

INDONESIAN PHARMACEUTICAL COMPANIES: CAPITAL STRUCTURE, BUSINESS RISK, COMPANY VALUE AND FIRM SIZE AS A MODERATING VARIABLE ANALYSIS

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Article Information

Received: December 18, 2022

Revised: December 27, 2022

Approved: January 12, 2023

Online: January 25, 2023

ABSTRACT

This study looks into how firm size affects the relationship between capital structure and business risk in determining firm value. This study makes use of panel data from ten pharmaceutical companies sourced from their annual reports from 2015 to 2021. The data analysis method employed the Structure Equation Modeling (SEM) method via the Partial Least Squares (PLS) method with WarpPLS 6.0 software. According to the findings of this study, capital structure had no effect on firm value, whereas business risk had a significant negative effect on firm value. Only firm size can moderate the relationship between capital structure and firm value. Thus, managers' primary concern in order to maximize the value of pharmaceutical companies in Indonesia is to ensure that the amount of income received by the company remains stable in order to avoid income volatility, which can trigger increased business risk for the company. Furthermore, when developing a policy to determine how much debt or equity is used to finance the company in order to maximize the company's value, the size of the company must be considered.

Keywords

Capital Structure; Business Risk; Firm Size; Firm Value

INTRODUCTION

The current world conditions have changed the Pharmaceutical Industry sector into one of the industries considered by investors to invest. This is because companies that are members of the industry are the main supporters in providing medical equipment and medicines to overcome the Covid-19 pandemic that occurred. To maintain the interest and interest of investors in investing, pharmaceutical companies need to improve their performance through maximizing company value. This is because maximizing company value reflects business value and is a goal to be achieved by the company (Jihadi et al., 2021).

The value of the company is an indicator of how the market reacts to the company. The market reaction can be seen from the fluctuations in the price of the shares being traded. When the stock price rises, it means that the company is in its best performance or maximizing the value of the company will be achieved. For investors, this condition will bring high profits because it will attract other investors to buy shares of the company so that there will be an increase in share prices. As for creditors, the value of the company is related to the company's ability to repay loans, this means that the company has good liquidity (Hirdinis, 2019).

The ability to repay loans is related to the decision of how big the proportion of debt is compared to equity. This decision is referred to as a capital structure decision which is the most important decision for the company's finances (Gul & Cho, 2019) (Anisah et al., 2022). Because it relates to the efficient use of debt and equity in financing company assets. Cuevas-Vargas et al., (2022) states that there is no universal theory about the formation of an optimal capital structure in business. The policy for determining the capital structure generally depends on the needs of each company.

Various studies have emerged to explain how much the composition of debt and equity can be used by companies to achieve an optimal capital structure in order to maximize the value of the company. Theorem [Modigliani & Miller, \(1958\)](#) first sparked the irrelevance of capital structure in influencing firm value. Next [Setiadharna & Machali, \(2017\)](#) also found the same result that the capital structure had no effect on firm value. However, [Sari & Wijayanto, \(2015\)](#) and [Hirdinis, \(2019\)](#) found that capital structure has a significant positive effect on firm value, while [Luu, \(2021\)](#) found that capital structure has an inverse relationship with firm value.

Based on this explanation, there is an inconsistency in the results of the study in determining the optimal capital structure in order to maximize the value of the company. For this reason, further efforts are needed to investigate the impact of capital structure decisions on the value of the company that is adjusted to the conditions and circumstances that occur in the object of the company under study.

Another factor to consider to maximize firm value is uncertainty. [Bornhofen, \(1967\)](#) explains that this uncertainty is an important factor in business decisions because it will trigger business risks for the company. [Weiyang & Baofeng, \(2008\)](#) confirmed that the company's business risk is an important determinant of company value, the higher the business risk, the lower the company's value. [Bandanuji & Khoiruddin, \(2020\)](#) also found the same thing, namely business risk had a negative effect on firm value. Active risk management policies lead to an increase in firm value ([González & Yun, 2022](#)). In contrast to the results of research by [Sari & Wijayanto, \(2015\)](#) which found business risk does not affect the value of the company. Based on this explanation, special attention needs to be given to see the effects of business risks or risks inherent in the company's business operations in influencing the value of the company.

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Firm size is used as a moderator to determine whether these variables can strengthen or weaken the relationship between capital structure and business risk on firm value. Usually large companies have to borrow more funds to support their operations. Logically, this condition will increase the risk of bankruptcy or financial distress. But because in general large companies tend to have more diversified businesses, so the possibility of default risk on loan funds is lower ([Sheikh & Wang, 2011](#)). In addition, a diversified type of business also makes the business risks faced by the company more controllable. This condition will later strengthen or weaken the relationship between capital structure and business risk on firm value. Therefore, this study will provide empirical evidence regarding the relationship between the three variables of interest, especially firm size in strengthening or weakening the influence of capital structure and business risk on firm value in pharmaceutical companies in Indonesia.

