions. To a greater extent, external factors, adverse events, and conflicts determine the volume and forms of shipping financing.

Uncertainty is defined as a socio-economic, military-political and environmental condition in which the behaviour of economic agents is poorly predictable, information about future business conditions is limited, which complicates management and decision-making processes and leads to the possibility of various risks. Financing of the shipping industry is subject to various forms of uncertainty.

First, the socio-economic uncertainty is caused by the decline in production, resulting in a decline in GDP in some countries, unemployment, inflation, a reduction in production of certain types of products (agricultural and industrial), a reduction in the extraction of energy and mineral raw materials, and a decrease in the consumption of primary fuel and energy resources. In addition, socio-economic uncertainty in many countries is accompanied by social tensions, such as humanitarian crises (Ukraine, Israel), anti-government demonstrations (Canada, New Zealand, the Netherlands), protests by workers in certain sectors of the economy and farmers (Poland, France, Germany), and marches against racial and other types of discrimination (the United States). The IMF has even introduced and is studying the Social Unrest Index, which has been gradually increasing in recent years (IMF). Thus, socio-economic uncertainty indicates growing social and economic problems, and causes a decline in the overall level of socio-economic development. Therefore, it is obvious that investors in the shipping industry cannot predict the socio-economic situation and draw up long-term investment plans and strategies, which creates barriers for shipowners in obtaining investments. In addition, the governments of countries experiencing this form of uncertainty focus their efforts mainly on overcoming the crisis and do not focus on stimulating the development of shipping (they do not introduce tax incentives, finance the introduction of innovations, provide grants or low-interest loans).

Second, there is military and political uncertainty caused by military operations in Ukraine, Israel, Yemen, Sudan, tensions in the South China Sea and Taiwan Strait, attacks by Iranian-backed Houthis on ships in the Red Sea, and sanctions policy against the economies and assets of aggressor states. The sea trade routes passing through these territories are strategically important for the global economy, and disruptions in global supply chains and trade as a result of military operations lead to global inflation, higher energy prices, slower GDP growth in certain countries, etc. Shipping companies whose logistics routes run through these regions assume significant military risks (seizure, damage or destruction of vessels and cargo), which directly affects the behaviour of investors and lenders. In other words, such shipping companies not only incur additional costs for insurance and other security measures, but also have a limited range of funding sources, and their potential for development and modernisation is significantly reduced. A recent example of the impact of military and political uncertainty is the war in Ukraine, which has caused about 60 ships to be stuck in Ukrainian ports since 24 February 2022 and unable to deliver cargoes of mainly agricultural goods to their destinations for a long time, which has created risks not only for the companies themselves but also for global food security (SWI swissinfo.ch).

Third, environmental uncertainty means that accumulated environmental problems are forcing global environmental organisations to intervene with regulatory interventions – stricter rules and requirements for shipowners, ports and terminals regarding fuels and engineering features of ships, which leads to a reduction in investment in the production of new ships and requires increased costs for new developments and maritime logistics. In line with the Poseidon Principles, banks and other financial institutions are prioritising financing for environmentally friendly shipping projects, such as SMBC Group, which works closely with shipping industry clients to arrange sustainable financing, support emissions reductions and help them transition to a decarbonised economy (SMBC Group). However, isolated cases do not define a general trend towards this type of financing. Therefore, shipping companies need to be encouraged to invest in alternative fuels and green technologies, as also noted in the UNCTAD 2023 review (UNCTAD).

Growing trends towards innovation, digital solutions and enhanced cybersecurity also pose serious challenges for the shipping industry. According to open sources (UNCTAD), over the past ten years, the global fleet has aged by an average of 2 years, and the average age of merchant ships in 2023 was 22.2 years, which indicates a slowdown in ship renewal. With the growth of maritime trade, shipping companies can no longer ignore this, and therefore must seek funding to modernise and digitalise their fleets, which is a challenging task in an uncertain environment.

The manifestations of global uncertainty are interconnected and are also characterised by a "chain reaction": military conflicts – economic crises – increased investor demands on shipping companies – limited access to funding sources – reduced ability of shipping companies to generate new cash flows – reduced shipping efficiency and reduced global trade, etc. Thus, it is crucial for shipping companies to diversify their funding sources to minimise the risks caused by global uncertainty.

3 Traditional Sources of Shipping Financing

Traditional sources of shipping financing include equity and bank loans, which are very important, especially for small and newer shipping companies. For such companies, the problem of finding financing is particularly acute, as they have limited access to external investment. Equity capital, which is formed from retained earnings and private capital of the company's shareholders, is a reliable source of financing, particularly for small projects, because this resource is quite limited and must be reserved to cover potential risks. Therefore, usually, if a company is able to attract external investment, the share of equity in total investment decreases.

