
The Influence of Profitability and Company Size on Capital Structure in Infrastructure Sector BUMN Companies Listed on the IDX 2017-2022

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Abstract:

This research aims to determine the effect of profitability and company size on capital structure. This type of research is quantitative and uses secondary data. Then the data analysis technique in this research uses descriptive statistics, classical assumption testing, and hypothesis testing. The sample in this research is state-owned companies listed on the IDX, especially in the infrastructure sector in the 2017–2022 period. The number of samples used in the research was 42. The research results show that profitability has a significant positive effect on capital structure, and company size has a significant positive effect on capital structure.

Keywords: *Company size; IDX; Capital structure; Infrastructure sector*

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1. Introduction

Large companies constantly develop their business continuity strategies in order to survive the increasingly fierce competition. These efforts certainly help the company survive and develop. Basically, the goal of a business is to maximize the owner's prosperity and gain profits by increasing company value and performance (Sari et al., 2020). From this, an important aspect that must be considered by the company to achieve this goal is the aspect of financing or capital. Lack of funds causes delays in company activities such as purchasing raw materials and operational management (Wati et al., 2020 ; Reschiwati et al., 2020).

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Potential investors assess capital structure as a primary consideration when weighing risks and returns in investment decisions (Nurmadi, 2013). Capital structure, delineating the balance between debt and equity capital (Halim, 2015; Afiezan et al., 2020), directly impacts a company's performance and value. Financial managers must adeptly navigate funding decisions to optimize the company's capital structure (Mubeen et al., 2022; Chabachip et al., 2020).

The capital structure of state-owned enterprises (BUMN), particularly in the infrastructure sector, presents noteworthy phenomena. As reported by *cncbindonesia.com*, several BUMN Karya encountered complications over the past year, leading to mounting supplier debts and payment delays. Financial performance among BUMN Karya issuers tends to fall short of expectations. PT Hutama Karya (Persero) incurred losses for three consecutive years, spanning 2020 to 2023, with net losses amounting to IDR 2 trillion each in 2020 and 2021. However, the company's financial performance displayed signs of improvement in the third quarter of 2023, registering a net profit of IDR 34 billion. Similarly, PT Wijaya Karya (Persero) Tbk (WIKA) reported a surge in net losses from IDR 13.32 billion to IDR 1.88 trillion in the first half of 2023. Conversely, PT Adhi Karya (Persero) Tbk (ADHI) recorded a net profit of IDR 23.54 billion for the first nine months of 2023, reflecting an 11.94% year-on-year increase. Additionally, PT PP (Persero) Tbk (PTPP) reported a net profit of IDR 239.73 billion in the third quarter of 2023, marking a 70% year-on-year increase.

Despite signs of profitability improvement, the financial health of these five BUMN Karya remains precarious, as evidenced by their high debt-to-equity ratios (DER). PT Waskita Karya Tbk, the most exposed BUMN Karya issuer, exhibits a DER of 1,343%, significantly surpassing the industry standard of 2-3 (200%–300%) for construction companies. Der Wika's DER also exceeds 512%. For ADHI and PTPP, the DER falls within the range of 300%–350% (a few bank loan covenants), yet remains susceptible to risks posed by high interest rates and lengthy investment returns.

Profitability plays a pivotal role in shaping a company's capital structure, reflecting its ability to generate profits relative to sales, total assets, and equity capital (Sartono, 2010). Higher profitability typically correlates with lower reliance on debt financing, thereby reducing the overall capital structure. Companies endowed with substantial internal reserves often prioritize their utilization, thereby minimizing reliance on external sources of capital (Brigham & Houston, 2011). Prior studies (WiJaya & Ardini, 2020; Fung, 2019; Purnami & Susila, 2021; Andayani & Suardana, 2018) posit a significant influence of profitability on capital structure, while others (Lilia et al., 2020; M. Setiawati & Veronica, 2020; Pandemi, 2022) refute this relationship.

Company size serves as a gauge of a company's scale. This metric not only indicates a company's capacity to fulfill its financial obligations but also its susceptibility to

bankruptcy risk. Smaller enterprises typically face higher bankruptcy risks compared to larger counterparts, thus encountering challenges in securing credit (M. Setiawati & Veronica, 2020). Consequently, larger companies tend to incur higher debt levels while enjoying greater profitability, bolstering confidence in their capital structure. Prior research (Lilia et al., 2020; Pandemi, 2022; Watiningsih, 2018) suggests a significant influence of company size on capital structure, whereas others (M. Setiawati & Veronica, 2020; WiJaya & Ardini, 2020; Fung, 2019) contest this relationship.

