International Journal of The Newest Finance and Accounting (INFA)
ISSN: 2986-5239 (Electronic)
Open Access: https://journal.gpcpublisher.com/index.php/infa

The Effect of Leverage and Company Size on Profitability (An Empirical Study of Manufacturing Companies Listed on the IDX in 2019-2022)

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Article Info

Article history:
Received 15/07/2025
Revised 28/07/2025
Accepted 04/08/2025

Keywords:
Leverage, Company Size, Profitability

ABSTRACT

This study aims to examine the effect of leverage and company size on profitability (an empirical study of manufacturing companies listed on the Indonesia Stock Exchange (IDX) during 2019–2022). The population of this study consisted of all 10 energy companies listed on the IDX within the period 2019–2022. To determine the research sample, the author applied a purposive sampling technique. The analytical method employed in this study was multiple regression analysis using the SPSS program. Based on the test results and discussions presented, it can be concluded that leverage has an effect on profitability in energy sector companies listed during 2019–2022. Likewise, company size has an effect on profitability in energy sector companies listed within the same period. The results of the coefficient of determination test show an Adjusted R-Square value of 0.546 or 54.6%. This indicates that leverage and company size jointly influence profitability by 54.6%, while the remaining 45.4% is explained by other variables outside the research model that were not included in this study.

INTRODUCTION

Indonesia's economic growth is inseparable from the role of companies operating in the country. A company is an entity or organization founded by individuals or groups whose activities involve production and distribution with the goal of generating profit. In addition to generating profit, companies must also be able to survive the changing times and increasingly fierce competition. Competition will create new innovations produced by companies in the form of products that will be distributed to the public, resulting in continuously increasing profits. With continuously increasing profits, companies can expand their business, thus making the company even larger and, of course, increasing profitability.

According to Van Horn and Wachowiez (1997), profitability is the capacity to turn a profit over a specific time period employing productive assets or capital, including total capital and equity. In contrast, Sartono (2001) defines profitability as the capacity of the business to generate profits relative to equity, total productive assets, and sales. A company's profitability can be used as a factor to assess its quality. The greater the profit earned by a company, the better the company can be concluded. Conversely, the smaller the profit generated by a company, the worse or less than optimal performance of the company (Nurdiana Diah, 2018).

Profitability in this study is proxied by return on assets (ROA) because it can show how a company performs based on the use of all its assets to generate profits (Putra & Badjra, 2015). Researchers also added other variables, namely leverage and company size, to complement this study.

According to research conducted by Ratnasari Linda (2016), several variables influence a company's profitability, one of which is leverage. Leverage is a financial ratio that assesses the extent to which a company is funded through debt. It illustrates the relationship between a company's debt and its capital. This ratio indicates the proportion of financing obtained from debt or external sources

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relative to the firm's internal capacity represented by capital (Harahap, 2013:106). In this study, leverage is measured using the Debt to Equity Ratio (DER), which compares the sources of capital originating from debt (both long-term and short-term) with equity (Sartono, 2010:121).

Total assets, sales volume, average total assets, and average total sales all serve as indicators of a company's size (Sigit, 2010). According to study by Fransisca & Widjaja (2019), one factor affecting a company's profitability is its size. The likelihood of large businesses turning a profit is significantly higher than that of small businesses.

LITERATURE REVIEW

Agency Theory

According to agency theory, members of a corporation have a contractual connection. A contract in which one or more people (principals) provide instructions to another person (an agent) to carry out a task on the principal's behalf and give the agent the authority to make choices that are optimal for the principal is known as an agency relationship (Jensen & Meckling, 1976). In the context of taxation, the principal can be defined as the government, which plays a role in overseeing and ensuring that the tax revenues required by the agent are properly met. The agent, in this case the company, is responsible for managing business operations with the aim of maximizing profits. Furthermore, this theory can also be applied to the relationship between investors as principals and management as agents. Investors entrust the management of the company to managers, who act as agents. However, because managers have broader access to information, they tend to prioritize their personal interests over the interests of the principal (Ramadhany & Amin, 2023).

