

Original Article

What Drives Capital Structure? Evidence from Indonesian Infrastructure Companies

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Abstract: *This research examines the determinants of capital structure in infrastructure companies listed in Indonesia during the 2017-2023 period. The study employs purposive sampling to select 16 companies as the research sample and uses multiple linear regression for data analysis. The findings reveal that Firm Size, Profitability, Business Risk, and Current Ratio significantly affect the capital structure of infrastructure sector companies, while asset structure has no significant effect on capital structure.*

Keywords: *Asset Structure, Business Risk, Capital Structure, Current Ratio, Firm Size, Profitability.*

I. INTRODUCTION

A firm needs to manage its finances effectively through managerial decisions, as financial management is reflected in its capital structure. Managers must carefully consider the sources of funds, which can be internal, derived from retained earnings, or external, obtained through debt and stock issuance. Ideally, companies prioritize internal financing to reduce dependency on external funding, but competitive industries often necessitate external sources. A well-optimized capital structure enhances market value and maximizes shareholder wealth. Understanding the factors influencing capital structure allows firms to plan and optimize their financial strategies. Effective capital structure management is essential for balancing funding needs while maintaining financial stability. The Pecking Order Theory (Myers & Majluf, 1984) explains that companies prioritize internal financing to minimize costs and risks. Retained earnings should be used first, then, if internal funds are not enough, we would proceed with debt financing. Issuing equity should be a last resort, given that it carries the highest risks and great costs. Despite theories like the Pecking Order Theory providing a framework for understanding funding priorities, there is inconsistency in research findings regarding the factors influencing capital structure. Various researchers have reported diverse impacts of asset structure, firm size, profitability, business risk and current ratio as the five key determinants that affect capital structure.

The population of this study is the companies that are classified in the infrastructure sector on the Indonesia Stock Exchange (IDX) from 2017 to 2023. This research focused on the Infrastructure, Utilities, and Transportation sector because of its importance in supporting Indonesian economic development, as well as having specific characteristics in terms of its financial structure. Infrastructure development is one of the key focuses of the government in Indonesia under President Joko Widodo over the last decade to drive inclusive and sustainable economic growth. The regime has made this its commitment, which can be seen in the rising infrastructure budget, for example, with a Rp392 trillion budget in 2023, an increase of 7.8% from 2022. These projects involve infrastructure investments to improve connectivity, economic activities, and public services such as transportation networks, energy systems, water supply (WS), and telecommunications. Their goal is to provide the necessary building blocks for sustainable growth. The volatility of the sector's Debt-to-Equity Ratio (DER) over the 2011-2020 period highlights its unique financial behavior, thus, an interesting sector to investigate regarding influencing factors of capital structure.

This study aims to examine the determinants of capital structure in infrastructure companies listed in Indonesia. This research replicates the study by Kartika et al. (2022) titled "The Influence of Asset Structure, Firm Size, Profitability, and Business Risk on Capital Structure in Companies Listed on the IDX," with modifications made to the research object, the extension of the observation period to 2017-2023, and the addition of Current Ratio as an independent variable.

II. LITERATURE REVIEW

A) *Asset Structure towards Capital Structure*

The balance between fixed assets and total assets is an asset structure, where these assets can be collateral when the company borrows funds from creditors (Brigham & Weton 2005), as cited in Semi et al. (2020). Managers can use these assets as collateral to easily obtain loans from creditors (Kartika et al. 2022). If a company presents information about its asset structure with a small proportion, then the company will experience difficulty in obtaining funding from debt because a high proportion of asset structure means the availability of collateral is high, thereby minimizing the cost of debt. Therefore, asset



structure can influence the composition of capital structure (Andriani (2017), Anindita & Durya (2022), Chen & Strange (2005) and Poetri & Sugijanto (2022)), as cited in Asmara et al. (2020).

B) Firm Size towards Capital Structure

Firm Size is described by the size of the size or smallness of an enterprise (Kartika et al. 2022). The size of the company with large sales shows the company's achievements (Anzella et al. 2019). Large companies will find it easier to gain access to sources of funds to obtain additional capital with debt (Sitanggang, 2013: 76), as cited in Anzella et al. (2019). Firm size can also serve as a reference point for assessing a company's potential failure in repaying its debt, as it reflects the company's financial capacity (Andika et al., 2019: 5807), as cited in Kartika et al. (2022). Large corporations attract institutional investors because creditors have confidence that large companies have a low risk of bankruptcy (Kartika et al. 2022).

C) Profitability towards Capital Structure

If the company has a high level of profitability, it indicates that the company can generate substantial profits by efficiently utilizing its assets (Purba et al., 2020). High profitability allows the company to rely less on external debt since it can provide sufficient funds through retained earnings, resulting in a lower capital structure (Watiningsih, 2018) as cited in Purba et al. (2020). Additionally, profitable firms are less likely to face bankruptcy and can secure more debt at lower interest rates, thereby decreasing bankruptcy costs as profitability increases (Ali, 2011), as cited in M'ng et al. (2017).