Given the inconsistencies in prior research findings, this study aims to reevaluate the impact of profitability and company size on capital structure using a distinct sample of companies. Focusing on state-owned enterprises listed on the Indonesia Stock Exchange (BEI), particularly within the infrastructure sector, this research aims to shed light on a pertinent phenomenon affecting this industry. Financial reports spanning the period from 2017 to 2022 will serve as the primary data source for this study.

2. Theoretical Background

Signalling Theory

In signal theory, the term signal is defined as management actions that provide instructions or information to investors about how management views the company's prospects (Brigham and Houston, 2006:39). Signal theory is rooted in pragmatic accounting theory, which looks at the influence of information on changes in user behavior by considering the influence of information on changes in user behavior (Suwardjono, 2005). Signal theory has important implications for optimal capital structure. There is a management perspective on the company's view that influences its capital structure. The relationship or connection between company size and signaling theory can be seen from the fact that the larger the company, the better the company's investment management.

Pecking Order Theory

This theory explains why companies will determine the most preferred hierarchy of funding sources. This theory was first introduced by Donaldson in 1961, while the pecking order theory was carried out by Myers and Majluf in 1984. Pecking Order Theory according to (Liang & Natsir, 2019) This theory describes a structure where the company prioritises internal reserves as a source of funds, then using debt and issuing shares is the last option. This theory explains how companies make funding decisions according to their funding sources. This theory states that companies use more internal capital than external capital.

Profitability on capital structure

Profitability is one factor that can have an influence on capital. According to (Sudana, 2011) Profitability refers to a company's ability to generate profits from the resources it has, such as assets, capital, and company sales. According to the pecking

order theory, companies that are profitable have more internal funding sources and less need for investment capital from external sources. Based on the results of the research stated by (L. Setiawati & Riduwan, 2018) shows that the greater a company's ability to generate profits, the more negative impact it will have on the capital structure by having the opposite effect, namely that the company will actually borrow less debt to increase its capital structure. According to (Fung, 2019) Companies with high profits can use these high profits as a source of capital, which can reduce debt funding that can reduce the capital structure. High profitability can, of course, be utilised as funds or retained earnings used for operations, and additional capital structure can be used as long as the addition can maximise added value and improve company performance. From the explanation above, the following hypothesis can be formulated:

H1: Profitability has a positive influence on capital structure.

Company size on capital structure

Company size can be measured through the total assets owned by the company. The bigger the company, the more the company needs large funds to support its operational activities and one alternative to fulfill this is using foreign capital/debt from external parties (M. Setiawati & Veronica, 2020). (Denziana & Yunggo, 2017) said that companies with larger sizes will have a tendency to utilise foreign capital. In this case, company size is measured by the company's total assets, so it can be seen that the high value of company assets is an indicator in determining the size of the company. The relationship between company size and signalling theory can be seen from the fact that the larger the company, the better the company's investment management. Larger companies take on more debt to increase their capital structure.

H2: Company size has a positive influence on capital structure.

3. Methodology

This research is quantitative and uses secondary data. Secondary data sources in this research were obtained from financial report data of state-owned companies listed on the IDX, especially in the infrastructure sector in the 2017–2022 period. The sample determined in this research was 42 samples. Data processing was carried out using SPSS 25. Then the data analysis techniques used were descriptive statistics, classical assumption testing, and hypothesis testing.

The optimal capital structure is one that can form low capital but can maximise company performance and value (Septiani & Suaryana, 2018). According to (Cahyani, 2017), Capital structure can be measured by comparing total debt to total equity, or it can be expressed using a formula calculated using a ratio :

$$\text{Debt Equity Ratio} = \frac{\text{Total Hutang}}{\text{Total Ekuitas}}$$

Company financials can have risks from high capital due to low profitability (Qusibah & Yusra, 2019). Profitability can be measured by ROA (return on assets), namely profit after tax divided by total assets using a formula (Watiningsih, 2018) :

$$\text{ROA} = \frac{\text{Laba Bersih Setelah Pajak}}{\text{Total Aset}}$$

According to (Melyani et al., 2019) Companies can form a large company by obtaining funds through loans. Company size can be measured using the natural logarithm formula for total assets (Lilia et al., 2020).

$$\text{SIZE} = \text{Ln Total Asset}$$

4. Empirical Findings/Result

Table 1. Statistic deskriptif

variable	min	max	average	Std. deviation
Capital structure	-10.83	7.82	2.384	2.49229
Profitability	-0.499	0.113	0.00087	0.09629
Company size	29.42	32.45	31.01	0.89383

The capital structure has an average value of 2,384. The maximum value of 7.82 was obtained by PT Waskita Karya Tbk in 2020, and the lowest value of -10.83 was obtained by PT Waskita Beton Precast Tbk in 2020. Profitability has an average value of 0.00087; the maximum value of 0.113 is owned by PT Waskita Beton Precast in 2022, and the lowest value of -0.499 is owned by PT Waskita Beston Precas in 2020. Company size has an average of 31.01; the largest value is 32.45, owned by PT Waskita Karya Tbk in 2020, and the lowest value is 29.42, owned by PT Waskita Beton Precas in 2022.

