SIMBA

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IMPACT OF ASSET STRUCTURE AND BUSINESS RISK ON CAPITAL STRUCTURE WITH FIRM SIZE AS A MODERATING VARIABLE

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Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh struktur aset dan risiko bisnis terhadap struktur modal dengan ukuran perusahaan sebagai variabel moderasi. Penelitian ini dilakukan pada perusahaan industrial yang terdaftar di Bursa Efek Indonesia (BEI) periode 2021-2023. Populasi penelitian ini adalah perusahaan industrial di Indonesia yang berjumlah 56 perusahaan. Jumlah sampel dalam penelitian ini adalah sejumlah 50. Teknik analisis penelitian ini menggunakan analisis regresi linear berganda dan diolah menggunakan bantuan program SPSS. Hasil penelitian ini menunjukkan bahwa struktur aset berpengruh negatif signifikan dan risiko bisnis berpengaruh positif signifikan terhadap struktur modal. Ukuran perusahaan tidak mampu memoderasi pengaruh struktur aset dan risiko bisnis terhadap struktur modal.
Kata Kunci : Struktur Aset, Risiko Bisnis, Struktur Modal, Ukuran Perusahaan.

Abstract

This study investigates the influence of asset structure and business risk on capital structure, with company size acting as a moderating variable. The research was conducted on industrial companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2023. The study population consisted of 56 industrial companies in Indonesia, from which a sample of 50 was selected. Using multiple linear regression analysis with the aid of the SPSS program, the results indicate that asset structure has a significant negative effect on capital structure, while business risk has a significant positive effect. The findings also reveal that company size is not able to moderate the influence of either asset structure or business risk on capital structure.
Keywords : Asset Structure, Business Risk, Capital Structure, Company Size.

INTRODUCTION

In the current era of globalization, every company must be able to adapt by effectively managing the essential structures designed within the company. This is crucial for enabling the company to face competition as effectively as possible. Financial management plays a very important role in a company. It helps determine a company's capacity to meet its financial needs, which are necessary to support its growth. Within financial management, several financial decisions influence the company, including financing decisions, which aim to determine the most effective composition of the capital structure (Zahro et al., 2022).

Capital structure is highly significant for a company because it is related to strategic financing decisions. Capital structure explains how a company finances its long-term operations and growth. The results of capital structure research can serve as a reference for management to make better financing decisions. In addition, the right capital structure can benefit a company by allowing it to seize market opportunities more effectively, such as by investing in fixed assets or expanding into new markets. A company's capital structure needs to be well-arranged to ensure its financial stability, enabling it to achieve the desired profit. Therefore, it is important to strive for an optimal capital structure to prevent financial difficulties for the company (Cahyani & Nyale, 2022).

Inconsistent results from previous studies necessitate a more detailed explanation of the effect of asset structure and business risk on capital structure. This study adds a moderating variable, namely firm size. The inclusion of this moderating variable also represents the novelty of this research. Firm size is considered a very important factor in making decisions regarding capital structure. This is because as a company's size increases, it often results in an increase in external funding, which ultimately adds to the company's capital structure (Lilia et al., 2020). Based on the background explanation of this study, the author proposes a research with the title: *"The Effect of Asset Structure and Business Risk on Capital Structure with Firm Size as a Moderating*

Variable in Industrial Companies Listed on the Indonesia Stock Exchange for the 2021-2023 Period."

1. Theoretical Review and Hypotheses

Agency Theory

Agency theory Agency theory describes the relationship between a company's owners and its managers, where a conflict between shareholders and managers arises when deciding on the firm's financing sources. Shareholders generally prefer external funding through debt, whereas managers tend to favor financing from retained earnings (Setiawati & Veronica, 2020). This conflict of interest between shareholders and managers can create agency problems for the firm. However, one potential solution to these problems is a well-designed capital structure. According to this approach, the capital structure is arranged to mitigate conflicts among different stakeholder groups. This conflict of interest between shareholders and managers can create agency problems for the firm. However, one potential solution to these problems is a well-designed capital structure. According to this approach, the capital structure is arranged to mitigate conflicts among different stakeholder groups. A key source of conflict between shareholders and managers is the concept of free-cash flow. Managers often have an incentive to hoard company resources to maintain control over them. Debt can be seen as a mechanism to reduce this free-cash flow agency conflict. When a company takes on debt, managers are compelled to use corporate cash to make interest payments, which limits their discretionary spending.

Pecking Order Theory

Pecking order theory was first introduced by Donaldson in 1961 and coined by Myers and Majluf in 1984. According to this theory, companies prefer to use internally generated funds, such as retained earnings, to finance their operations. If internal funds are insufficient, companies will turn to external funding sources that are considered less risky, namely debt.