Profitability

Kasmir (2012:169) defines profitability as a ratio that evaluates a business's capacity to turn a profit. A company's profitability gives a general idea of how well it runs and makes money. The profitability ratio will display the combined impacts of debt, asset management, and liquidity on operational outcomes as profitability may offer helpful hints when evaluating how well a company's operations are doing. Good prospects are indicated by a high degree of profitability, which can boost public confidence in the business and provide investors a full image of it (Lamba & Atahau, 2022).

Leverage

A company's debt is represented by its leverage, which is calculated by dividing its debt ratio by its equity. One way to determine the ratio of total debt to equity in a business is to use the Debt to Equity Ratio (DER) (Tresnawati & Miftahuddin, 2021). Wijayanto & Putri (2018) state that the debt ratio may be used to evaluate a company's capacity to pay back its debts. When a company's entire debt exceeds its total assets, it is deemed insolvent if its long-term commitments cannot be fulfilled. A good DER in financial ratios is at least larger than 1 (DER > 1), which shows that the business can continue to be sustainable with its current capital and pay back maturing debt. Research by Anisa & Endar (2024) that demonstrates how leverage affects profitability lends credence to this. This description leads to the study hypothesis, which is:

H1: Leverage has an effect on profitability

Company Size

Company size encompasses the size of a company, as measured by assets, sales volume, profits, and valuation. The larger the company, the more assets it can use to meet product demand, resulting in increased profits. According to Megawati & Sedana (2019), company size is a crucial factor in determining profitability. Companies are generally categorized into large, medium, and small companies. This finding is supported by research by Anugrawati et al. (2024), which shows that company size influences profitability. Based on this description, the following hypothesis can be formulated in this study:

H2: Firm size has an effect on profitability

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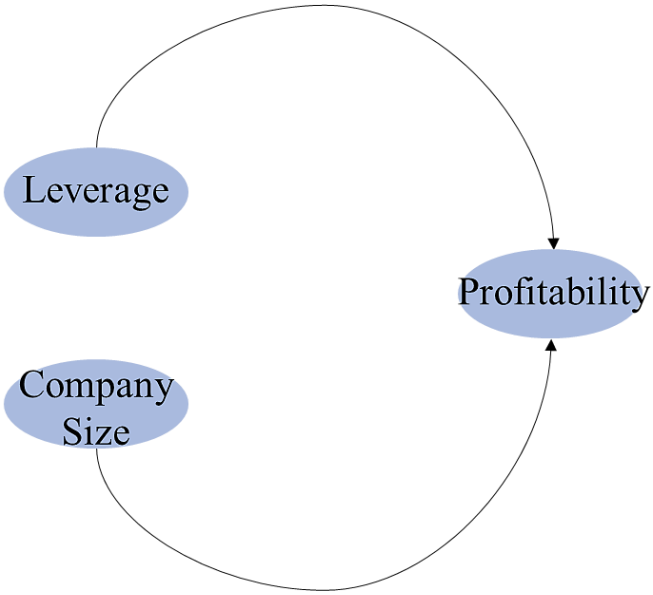

Figure 1. Framework of Thought

RESEARCH METHODS

The purpose of this study was to analyze a sample of a population in order to statistically explain its attitudinal tendencies. There are one dependent variable and two independent factors in this study. Leverage and firm size are the independent factors in this study, and profitability is the dependent variable. The following table displays the measurements for every variable.