Relationship between Capital Structure and Firm Value

Firm value is an investor's perception of the success of a company as reflected in its share price, measured by Price Book Value or the ratio of the company's stock market value (share price) over the book value of its equity ([Jihadi et al., 2021](#)). While the capital structure is measured by the Debt to Equity Ratio (DER), namely by comparing debt and equity ([Hirdinis, 2019](#)).

The relationship between capital structure and firm value has been explained by various theories including the theory of capital structure which explains the relationship between debt and equity in optimizing firm value as proposed by [Modigliani & Miller, \(1958\)](#); [Modigliani & Miller, \(1963\)](#). The trade-off theory recommends that managers whose firms are in a favorable condition to use more debt than equity, in order to benefit from tax reductions ([Jensen & Meckling, 1976](#)), while the pecking order theory recommends using lower debt with equity as a top priority, in order to avoid the risk of financial distress ([Myers & Majluf, 1984](#)). Thus, building an optimal capital structure leads to momentum for company development. Therefore, capital

structure decisions dynamically affect firm value and are an important and inseparable part of the goal of maximizing shareholder wealth (Almahadin & Oroud, 2019).

H1 = Capital structure has a significant positive effect on Firm Value.

Relationship between Business Risk and Company Value

Business risk is very important for the company's financial performance and the economic well-being of company owners (Forster, 1996). Therefore, every decision taken by the company in relation to increasing the value of the company must consider business risks (Sari and Wijayanto, 2015). Usually business risk is measured using a degree of operating leverage (DOL) which compares EBIT and the Company's Sales activity (Vakilifard & Oskouei, 2014); (Data et al., 2017); (Sutrisno, 2019).

The relationship between business risk and firm value occurs because of income volatility or income instability when the business environment becomes uncertain (Alnajjar, 2015). The uncertainty inherent in projected future asset returns or equity returns will affect investor interest in investing in the company, especially if the company uses larger debt to finance its company. Thus, the higher the business risk, the lower the firm value (Weiyang & Baofeng, 2008).

H2 = Business Risk has a significant negative effect on Firm Value

Firm Size moderates the relationship between Capital Structure and Business Risk to Firm Value

Firm Size can be calculated with the natural log of total assets (Bandanuji & Khoiruddin, 2020). The greater the total assets, the greater the company's growth, which makes investors respond positively to this, so that the value of the company will increase. The use of Firm Size as a moderating variable is very little taken up in various financial studies. (Kurshev & Strebulaev, 2015). In terms of capital structure and business risk in influencing value, often large companies have many strategies and face less risk, and thus have better credit than small businesses. Large companies also often have better reputations due to their greater popularity and proportionally lower expected bankruptcy costs as a fraction of the assets. All of these factors make it easier for large companies to enter the equity securities market (Chen & Chen, 2011). For this reason, this study will examine the interaction of Firm Size as a moderator between capital structure and business risk on firm value. Thus, the findings of this study can provide important insights for academics and can be implied by decision makers.

H3 = Firm Size is significant as a moderator of the relationship between Capital Structure and Firm Value

H4 = Firm Size is significant as a moderator of the relationship between Business Risk and Company Value.

METHODS

An explanation of how the independent variable affects the dependent variable which is strengthened or weakened by the moderating variable using a causative relationship approach or a causal relationship (Wasiningsih & Mulyadi, 2019). Panel data sourced from the annual financial statements of pharmaceutical companies on the Indonesia Stock Exchange in 2015-2021 are used as secondary data consisting of 10 companies that meet the sample criteria for research. Structure Equation Modeling (SEM) method with Partial Least Square (PLS) approach and multigroup analysis using WarpPLS 6.0 software are data analysis techniques used in this study.

RESULTS

Model Partial Least Square (PLS) test results using WarpPLS 6.0 software can be seen in the following figure:

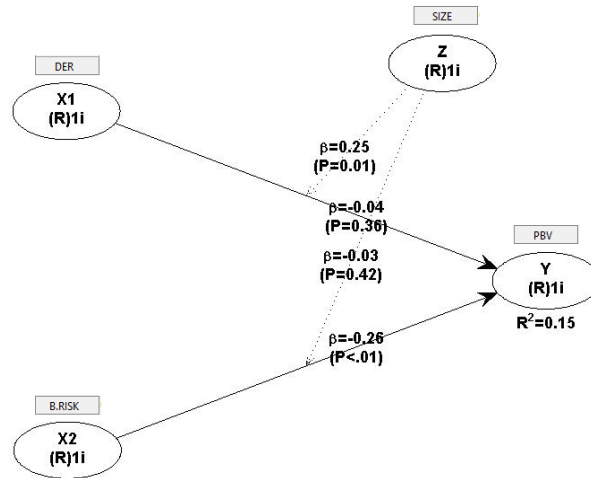


Figure 1. SEM Model

Source: Data processed in 2022 (WarpPLS 6.0 Output Results)