Table 2 Normality test

Normality test	sig
Kolmogorov-Smirnov	0.200

Source: data processed by SPSS

The research model is said to be normal if the normality test has a value above 0.05. The table above has a significance result of 0.200, which means the research model has a normal distribution.

Table 3 Multicollinearity Test

Variable	Tolerance	VIF
Profitability	0.879	1.045
Company Size	0.766	1.028

Source: data processed by SPSS

Data is said to be free from symptoms of multicollinearity if it has a VIF value < 10 . In the table above, if the VIF value is greater than 10, it is said to be free from symptoms of multicollinearity.

Table 4 Autocorrelation Test

Autocorrelation Test	
Durbin Watson	2.019

Source: data processed by SPSS

Data is said to be free from autocorrelation symptoms if the dw value is between du and $4-du$. In the table above, the Watson Durbin value is between du and $4-du$, so it is said to be free of autocorrelation symptoms.

Table 5 Heteroscedasticity Test

variable	Sig
Profitability	0.211 > 0.05
Company Size	0.302 > 0.05

Source: data processed by SPSS

Data is said to be free from heteroscedasticity if it has a significance value greater than 0.05. In the table above, all independent variables have a significance value greater than 0.05, so it is said that there are no symptoms of heteroscedasticity.

Hypothesis test

Table 6 Multiple linear regression analysis

Variable	Koefisien	Standard error	t hitung	Sig
Constanta	-29.335	13.128		
Profitability	11.376	3.129	3.636	0.001
Company Size	0.974	0.423	2.301	0.027

Variabel dependen = Capital structure

Source: data processed by SPSS

In the table above, it is said that the profitability variable has a positive coefficient direction of 11,376 and has a significance value below 0.05. Company size also has a positive coefficient direction of 0.974 and has a significance value below 0.05.

Table 7 Coefficient of determination test

Coefficient of determination	R square	Adjusted r square
Model	0.290	0.254

Source: data processed by SPSS

In the table above, the adjusted r square value is 0.254, or 25.4%. From these results, it is said that the capital structure variable can be explained by profitability and

company size by 25.4%, and the remaining 74.6% is influenced by variables outside the research.

Table 8 F test

	F hitung	Sig
Model	7.978	0.000

Source: data processed by SPSS

In the table above, the significance value of F is 0.000, which is smaller than 0.05. From these results, the independent variable can simultaneously influence the dependent variable.

Table 9 T test

Variabel	Koefisien	Standard error	t hitung	Sig
Constanta	-29.335	13.128		
Profitability	11.376	3.129	3.636	0.001
Company Size	0.974	0.423	2.301	0.027

Variabel dependen = Capital structure

Source: data processed by SPSS

5. Discussion

Profitability on capital structure

The results of the profitability test on capital structure have a positive coefficient direction and a significance value below 0.05, which means that the profitability variable has a positive and significant effect on capital structure. From these results, the first hypothesis is accepted. These results state that increasing profitability can improve the capital structure; high profitability will certainly be beneficial for retained funds used to support operations; on the other hand, additional external debt costs can increase if the use of external costs is able to remain consistent in creating profitable results. Not only that, the results of this research show that the use of debt is also needed by companies, and this result is in line with the trade theory, where a balanced use of debt can support the company's operational performance. The results of this research are in line with previous research by (WiJaya & Ardini, 2020), (Fung, 2019), (Purnami & Susila, 2021), (Andayani & Suardana, 2018) states that profitability has a positive effect on capital structure.

Company size on capital structure

The results of the company size test on capital structure have a positive coefficient direction and a significance value below 0.05, which means that the company size variable has a positive and significant effect on capital structure. From these results, the first hypothesis is accepted. These results state that the higher the company size, the higher the company's capital structure. These results are related to signal theory which has important implications for optimal capital structure. The relationship or connection between company size and signaling theory can be seen from the larger the company size, the better the company's investment management. The results of

this research are in line with (Lilia et al., 2020), (Pandemi, 2022), (Watiningsih, 2018) states that company size can have a positive effect on capital structure.

6. Conclusions

Based on the results of the above research, it can be concluded that the human capital and technology capital conditions of companies in the technology sector listed in the Indonesia Stock Exchange (BEI) period 2018-2022 are in fairly good condition although not as good as the conditions before the period of the covid pandemic 19. Human Capital and Technology capital have had no significant influence either partially or simultaneously on the value of companies in the technology industry listed on the Indonesian Stock Exchange.

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