Table 1. Variable Measurement

No	Variables	Indicator	Scale
1	Return On Aset	$\frac{Net\ Income}{Total\ Asset}\ x\ 100\%$	Ratio
2	DER	$\frac{Total\ Debt}{Total\ Equity}\ x\ 100\%$	Ratio
3	Firm Size	Ln Total Aset	Ratio

The population selected for this study was all 10 energy companies listed on the IDX (2019-2022). In determining the sample used in this study, the author used a purposive sampling technique with the following criteria:

Table 2. Research Sample Criteria

Sample Criteria	Number of Companies
Manufacturing sector companies listed on the IDX from 2018 to 2022	50

Source: Data processed by researchers

Financial and annual reports covering the years 2018-2022 make up the secondary data used in the study. Information was taken from the websites of each business. Using SPSS, multiple regression is the data analysis technique employed in this investigation. However, traditional assumption tests, such as those for autocorrelation, heteroscedasticity, multicollinearity, and normality, were performed before the study.

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DISCUSSION RESULTS

Normality Test

The Kolmogorov and Smirnov tests will be used to test for data normalcy in this investigation. Table 3 below displays the findings of the normalcy test:

Table 3. Normality Test Results
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		50
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,08513921
Most Extreme Differences	Absolute	,193
	Positive	,172
	Negative	-,193
Test Statistic		,193
Asymp. Sig. (2-tailed)		,200[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

The significance value, according to the data processing findings, is 0.200. It may be inferred that the residual data is normally distributed as the significance value is higher than 0.05.

Multicollinearity Test

The variance inflation factor (VIF) was computed and a correlation analysis between the independent variables was conducted in order to test for multicollinearity. The following are the multicollinearity test findings:

Table 4. Multicollinearity Test Results
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-,191	,154		-1,243	,220		
	DER	-,018	,024	-,115	-,764	,449	,896	1,116
	SIZE	,015	,010	,222	1,473	,147	,896	1,116

a. Dependent Variable: ROA

According to the preceding multicollinearity test findings, each variable had a VIF value less than 10 and a tolerance value more than 0.1. Therefore, it can be concluded that there are no multicollinearity issues with the data in this investigation.

Heteroscedasticity Test

The Glacier test is used to assess the presence or absence of heteroscedasticity. The table below displays the findings of the heteroscedasticity test.

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Table 5. Results of Heteroscedasticity Test

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,365	,113		3,241	,002
	DER	-,018	,017	-,145	-1,044	,302
	SIZE	-,019	,007	-,359	-0,882	,113

a. Dependent Variable: ABS_RES

Leverage has a significance value of 0.302, while company size has a value of 0.113. Consequently, since the Leverage and Company Size variables have a significance value higher than 0.05, it can be said that neither of them shows any signs of heteroscedasticity.

Autocorrelation Test

The Durbin-Watson test was employed in this investigation to identify autocorrelation. There must be an intercept (constant) in the regression model and no additional variables between the independent variables for the Durbin-Watson test to be used, which is limited to first-order autocorrelation (Ghozali, 2021). The table that follows provides an explanation of the autocorrelation test findings.

Table 6. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,214[a]	,546	,005	,08693	1,926

a. Predictors: (Constant), SIZE, DER
b. Dependent Variable: ROA

Based on the results of the autocorrelation test using the Durbin-Watson method, the DW value was 1.926. This value is smaller than the upper limit (4 - dL), which is 2.347. Therefore, it can be concluded that this regression model has positive autocorrelation symptoms.

Multiple Regression Test

The outcomes of multiple regression analysis are presented in Table 7 as follows:

Table 7. Multiple Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-,191	,154		-1,243	,220
	DER	-,018	,024	-,115	-1,764	,049
	SIZE	,015	,010	,222	1,473	,047

a. Dependent Variable: ROA

The regression equation that follows may be created using the test output findings mentioned above:

Profitability = -0,191 – 0018 Leverage + 0,015 Company Size + e

Hypothesis Testing

T-test

The t-statistic test essentially indicates the extent to which an individual explanatory/independent variable influences the variation of the dependent variable. If the sig. value is less than the alpha value (5%), it can be concluded that there is a partial influence between the independent variable and the dependent variable. The results of the partial hypothesis test are as follows:

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Table 8. Results of Hypothesis Testing with T-Test

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-,191	,154		-1,243	,220
	DER	-,018	,024	-,115	-1,764	,049
	SIZE	,015	,010	,222	1,473	,047

a. Dependent Variable: ROA

First hypothesis (H1)

The beta coefficient for the leverage variable is -0.018 with a t-statistic of -1.764, which is lower than the t-table value (in absolute terms) of 1.695, and a significance level of 0.049 < 0.05. Therefore, the first hypothesis (H1) is accepted, indicating that bond leverage exerts a positive influence on profitability.