The issuance of new equity will be considered as a last resort if operational funding needs are not met by retained earnings and debt (Meilani & Wahyudin, 2021). By applying the pecking order theory to the complexity of capital structure, one would expect that companies with a financial deficit would rely on senior debt as their primary source of external capital. An increase in a financial deficit will lead to an increase in the complexity of the capital structure as the company exhausts safer sources of capital and turns to riskier ones. Companies with a significant financial surplus should have a relatively simple capital structure (Orlova *et al.*, 2020).

Capital structure

Capital structure refers to the composition of a company's capital from various sources, where long-term funds are needed for the company to operate optimally. In other words, capital structure is the mix of long-term debt and equity used to finance a company's investments. Generally, capital structure depicts the financial proportions of a company, specifically the ratio between capital from long-term liabilities and shareholder's equity, which serve as the company's funding sources. It illustrates how a company finances its assets by balancing the use of long-term loans and capital from its owners. (Khotimah, 2023).

Asset Structure

Asset structure refers to the balance or ratio between total fixed assets and total assets. The asset structure varies from one company to another depending on the type of company. For instance, in a manufacturing company, the asset composition is largely in the form of fixed assets. (Irma *et al.*, 2021).

This is consistent with research conducted by Setiawati & Veronica (2020), Hanbo & Zulaikha (2022), dan Cahyani & Nyale (2022), which proves that asset structure has a positive effect on capital structure. This is because companies will choose to take on more

debt when an increase in fixed assets requires significant funding. If internal funds are insufficient, the company must seek external financing or use its assets as collateral to secure a loan. Based on the explanation above, the researcher can formulate the following research hypothesis:

H_1: Asset structure has a positive effect on capital structure.

Business Risk

Business risk refers to the uncertainty or the possibility of an undesirable event occurring for a company. According to Irma *et al.*, (2021), uncertainty is related to risks that are difficult to predict and will generally result in various possibilities with diverse outcomes. This risk reflects the uncertainty regarding a company's future profit prospects (Meilani & Wahyudin, 2021).

This aligns with research conducted by Meilani & Wahyudin (2021), and Rindiasih & Wulandari (2023), which found that business risk has a positive effect on capital structure. This is because companies with high business risk tend to use a low debt ratio, as a higher level of income uncertainty impacts the company's ability to repay its debt. Based on the explanation above, the researchers can formulate the following research hypothesis:

H_2: Business risk has a positive effect on capital structure.

Firm Size

Firm size is a significant factor that influences the ease of access to external funding, particularly loans. Companies with large operational scales generally have a significant value in assets. These assets can be tangible fixed assets like land, buildings, production machinery, vehicles, and other equipment used directly in the company's operational activities. The larger the company, the more assets it owns (Renalya & Purwasih, 2022).

Based on the explanation above, the researcher can formulate the following research hypothesis:

H_3 : Firm size is able to moderate the relationship between asset structure and capital structure.

Firm size, which refers to the magnitude of a company's assets, determines its funding (Hanbo & Zulaikha, 2022). Large-scale companies generally have stronger financial resources than smaller ones, enabling them to invest more in sustainable projects. Additionally, larger companies typically have well-structured planning and a clear vision to monitor potential business risks and are better prepared to implement sustainable projects (Priyadi, 2023). As a company grows, it requires a significant amount of capital to support its operational activities. One of the primary alternatives for this is using external capital or debt from external parties (Setiawati & Veronica, 2020). Based on this explanation, the researcher can formulate the following research hypothesis:

H_4 : Firm size is able to moderate the relationship between business risk and capital structure.

METODE

The population and sample for this study include all industrial companies listed on the Indonesia Stock Exchange (IDX) during the 2021-2023 period. The sampling method used in this research is *purposive sampling*. The research sample, based on the criteria determined by the *purposive sampling* technique, is described as follows:

Table 1: Industrial Company Samples

No.	Description	Number of Companies
1.	Industrial companies listed on the Indonesia Stock Exchange (IDX) during the 2021-2023 period	56
2.	Industrial companies not listed on the IDX during the 2021-2023 period	0

3.	Industrial companies that did not publish their annual financial reports during the 2021-2023 period	(4)
4.	Industrial companies that did not have complete financial data containing the necessary information for measurement during the 2021-2023 period	(2)
	Number of industrial companies that became the research sample	50
	Observation period (years)	3
	Total data	**150**
	Outlier data	(26)
	Total observational data	**124**

Based on the table above, it can be concluded that the total population consists of 56 industrial companies listed on the Indonesia Stock Exchange (IDX) during the 2021-2023 period. The sample used was 50 companies with a three-year observation period, resulting in 150 data points. However, due to outlier data, the final number of observations used in this study was 124.

