Factors of the capital structure of maritime sector companies for increasing business value - theoretical approach

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Abstract: The global world and individual countries, which are influenced by the economic, financial crises, and pandemics that occur in one way or another, have a major impact on business and its performance. Declining consumption, disrupted settlements, limited or unavailable sources of finance, and other economic and financial reasons may cause business failures. Efficient and rational financial management is crucial for companies to survive and operate successfully under various conditions of the economic cycle, especially in times of crisis. It can be argued that, under modern conditions of market economy, making economically sound decisions about the structure of funding sources is one of the most important tasks for business companies, since the formation of a capital structure establishes the company's ability to maximise its return, manage risks effectively, and operate successfully in a competitive environment to meet the needs of a wide range of stakeholders. The maritime sector is strategically important and economically significant for any country. Companies in this sector make a significant socio-economic contribution across the entire state. When forming the capital structure in the maritime sector companies, certain exceptions are encountered since the operation of these companies requires a large amount of borrowed capital. Increasing the business value of maritime sector companies has a positive meaning nationally and internationally.

Keywords: capital structure, maritime sector, environment, microenvironment factors, macroenvironment factors

Article history:
Received: January 16, 2023
1st Revision: March 09, 2023
Accepted: April 15, 2023

DOI: 10.14254/jsdtl.2023.8-1.4
1. Introduction

In science, there is a difference of opinion regarding the direction and significance of the influence of the factors that establish the capital structure. Many researchers have studied the factors that establish the capital structure of a company and highlighted the main microenvironmental and macroenvironmental factors that establish the capital structure. Meanwhile, capital structure surveys do not distinguish between companies by sector, and often all types of companies are treated as a homogenous group (Hamzah & Marimuthu, 2018; Koralun-Bereznicka, 2013). The development of scientific progress in the maritime sector lacks empirical research to analyse the formation of a capital structure in companies in the maritime sector. Many maritime sector studies focus on maritime policy, the marine ecosystem, or maritime sub-sectors such as fisheries, energy, and transport logistics. K. Morrissey and C. O’Donoghue (2013) investigated the role of the maritime sector in the Irish economy and found that this sector creates significant added value for the national economy. Therefore, it is appropriate to promote it through additional investments. Research conducted by K.I. Jacobsen et al. (2014) confirmed that the activities of maritime sector companies, in particular the maritime energy industry, have a significant impact on the economies of maritime countries. N.B. Dang et al. (2017) research showed that the development of sustainable fisheries in Vietnam is hindered by inefficient state institutions of the country that regulate the activities of the marine sector. Researchers who have analyzed the financing, solvency and liquidity problems, and debt service capabilities of maritime companies (Yeo, 2016; Drobetz et al., 2013; Albertijn et al., 2011; Lin et al., 2010) agree that the maritime sector faces volatile cash flows, constantly changing freight and ship prices such as construction, purchase, rental, etc., therefore, risk management is essential. In the research, scientific discussions arise regarding the expediency of sources of financing the activities of companies in the maritime sector. Some investigations have revealed that although the primary source of financing the maritime sector companies is credit resources, the companies sought to take advantage of financing opportunities in external capital markets (Merika et al., 2015). Other investigations have found that the maritime sector companies have sought to finance their activities through internal sources of financing (Yang et al., 2021; Paun et al., 2016; Lee, 2016; Drobetz et al., 2013; Arvanitis et al., 2012; Thalassinos et al., 2012). Measurements of the capital structure of the maritime sector are limited to a key indicator relating to the company's total liabilities or total debts of the company. Insufficient attention to the indicator of long-term debts can be seen since long-term debts are very significant in maritime sector companies to finance the construction of a new ship, purchase, acquisition of equipment, etc.

However, when analyzing capital structure factors, microenvironmental factors tend to dominate in research because they depend on company-specific indicators that can be controlled. In many empirical studies, they are repeated, only the methods of measuring the factors differ. However, the capital structure of companies is affected not only by microenvironmental factors but also by various macroenvironmental factors in the country. They are given less attention in the studies, leading to another scientific problem. Macroeconomic indicators, such as the change in gross domestic product, inflation rate, and interest rate, are commonly used as factors in the macroeconomic capital structure. Therefore, to properly assess the impact of factors on the capital structure, it is important to analyse both microenvironmental and macroenvironmental factors.