Bank lending has traditionally been the dominant source of shipping financing, due to a number of advantages banks have over alternative sources: reliability and experience, compliance with financial rules and standards, a well-established risk management system, highly qualified expertise, etc. According to Petrofin Research, in 2022, the total volume of bank lending will approach 350 billion USD. This is approximately 67% of all forms of global shipping financing.

However, in the face of uncertainty, in order to reduce the volume of bad loans, banks prefer a more conservative lending policy, which is manifested in tighter regulation, especially under Basel III and Basel IV, higher interest rates, lending only to borrowers with a positive credit history, increased collateral requirements, etc. As a result, small shipping companies are now forced to resort to mergers and acquisitions to increase their chances of receiving investment. Consequently, in recent years, the share of European banks, which are known for their more conservative lending policies, has been declining in global shipping financing (to 49.5% in 2022) in favour of Asian and Australian banks (from 40% in 2021 to 44% in 2022) (Petrofin Research). According to Petrofin Research, the top lenders in the shipping industry in terms of shipping loans in the loan portfolio, ranked by billion USD, are BNP Paribas (20), China Exim (18), KfW IPEX (15), Credit Agricole CIB (13), ING (13), Bank of China (13), SUMI TRUST (11), SMBC (10), Korea Exim (10), Citi (9) and HSBC (9).

A comparison of the dynamics of the Petrofin Global Ship Finance Index with the dynamics of seaborne trade volumes confirms that bank lending in the current environment does not cover the needs of the shipping industry (Figure 1).

The Petrofin index is a benchmark for shipowners and reflects the trends in ship lending by the 40 banks with the largest share of loans to shipping companies in their loan portfolios. Since 2008, there has been a clear downward trend in the value of this index from 100 to 63 in 2022. Since 2008, the dynamics of maritime trade volumes has been mainly growing (except for crisis periods). The correlation coefficient of these indicators for the selected period was -0.936, which indicates a negative correlation, i.e., in this time period, with the growth of maritime trade, the value of the Petrofin index decreases. Thus, the results of comparing these indicators indicate a decrease in the role of banks and an increase in the role of alternative sources to cover the shortage of shipping financing.

As commercial shipping continues to grow, banks need to move away from traditional lending in favour of more innovative financial products and increase loyalty to shipowners in order to remain competitive with alternative sources of funding.

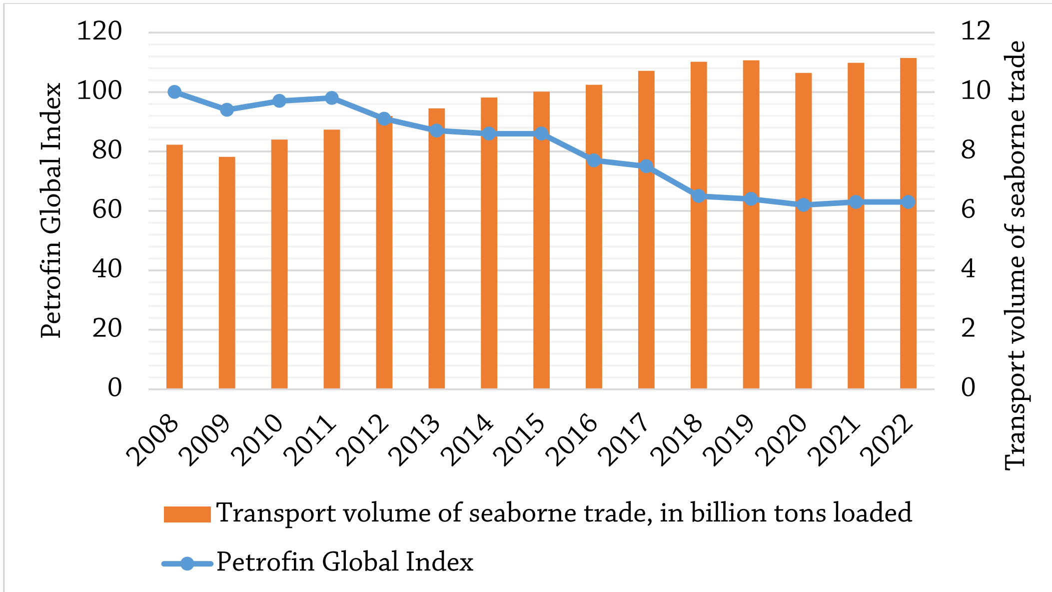

FIGURE 1 Comparison of the Petrofin Global Ship Finance Index with the dynamics of seaborne trade volumes (2008-2022)
Source: compiled by the author based on data from (Petrofin Research, UNCTAD)

4 Alternative Sources of Shipping Financing

The significant capital intensity of the shipping industry, the growth of the fleet and the volume of shipping, coupled with a reduction in bank lending, is causing a shortage of shipping financing, which is being successfully covered by alternative sources of funding.