D) Business Risk towards Capital Structure

Firms face inherent uncertainties in their business operations, known as business risk (Brigham, 2011), as cited in Sawitri & Lestari (2015). Business Risk is the possibility of the company's inability to fund its operational activities (Gitman & Zutter, 2015: 579). According to Seftianne & Handayani (2011), companies with higher business risk tend to avoid funding through debt compared to companies with lower business risk, because they avoid bankruptcy from the use of debt, and companies are required to rely on retained earnings to eliminate the risk of bankruptcy associated with debt (Ticoalu, 2013).

E) Current Ratio towards Capital Structure

The current ratio serves as a critical indicator of a company's short-term financial health, reflecting its ability to meet current liabilities with current assets (Deitiana, 2009) as cited in Hartati & Fitria (2020). This ratio, as described by Elvera et al. (2022), measures the company's liquidity position and its capability to cover short-term debt obligations. A higher current ratio indicates stronger liquidity and suggests that the company can readily pay off its short-term debts, thus enhancing its attractiveness to potential investors seeking security in their investments (Purba et al., 2020). Moreover, firms with ample liquidity are less reliant on external financing, as they can fund operations internally through retained earnings and other liquid assets. This reduced dependence on external funds can significantly influence the company's capital structure decisions, as highlighted by Purba et al. (2020).

III. RESULTS AND DISCUSSION

A) Methodology

This research used a non-probability sampling method with a purposive sampling technique. According to Sugiyono (2022: 84), non-probability sampling involves selecting samples where not all members of the population have an equal chance of being chosen. As described by Sekaran and Bougie (2020: 233), purposive sampling is a non-probability sampling technique where the researcher selects specific individuals or groups to participate in the study based on predefined criteria that align with the research objectives. The research population consists of companies listed in the Infrastructure Sector for the period 2017–2023. The data is then analyzed using the EViews 12 program.

This study investigates companies within the infrastructure sector listed on the Indonesia Stock Exchange (IDX). The population consists of all 67 infrastructure companies listed on the IDX. The research sample was selected based on the criterion that companies must have consistently published complete annual financial statements for the period 2017–2023. Based on this criterion, a total of 16 companies were selected as the sample for this study.

Table 1: Variable Measurement

Variable	Formula	References
Capital Structure (DER)	Total Debt/Total Equity	Irham Fahmi (2015:184)
Asset Structure (FAR)	Total Fixed Assets/Total Assets	Tijow, et al. (2018)
Firm Size (FS)	Ln (Total Sales)	Kartika et al. (2022)
Profitability (ROE)	Net Profit/Total Equity	Sarioğlu et al. (2013); Kabakci (2008); Demirhan (2009)
Business Risk (BRISK)	EBIT/Total Assets	Kartika et al. (2022)
Current Ratio (CR)	Current Assets/Current Liabilities	Mahvish and Quasar (2012); Ata and Ag (2010)

B) Results and Discussion

Table 2: Descriptive Statistics

Variable	N	Mean	Maximum	Minimum	Std. Dev
DER	112	1.485253	5.1534	0.0883	1.0243397
FAR	112	0.393896	0.8970	0.0037	0.3135728
FS	112	21.987741	25.7287	17.1022	2.0762841
ROE	112	0.089376	0.6659	-0.2202	0.1147816
BRISK	112	0.070977	0.2213	-0.0481	0.0526265
CR	112	1.198433	4.2779	0.1822	0.7707579

Source : Eviews 12 Processing Output

The "Capital Structure" variable has a mean of 1.485253, a maximum of 5.1534, a minimum of 0.0883, and a standard deviation of 1.0243397 for the period from 2017 to 2023. The "Asset Structure" variable has a mean of 0.393896, a maximum of 0.8970, a minimum of 0.0037, and a standard deviation of 0.3135728 for the period from 2017 to 2023. The "Firm Size" variable has a mean of 21.987741, a maximum of 25.7287, a minimum of 17.1022, and a standard deviation of 2.0762841 for the period from 2017 to 2023. The "Profitability" variable has a mean of 0.089376, a maximum of 0.6659, a minimum of -0.2202, and a standard deviation of 0.1147816 for the period from 2017 to 2023. The "Business Risk" variable has a mean of 0.070977, a maximum of 0.2213, a minimum of -0.0481, and a standard deviation of 0.0526265 for the period from 2017 to 2023. The "Current Ratio" variable has a mean of 1.198433, a maximum of 4.2779, a minimum of 0.1822, and a standard deviation of 0.7707579 for the period from 2017 to 2023.