Table 2 Research Instruments

No.	Variabel	Measurement or Formula	Scale
1.	Asset Structure (X1)	$SA = \frac{Total\ fixed\ assets}{Total\ assets}$ (Meilani & Wahyudin, 2021)	Ratio
2.	Business Risk (X2)	$RISK = \frac{EBIT}{Total\ assets}$ (Meilani & Wahyudin, 2021)	Ratio
3.	Capital Structure (Y)	$DER = \frac{Total\ liabilities}{Total\ equity}$ (Meilani & Wahyudin, 2021)	Ratio
4.	Firm Size (Z)	$Size = Ln\ (Total\ assets)$ (Setiawati & Veronica, 2020)	Ratio

RESULTS

1. Descriptive Statistics Test

The results of the descriptive statistics for this study are as follows:

Table 3. Results of Descriptive Statistics Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Asset Structure	124	0,05	0,91	0,4898	0,23555
Business Risk	124	-0,08	0,64	0,0853	0,20101
Capital Structure	124	0,06	21,58	0,9709	0,84019
Firm Size	124	22,67	33,73	27,4528	1,88876
Valid N (listwise)	124				

Source: Processed data, (2025)

As presented in Table 3, Asset Structure has a minimum value of 0.05, a maximum value of 0.91, and a mean value of 0.4898. Business Risk has a minimum value of -0.08, a maximum value of 0.64, and a mean value of 0.0853. Capital Structure has a minimum value of 0.06, a maximum value of 21.58, and a mean value of 0.9709. Firm Size has a minimum value of 22.67, a maximum value of 33.73, and a mean value of 27.4528.

2. Classical Assumption Test

Table 4. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		124
Normal Parameters[a,b]	Mean	-0,5624127
	Std. Deviation	1,26612093
Most Extreme Differences	Absolute	0,076
	Positive	0,076
	Negative	-0,043
Test Statistic		0,076
Asymp. Sig. (2-tailed)		0,073[c,d]

Source: Processed data , (2025)

Based on Table 4, the Asymp. Sig. (2-tailed) value is 0.073, which is greater than 0.05. Therefore, it can be concluded that the residual values or the research data are normally distributed.

Tabel 5 Results of Multicollinearity Test

Model		Collinearity Statistic	
		Tolerance	VIF
	(Constant)		
	Asset Structure	0,773	1,294
	Business Risk	0,772	1,295
	Firm Size	0,995	1,005

Based on Table 3, the multicollinearity test results for both independent variables show a tolerance value greater than 0.10 and a VIF value less than 10. Therefore, it can be concluded that the regression model in this study is free from multicollinearity.

Table 6 Heteroscedasticity Test Results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0,306	0,634		-0,483	0,630
	Asset Structure	-0,116	0,083	-0,130	-1,402	0,163
	Business Risk	-0,024	0,219	-0,010	-0,108	0,914
	Firm Size	0,032	0,023	0,128	1,416	0,159

a. Dependent Variable: Capital Structure
Source: Processed data, (2025)

Based on Table 4, the significance (Sig. 2-tailed) values for all independent variables are greater than 0.05. Therefore, it can be concluded that there is no heteroscedasticity among the independent variables in the regression model of this study.

Table 7 Results of Autocorrelation Test

Model	Du	Durbin-Waston	4-Du
1	1.7567	1,871	2,2433

Source: Processed data, (2025)

Based on Table 5, the value dU < DW< 4 − dU (1.7567 < 1.871 < 2.3423), it can be concluded that there is no autocorrelation.

3. Multiple Linear Regression Analysis

Table 8 Results of the Multiple Linear Regression Analysis Test

Coefficients[a]				
Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
1	(Constant)	-0,174	0,665	
	Asset Structure	-2,157	0,224	-0,749
	Business Risk	0,990	0,263	0,293
	Firm Size	0,085	0,024	0,238

a. Dependent Variable: Capital Structure
Source: Processed data, (2025)

DER = - 0,174 – 2,157 SA + 0,990 RISK + 0,085 SIZE + ε

Based on the regression analysis: The constant (a) is -0.174. This means when all independent variables are zero, the capital structure is -0.174. The regression coefficient for asset structure (SA) is -2.157. This indicates that a 1% increase in asset structure leads to a 2.157 decrease in capital structure. The regression coefficient for business risk (RISK) is 0.990. This suggests that a 1% increase in business risk leads to a 0.990 increase in capital structure. The regression coefficient for firm size (SIZE) is 0.085. This implies that a 1% increase in firm size leads to a 0.085 increase in capital structure

4. Hypothesis Testing

Partial Test Results (T-Test)

Table 9 Partial Test Results (T-Test)