2. The conceptualization of the company's capital structure

Companies, regardless of legal form, activity classification, sector, etc., finance their activities with borrowed and own funds. In this way, the formation of the company's capital gives rise to scientific discussions about the concept of capital structure (hereinafter CS) content, which is especially relevant in the financial policy of companies. This policy plays a significant role in many economic decisions: investments in business development, short-term assets, research and development costs, chosen market strategies, etc. (Graham et al., 2015). Therefore, much attention by specialists in the field of accounting and finance is given to the CS of the company. The analysis of CS concept is presented in Table 1, distinguishing the significant elements in the definitions of the CS concept.
### Table 1: Concept of capital structure

<table>
<thead>
<tr>
<th>Authors, year</th>
<th>Definitions of the term 'capital structure'</th>
<th>Significant elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lartey et al., 2022; Abdullah and Tursoy, 2021; Li and Singal, 2019; Muritala, 2018; Tsoy and Heshmati, 2017; Azhagaiah, Gavoury, 2011</td>
<td>A combination of measures to finance a company’s activities; a combination of short- and long-term debts and equity.</td>
<td>All debts Equity Financing of activities</td>
</tr>
<tr>
<td>Kruk, 2021</td>
<td>A combination that includes equity and long-term liabilities. The combination of equity and borrowed capital that a company uses to finance its assets and activities.</td>
<td>Equity Long-term liabilities Equity Borrowed capital Financing of assets and activities</td>
</tr>
<tr>
<td>Kajola et al., 2019</td>
<td>A long-term financial structure consisting of long-term debts and equity.</td>
<td>Long-term financial structure Long-term liabilities and equity</td>
</tr>
<tr>
<td>Sarlija and Harc, 2016</td>
<td>A specific combination of borrowed and equity capital shows how a company can finance its assets by combining shareholders’ funds, borrowed capital, and hybrid securities.</td>
<td>Borrowed and equity capital Hybrid securities Financing of assets</td>
</tr>
<tr>
<td>Abbas et al., 2016; Hashmi and Saad, 2010</td>
<td>The relative share of debts and equity used to finance a company from long-term sources, which includes debts, preference shares, and ordinary shares.</td>
<td>Debts and equity Ordinary and preference shares Long-term sources</td>
</tr>
<tr>
<td>Mutairi, 2011</td>
<td>The company’s financial basis, consisting of borrowed and equity funds, which are necessary to finance the company’s activities; a combination of liabilities (short-term and long-term), ordinary and preference shares.</td>
<td>Financial basis Borrowed and equity funds Financing of activities Shares</td>
</tr>
<tr>
<td>San and Heng, 2011</td>
<td>A combination of debts and equity, consisting of securities and other sources of financing, is used to finance the company’s real investments.</td>
<td>Debts and equity Securities Sources of financing Financing of investments</td>
</tr>
</tbody>
</table>

From the repetition of the components of CS, which are discerned in Table 1, it can be seen that the most significant are ownership and debts. According to S. O. Uremadu and O. Onyekachi (2018), and S. J. Leon (2013), CS reflects the financial sources from which the company’s assets are financed and includes different combinations of ownership securities and liabilities. Companies that seek to expand need more capital, which is usually contributed by business owners (equity), but often companies borrow funds from various sources to finance short-term and long-term projects. The cash flows generated in this way are distributed among the security holders in such a way that the relatively safer cash flows go to the bondholders and the riskier flow goes to the shareholders (Khaki et al. 2020). A. Gregg and S. Nafziger (2016) emphasize that companies can choose very different financial strategies when constructing their CS. A company seeks to find a combination that increases business value and may issue dozens of different combinations of securities (Hamid et al., 2015; Priya et al., 2015; Abor, 2005). Therefore, there is much debate in scientific studies to determine which specific combination of CS could increase business value.
The formation of the capital structure of companies in the maritime sector is the creation of means determining the combination of borrowed and equity capital and ways to ensure that the decisions made in the company would increase the business value through the improvement of the company's performance, to have a positive impact on the company, the maritime sector, society, and the country. The capital structure formed in the company is dynamic and is changing, taking into account the external and internal environment of the company. The investigations of the capital structure provide strong and valid arguments for choosing the most appropriate company financing solution related to capital structure.

3. Factors determining the capital structure

Empirical research highlights different microenvironmental and macroenvironmental factors that are significant in investigating business value enhancement opportunities in the context of capital structure. The variety of factors is significantly related to the sector of activity under investigation. This is relevant in the dissertation research to determine which factors most significantly determine the capital structure to increase business value in maritime sector companies.

The capital structure is determined by different factors, the specificity of which depends on the company's activity, sector, and the country's environment. **The analysis of scientific literature allows us to discern the main groups of factors that significantly impact CS of maritime sector companies.** In order to systematize the factors influencing CS (Figure 2), a comprehensive analysis of literature sources was conducted. Research shows that a company's CS is determined by microenvironmental (internal) and macroenvironmental (external) factors.
According to M. Hang et al. (2018), between 2012 and 2016, about 300 studies were published on CS, each presenting a set of key factors selected by the researchers. The factors determining CS formation, which have been investigated in various empirical studies, are presented in Annex 2. Such an abundance of studies has increased the heterogeneity of empirical findings but has not revealed unified factors determining CS. In the opinion of the doctoral student, discussing CS factors most often used in research in more detail is appropriate. The next part of the subsection presents the microenvironmental and macroenvironmental factors influencing CS, which increases BV, and discusses the possible impact of factors on BV increasing. Microenvironmental factors determining CS can be systematized by searching for certain related groups (Figure 3).