Second hypothesis (H2)

The firm size variable has a beta value of 0.015, a significance value of 0.047 < 0.05, and a t-statistic value of 1.473, which is less than the t-table value of 1.695. Therefore, it may be said that firm size has a positive impact on profitability since the second hypothesis (H2) is accepted.

F Statistical Test

According to Ghozali (2013), the F-test basically shows if each independent variable in the model has a combined impact on the dependent variable. The independent variables may be considered to have a simultaneous impact on the dependent variable if the sig. value is less than the alpha value (5%). The following table displays the findings of the concurrent hypothesis testing.

Table 9. Hypothesis Test Results with the F-Test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,017	2	,009	5,132	,031[b]
	Residual	,355	47	,008		
	Total	,372	49			

a. Dependent Variable: ROA
b. Predictors: (Constant), SIZE, DER

With an F-value of 5.132 and a significance level of 0.031 < 0.05, the regression model is concurrently significant. Therefore, the independent variables leverage and company size take together have a substantial impact on profitability.

Coefficient of Determination Test

The coefficient of determination (R2) basically gauges how well a model explains how independent factors affect dependent variables, according to Ghozali (2013:97). The following table displays the coefficient of determination test results:

Table 10. Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,214[a]	,546	,005	,08693

a. Predictors: (Constant), SIZE, DER

The coefficient of determination test results obtained an Adjusted R-Square value of 0.546, or 54.6%. This means that the Leverage and Company Size variables together contribute 54.6% to Profitability, while the remaining 45.4% is influenced by other variables outside this research model.

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DISCUSSION

The Effect of Leverage on Profitability

The first hypothesis test's findings show that, for the years 2018–2022, manufacturing businesses listed on the IDX are more profitable when they use leverage. These findings suggest that a company's profitability increases with its level of leverage. According to Brigham and Houston (2010:189), businesses with extremely high returns on investment use comparatively little debt. A high rate of return enables the business to use domestically produced cash to finance the majority of its investments. The pecking order hypothesis, which holds that successful businesses favor internal investment over external capital, is in line with this. The findings of this study are consistent with studies by Khan and Khokhar (2015), Mahmoudi (2014), and Coricelli et al. (2013) that discovered that leverage has an impact on a business's profitability.

The Effect of Company Size on Profitability

The second hypothesis test's findings show that, for the years 2018–2022, manufacturing businesses listed on the Indonesia Stock Exchange (IDX) have higher profitability when they are larger. According to these findings, a company's potential for profitability increases with its size. Companies, both large and small, inherently face various challenges and obstacles in competing in the banking industry. High competition drives all companies, both large and small, to seek profits by optimizing their total assets. This result is consistent with studies by Kurrahmaniah et al. (2021) and Ambarwati et al. (2015), which discovered a strong positive correlation between profitability and firm size.

CONCLUSION AND SUGGESTIONS

This study comes to the conclusion that for manufacturing businesses listed on the Indonesia Stock Exchange, profitability is positively impacted by leverage and company size. This suggests that more profitability is attained with greater leverage and larger firm sizes. Profitability is also influenced by variables not included in the research.

Based on the conclusions obtained, manufacturing companies listed on the IDX for the period 2018-2022 are advised to continue maintaining and increasing leverage and company size to improve profitability. Furthermore, companies must maintain other aspects to increase profitability, such as increasing sales, conducting business expansion, and so on. It is advised that future researchers expand and extend the study's scope by utilizing a variety of industry and geographic samples in order to provide more representative and general findings. Furthermore, researchers can also consider other variables that could potentially influence profitability, such as sales, expenses, and so on.

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