Coefficients[a]			
Model		T	Sig.
1	(Constant)	-0,261	0,794
	Asset Structure	-9,619	0,000
	Business Risk	3,768	0,000
	Firm Size	3,543	0,001

a. Dependent Variable: Capital Structure
Source: Processed data, (2025)

The t-test for the asset structure variable yielded a p-value of 0.000, which is less than 0.05. However, the calculated t-value (-9.619) was less than the critical t-value (1.65723). Therefore, it's concluded that there is no significant effect of asset structure on capital structure, and **H1 is rejected.**

For the business risk variable, the t-test resulted in a p-value of 0.000, which is less than 0.05. The calculated t-value (3.768) was greater than the critical t-value (1.65723). Thus, it's concluded that business risk has a significant effect on capital structure, and **H2 is accepted**

5. MRA test results

Table 10 The results of the third equation's MRA test.

Coefficients[a]			
Model		T	Sig.
1	(Constant)	-0,532	0,596
	Asset structure	0,358	0,721
	Business risk	-1,029	0,305
	Firm size	1,545	0,125
	X1Z	-0,902	0,369
	X2Z	1,149	0,253

a. Dependent Variable: Capital structure
Source: Processed data, (2025)

The MRA test for equation three shows that for the variable asset structure * firm size (X1Z), the significance value is 0.369 > 0.05, and the t-statistic is -0.902, which is less than the t-table value of 1.65723. Thus, it can be concluded that the moderating variable, firm size, does not moderate the relationship between asset structure and capital structure. Therefore, **H3 is rejected**. The test results for the variable business risk * firm size (X2Z) show a t-statistic of 1.149, which is less than the t-table value of 1.65723, and a significance value of 0.253 > 0.05. It can be concluded that the moderating variable, firm size, does not moderate the relationship between asset structure and capital structure. Therefore, **H4 is rejected.**

DISCUSSIONS

The Effect of Asset Structure on Capital Structure

The first hypothesis in this study is that asset structure has a significant negative effect on capital structure. This means that the size of a company's asset structure will not affect the company's capital structure policy, and that asset structure is not one of the factors that influences capital structure. However, this also implies that the larger the asset structure a company has, the more debt it can use. The results of this study are consistent with the findings of Khotimah (2023), Lianto *et al.* (2020), and Nasar & Krisnando (2020), which state that asset structure has a significant negative effect because the higher a company's asset structure, the more debt the company uses.

The Effect of Business Risk on Capital Structure

The second hypothesis in this study is that business risk has a positive and significant effect on capital structure. This means that the higher a firm's business risk, the more likely it is that the firm will have a capital structure with a lower proportion of debt or will rely more on equity. The results of this study are consistent with the findings of research conducted by Zahro *et al.* (2022), Meilani & Wahyudin (2021), and Rindiasih & Wulandari (2023), which also showed that

business risk has a positive and significant effect on capital structure, as firms with high business risk tend to utilize a low debt ratio.

Firm Size Does Not Moderate the Effect of Asset Structure on Capital Structure

The third hypothesis of this study is that firm size, as a moderating variable, is unable to moderate the effect of asset structure on capital structure. This may occur because firm size could indirectly influence the asset structure as it relates to a company's managerial and investment policies. The findings of this study are consistent with Cahyani & Nyale (2022), and Nasar & Krisnando (2020), which demonstrate that firm size is not able to moderate the effect of asset structure on capital structure.

Firm Size Does Not Moderate the Effect of Business Risk on Capital Structure

The fourth hypothesis of this study is that firm size, as a moderating variable, does not moderate the effect of business risk on capital structure. The findings of this study indicate that the relationship of business risk on capital structure is neither significantly strengthened nor weakened by firm size as a moderating variable.

CONCLUSIONS

Based on the results of the research, it can be concluded that: Asset structure has a significant negative effect on capital structure. The fixed assets owned by a firm serve as collateral to finance its operational expansion. Business risk has a significant positive effect on capital structure. The higher the firm's business risk, the lower the debt used by the company, as a high level of business risk can lead to bankruptcy. Firm size is not able to moderate the effect of asset structure on capital structure. Both large and small firms prefer to focus their financing on either debt or equity, so firm size does not become a distinguishing factor in this relationship. Firm size is also not able to moderate the effect of business risk on capital structure. For both large and small firms, high business risk equally complicates access to or increases the cost of debt.

Although firm size can manage risk, it is not enough to significantly alter the core of this relationship.

SUGGESTIONS

Suggestions for Future Research, For subsequent research on this topic, it is recommended to include additional independent variables, such as dividend policy and profitability. Future studies should also extend the observation period beyond three years to provide a more comprehensive analysis. Additionally, it would be beneficial to expand the research sample size to include other groups of companies listed on the Indonesia Stock Exchange (IDX), such as banking, technology, and mining, rather than being limited to industrial companies.

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