Table 3 : t-Test Result

Variable	Coefficient	Std. Error	t Statistic	Prob.
C	-1.969555	1.466734	-1.342816	0.1822
FAR	0.046555	0.357077	0.130379	0.8965
FS	0.198088	0.064967	3.049037	0.0029
ROE	3.759943	0.738738	5.089681	0.0000
BRISK	-9.983476	2.041138	-4.891133	0.0000
CR	-0.456008	0.088144	-5.173458	0.0000

Source : Eviews 12 Processing Output

According to the research findings in Table 3, the regression equation for this study can be formulated as follows:

$$\text{CS} = -1.969555 + 0.046555 \text{ FAR} + 0.198088 \text{ FS} + 3.759943 \text{ ROE} - 9.983476 \text{ BRISK} - 0.456008 \text{ CR} + e$$

Based on the t-test results for the Asset Structure variable as presented in Table 3, the t-statistic value is 0.130379, which falls within the acceptance region of the null hypothesis, where $-t_{\alpha/2} \leq t \leq t_{\alpha/2}$ ($-1.980810 \leq 0.130379 \leq 1.980810$). This is further supported by the probability value of 0.8965, which is greater than the significance level α ($0.8965 > 0.05$). Therefore, it can be concluded that there is no significant effect of the Asset Structure variable on the Capital Structure of infrastructure sector companies listed on the Indonesia Stock Exchange during the 2017–2023 period. This finding is consistent with prior studies by Seftianne & Handayani (2011), Tadelilin (2007), and Kusumawati (2004).

Based on the t-test results for the Firm Size variable as presented in Table 3, the t-statistic value is 3.049037, which falls within the rejection region of the null hypothesis, where $-t_{\alpha/2} \leq t_{\alpha/2} \leq t$ ($-1.980810 \leq 1.980810 \leq 3.049037$). This is further supported by the probability value of 0.0029, which is smaller than the significance level α ($0.0029 < 0.05$). Therefore, it can be concluded that there is a significant effect of the Firm Size variable on the Capital Structure of infrastructure sector companies listed on the Indonesia Stock Exchange during the 2017–2023 period. This finding is consistent with prior studies by Kartika (2009) and Sawitri & Lestari (2015).

Based on the t-test results for the Profitability variable as presented in Table 3, the t-statistic value is 5.089681, which falls within the rejection region of the null hypothesis, where $-t_{\alpha/2} \leq t_{\alpha/2} \leq t$ ($-1.980810 \leq 1.980810 \leq 5.089681$). This is further supported by the probability value of 0.0000, which is smaller than the significance level α ($0.0000 < 0.05$). Therefore, it can be concluded that there is a significant effect of the Profitability variable on the Capital Structure of infrastructure sector companies listed on the Indonesia Stock Exchange during the 2017–2023 period. This finding is consistent with prior studies by Serghiescu and Vaidean (2014), and Arilyn (2020).

Based on the t-test results for the Business Risk variable as presented in Table 3, the t-statistic value is -4.891133, which falls within the rejection region of the null hypothesis, where $t \leq -t_{\alpha/2} \leq t_{\alpha/2}$ ($-4.891133 \leq -1.980810 \leq 1.980810$). This is further supported by the probability value of 0.0000, which is smaller than the significance level α ($0.0000 < 0.05$). Therefore, it can be concluded that there is a significant effect of the Business Risk variable on the Capital Structure of infrastructure

sector companies listed on the Indonesia Stock Exchange during the 2017–2023 period. This finding is consistent with prior studies by Kusuma (2005), and Wairooy (2019).

Based on the t-test results for the Current Ratio variable as presented in Table 3, the t-statistic value is -5.173458, which falls within the rejection region of the null hypothesis, where $t \leq -\alpha/2 \leq \alpha/2$ ($-5.173458 \leq -1.980810 \leq 1.980810$). This is further supported by the probability value of 0.0000, which is smaller than the significance level α ($0.0000 < 0.05$). Therefore, it can be concluded that there is a significant effect of the Current Ratio variable on the Capital Structure of infrastructure sector companies listed on the Indonesia Stock Exchange during the 2017–2023 period. This finding is consistent with prior studies by Kusuma (2005), and Wairooy (2019). This finding is consistent with prior studies by Elvera et al. (2022), Juliantika & Dewi (2016), Purba et al. (2020), Anzella et al. (2019), and Deviani & Sudjarni (2018).

IV. CONCLUSION

This study examines the Determinants of Capital Structure in Infrastructure Companies listed in Indonesia. The findings reveal that asset structure (FAR) has no significant effect on capital structure. In contrast, firm size (FS), profitability (ROE), business risk (BRISK), and current ratio (CR) significantly affect capital structure.

This research has limitations that may influence the results, including a limited sample size of 16 companies over a 7-year period (2017–2023) and a focus solely on Asset Structure, Firm Size, Profitability, Business Risk, and Current Ratio as variables affecting Capital Structure, excluding other potential influencing factors. Additionally, the detection of positive autocorrelation in the data suggests that the data may not fully meet the assumptions required by the regression model.

Based on the limitations of this study, several recommendations are proposed for future research on leveraging. The sample size can be expanded by including more companies from other sectors or extending the study period to achieve more accurate results. Additional independent variables that may influence Capital Structure but were not examined in this study should be considered. Moreover, future research can explore alternative testing methods beyond the autocorrelation tests used to ensure more robust and reliable findings.

Interest Conflicts

The authors declare that there is no conflict of interest concerning the publication of this paper.

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