The advantages of alternative sources of funding include flexibility, speed, less regulation compared to banks, the ability to provide large amounts of funding, new types and forms of funding, and more competitive rates.

The most common types of alternative sources of shipping financing include:

– Capital markets – access to capital markets provides shipping companies with a wider range of financing instruments, allowing them to raise capital through the issue and sale of equity instruments (shares), debt instruments (bonds) or other financial instruments; after going through the listing procedure, access to the stock exchange (NYSE, NASDAQ, LSE, OSE, HKEX, ADX) allows shipping companies to sell their own shares and raise substantial capital that is difficult to access from other sources; shipping companies can issue bonds (debt securities) to raise capital, for example, "green" bonds allow companies to finance projects that contribute to the achievement of environmental goals;
– finance and leasing companies – ship sale and leaseback transactions offered by these companies allow shipowners to release additional capital while continuing to use the vessel;
– private equity funds provide financing to private shipping companies that have been operating in the market for a long time and are at the development stage and whose shares are not traded on stock exchanges, whereby such investments involve gaining control over key decisions in the shipping company by purchasing a controlling stake for a certain period of time;
– private equity or venture capital investments allow raising funds for new risky start-up projects or projects at the initial stage of development;
– Investment platforms connect shipping companies with individual or institutional investors through crowdfunding or other means (e.g., HNW Lending, Bona Fides Invest, Goparity, Co-op Crowdfunding, Marvest);
– hedge funds – funds that invest in the shipping industry using various strategies and instruments – buy shares, stakes in debt obligations, portfolios of distressed loans, so hedge funds use riskier strategies to generate profits regardless of market conditions; hedge funds are less regulated than other investment companies, they may take into account the type of cargo transported by the shipping company when making investment decisions and prefer to invest mainly in short-term investments in dry bulk vessels. Examples of such hedge funds include LNG Capital, York Capital Management, Cross Ocean Partners, and Och-Ziff Capital;
– state capital, capital of international organisations – to promote international trade, develop environmentally friendly transport, and improve shipping safety, the state or international organisations may provide financial support in the form of grants, subsidies, or low-interest loans.

In the context of global uncertainty, the restriction of bank lending has increased the relevance and need for alternative sources of shipping financing. Depending on the type of vessels and cargo, required investment, terms and rates, a shipping company can choose the most appropriate source to finance its needs.

5 Conclusions

The shipping industry remains highly vulnerable to the negative macroeconomic environment. Global uncertainty, which is reflected in socio-economic crises, military and political conflicts, and growing environmental problems, complicates the process of finding financing for shipping companies, which directly affects fleet renewal, the rising cost of ship construction and refurbishment, and the digital and environmental modernisation of shipping. These factors are also forcing some financial institutions to adopt a conservative lending policy, while others are adapting to the changing environment and needs of shipping companies and looking for new opportunities to invest in shipping.

In order to service the growing volume of seaborne trade, shipping companies must diversify their sources of financial resources, have a safety margin in their equity, and reallocate their borrowing portfolio between bank loans and alternative forms of financing in an uncertain environment. The flexibility of approaches to shipping financing also lies in raising funds from financial institutions in different countries. Depending on the specific needs, goals, circumstances and amount of funding, a shipping company has the opportunity to combine investments from different sources, which will affect the structure of the company's liabilities.

In order to prevent a slowdown in global economic activity and to address the challenges of financing shipping in an uncertain environment, all stakeholders should cooperate and review their investment policies:

- Shipping companies should comply with environmental regulations in their operations, give preference to alternative fuels, as lending conditions for environmentally friendly ships are better than for non-environmentally friendly ones; study shipping financing trends, exchange information on investment decisions, and improve staff skills to implement digital technologies and innovations more quickly and efficiently;
- financial institutions need to analyse the efficiency of investment, increase loyalty to the shipping industry, and transform financial products and instruments to meet the needs of shipping companies;
- government agencies and international organisations need to promote the development and modernisation of shipping, simplify customs procedures, reduce the tax burden, provide grants and loans to stimulate the development of green shipping and digitalisation of the industry; and pursue a gradual decarbonisation policy with a sufficient transition period for shipping companies.

Prospects for further research in the area of shipping financing include finding the most effective sources of investment, optimising the financing structure, thoroughly studying the impact of environmental requirements and other factors and trends on shipping financing, and improving methods of managing the risks of financing the shipping industry.

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