The company can control the microenvironmental factors. The company has no impact on the macroenvironmental factors which influence CS. Based on empirical research, it can be said that there is a consensus among scientists on what factors determine the size of FL, but there is no common opinion on their impact. G. Dalal (2013) states that the impact of factors determining CS varies depending on the company. According to I. Hacini et al. (2022), the country's specificities determine a company's specific factors, which impact capital structure.

When analyzing the influencing factors of CS that increase BV, country-specific characteristics should also be included in the analysis to assess the macroenvironment and the specificity of the sector (Figure 4). Researchers usually choose the following macroeconomic indicators: GDP growth, inflation rate, interest rate, and export and import volumes.
When investigating the factors that determine the borrowing behaviour of companies, the role of economic conditions should also be investigated. According to the prevailing macroeconomic situation in the country, a company's CS combination is formed, which allows for adapting to the prevailing situation, while strengthening economic vitality (Deari et al., 2019; Sahin, 2018; Cristea, 2018; Hang et al., 2018; ElBahsh et al., 2018; Bandyopadhyay and Barua, 2016; and others). N. Daskalakis et al. (2017) found a strong link between CS and macroeconomic conditions. The global financial crisis has raised the question of CS adjustment in the academic context by how quickly companies adopt CS to their long-term aims under different macroeconomic conditions. The researchers concluded that the adjustment of short-term and long-term debts is different: the pace of adjustment of long-term debts slows down during the crisis, while short-term debts are unaffected. L. Gan et al. (2021) indicate that in the presence of macroeconomic risk, the adjustment of CS is slower. Companies adjust their CS more quickly under favourable macroeconomic conditions. According to I. Beşliu (2017), changes in the country's economic environment, to a large extent, directly determine BV. According to L. Tsoy and A. Heshmati (2017), CS is an important issue not only for companies that seek to increase their BV, but it is also relevant during an economic downturn; the wave of bankruptcies of companies with too much-borrowed capital can be so great during a financial crisis that it could lead to a country's financial distress and failure of the state to fulfil its liabilities.

4. Conclusions

In conclusion, it can be said that the issues of the formation of the capital structure of the maritime sector are fundamental in the company's activities since many aspects of the company's activities depend on them, as well as the increase of business value. The formation of the capital structure should ensure sufficient financial resources that would guarantee the minimum cost of capital and help achieve the aims set by the company. The greater debate arises as to whether the analysis of a company's capital structure should include all of a company's borrowed capital or only long-term borrowed capital. Based on the arguments of the scientific concepts that have already been indicated, when analyzing the capital structure of maritime sector companies, all borrowed capital of the company is included, which is also reflected in the conducted research on the capital structure of maritime sector companies. The formation of the capital structure of companies in the maritime sector is the creation of means of determining the combination of borrowed and equity capital and ways to ensure that the decisions made in the company would increase the business value through the improvement of the company's performance, to have a positive impact on the company, the maritime sector, society, and the country. The capital structure formed in the company is dynamic and is changing, taking into account the external and internal environment of the company. The investigations of the capital structure provide strong and valid arguments for choosing the most appropriate company financing solution related to capital structure.
After analysing the application of CS factors in investigations, it can be stated that in many empirical studies, when forming a model of factors influencing CS, such microenvironmental factors as profitability, company size, tangible assets indicator, growth factor, taxes, and liquidity are included. The external environmental factors include inflation rate, GDP change, and interest rate. The research results vary depending on the region, the country’s development level, and the sector in which the company operates. Based on empirical research, it can be said that there is a consensus among scientists on what factors influence the size of FL. However, there is no consensus on their effects, and the impact of factors on CS is heterogeneous in different studies, often suggesting two opposite approaches. In the investigations of CS factors conducted in MS companies, the impact of macroeconomic indicators, the geopolitical environment, and the tax system on the formation of CS are analysed. However, the impact of the political, natural, and technological environment, which is significant for MS companies, on CS is not analysed. In order to form CS that increases BV in MS companies, it is necessary to take into account the factors of these environments, so the need for additional research becomes apparent.

Author contributions

The authors confirm their contribution to the paper: Study conception and design: Kristina Puleikiene, Analysis and interpretation of results: Kristina Puleikiene, Mantas Svazas; Draft manuscript preparation: Mantas Svazas. All authors reviewed the results and approved the final version of the manuscript.

Declaration statements

The authors report no potential conflict of interest.

Citation information


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