Table 1. Path Coefficients Results

Path coefficients						
	X1	X2	Z	Y	Z*X1	Z*X2
X1						
X2						
Z						
Y	-0.044	-0.264			0.252	-0.025
Z*X1						
Z*X2						
P values						
	X1	X2	Z	Y	Z*X1	Z*X2
X1						
X2						
Z						
Y	0.356	0.009			0.013	0.417
Z*X1						
Z*X2						

Source: Data processed in 2022 (WarpPLS 6.0 Output Results)

Based on the table and figure above, the results of hypothesis testing in this study can be explained as follows:

1. H1 = Capital Structure has no effect on Firm Value (P = 0.356 > 0.05) with a path coefficient of -0.044. Thus, H1 is rejected.

The policy to increase the use of total debt in the company's DER ratio does not contribute significantly to the increase in company value. Investors consider that the policy of determining the company's capital structure is not the main factor when they want to invest in pharmaceutical companies. This finding is not in accordance with the proposed hypothesis, but is in accordance with the packing order theory where most companies use internal sources of funds to finance the company's operations. These results support the statement of Alaoui et al., (2016) namely the DER value is categorized as good for total assets if it has a maximum value of 33%, because this indicates a lower level of volatility, so that financial distress can be minimized. In addition, this study recommends that companies always compare the

marginal benefits of using long-term debt with the marginal costs of long-term debt before making a decision to use them to finance the company's operations. These results support the [Theorem Modigliani & Miller, \(1958\)](#); [Setiadharna & Machali, \(2017\)](#); and [\(Wijayaningsih & Yulianto, 2022\)](#) which states that capital structure has no effect on firm value.

2. H2 = Business Risk has a significant negative effect on Firm Value (P = 0.009 < 0.05) with a path coefficient of -0.264 Thus, H2 is accepted

The value of a pharmaceutical company will increase if the company is able to keep the value of business risk low. Business risk reflects how much deviation the company's profits get. This means that the greater the deviation of profits obtained by the company, the greater the business risk faced by the company. This condition is one of the factors that triggers the market reaction to the company's stock price which can affect the behavior of investors to be careful when deciding to invest in the company. The results of this study are in line with research conducted by [Weiying & Baofeng, \(2008\)](#); [Bandanuji & Khoiruddin, \(2020\)](#); [\(González & Yun, 2022\)](#) which states that the higher the business risk, the lower the firm value.

3. H3 = Firm Size is significant as moderating the relationship between Capital Structure and Firm Value (P Value $Z \cdot X_1 = 0.013 < 0.05$). Thus, H3 is accepted.

These results become the basis for managers of pharmaceutical companies to consider the company size factor when making decisions related to the policy of determining the capital structure that will have an impact on the value of the company. Based on agency theory, the larger the size of the company, the greater the opportunity to obtain funding sources, both internal and external sources of funding, so that management is more flexible in managing and maximizing company value. Furthermore, the findings reveal that firm size also has a significant influence on its market value. In this case, investors feel different signals from small companies compared to large companies which indicate the company is growing or not ([Luu, 2021](#)). In addition, the larger the size of the company, the more difficult it is to control and supervise the company's management ([Wijayaningsih & Yulianto, 2022](#)). Thus firm size acts as a moderating variable to strengthen or weaken the relationship between capital structure and firm value.

4. H4 = Firm Size is not significant as a moderator of the relationship between Business Risk and Firm Value (P Value $Z \cdot X_2 = 0.417 > 0.05$). Thus, H3 is rejected.

In pharmaceutical companies, company size is not the main consideration to strengthen or weaken the relationship between business risk and company value. Companies with a larger size tend to have a higher operating return because they are able to provide a more profitable rate of return on investment compared to small companies. Large companies also do not consider direct bankruptcy costs as an active variable in determining the level of leverage because larger companies tend to be more diversified ([Rafiq et al., 2008](#))

Company size is not the only consideration for investors because of the large amount of assets. Without optimal management, it will not have significant implications for the value of the company. In general, the size of the company will affect the assessment of investors in making investment decisions because the size of the company will predict the ability to earn operating profits of the company and will also be able to predict the level of stability in managing finances. Large companies have the ability to generate more stable profits so that the dividends paid are larger. This is in line with the research results ([Nurwulandari et al., 2021](#)); ([Jihadi et al., 2021](#)).

CONCLUSION

Capital structure has no effect on firm value, while business risk has a significant negative effect on firm value. Firm size is only able to moderate the relationship between capital structure and firm value. These results indicate that in order to maximize the value of pharmaceutical companies in Indonesia, the main concern of managers is to ensure that the amount of income received by the company remains stable in order to avoid income volatility that can trigger an increase in the company's business risk. In addition, it is also necessary to consider the size of the company when you want to make a policy to determine how much debt or equity is used to finance the company so that maximizing the value of the company can be achieved.

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