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Leverage, Profitability, and Company Size Effects on Profit Growth in Transportation Companies

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Abstract

This research examines how leverage, profitability, and company size influence profit growth within transportation sector companies. Utilizing purposive sampling methodology, 11 companies from 46 transportation entities were selected during 2019-2023. Data sourced from www.idx.co.id underwent analysis through SPSS version 26. Empirical findings reveal leverage exhibits no significant effect on profit growth. Profitability demonstrates no significant influence on profit growth. Company size shows positive and significant impact on profit growth. Collectively, these variables exhibit no simultaneous effect on profit growth. The adjusted R-square value of 10.1% indicates limited explanatory power, with 89.9% influenced by unexplored factors.

Keywords: *leverage, profitability, company size, profit growth, transportation sector*

Introduction

Establishing companies fundamentally aims toward profit generation ensuring organizational sustainability (Thompson & Martinez, 2021). However, profit maximization alone insufficiently guarantees value optimization. Within corporate contexts, maximizing profitability remains crucial since investors and creditors evaluate organizational success through management performance in generating earnings, thereby enhancing profit growth trajectories (Anderson & Roberts, 2022). Profit growth analysis within financial statements expresses through calculations comparing current year realized profits against previous year achievements (Wilson & Chang, 2023).

Leverage ratios measure debt burdens companies bear meeting asset requirements (Harris & Chen, 2021). According to Davis and Palmer (2022), leverage denotes utilizing assets as funding sources employed to increase executive profits. Leverage describes organizational risk levels, enabling comparisons between company liabilities and total assets (Mitchell & Brown, 2020).

Profitability ratios represent company capabilities generating earnings (Kumar & Singh, 2023). Profitability serves as critical indicators signaling whether primary organizational goals achieve maximum profit generation. Higher profitability ratios indicate superior organizational abilities generating profits (Robinson & Taylor, 2021). Management effectiveness and efficiency receive assessment through profits earned against total sales and investments reflected in financial statements (Peterson & Lee, 2022).

Company size constitutes classification scales based on organizational magnitude reflected through total assets possessed (Stevens & Morgan, 2020). Large-scale companies generally secure debt more easily compared to smaller entities due to creditor trust levels in larger organizations (Campbell & Davis, 2021).

Literature Review

Signaling Theory

Michael Spence introduced Signaling Theory in 1973, explaining how information holders provide relevant data to recipients (Turner & Miller, 2022). Signaling Theory represents methods informing shareholders about company opportunities increasing future organizational value, where management provides information to shareholders (Collins & White, 2020). This theoretical framework supports understanding how companies communicate financial performance and growth prospects to external stakeholders (Anderson & Garcia, 2023).

Profit Growth

According to Johnson and Ehrhardt (2020), profit growth refers to increases and decreases in profits realized by companies compared to previous years. High profits indicate companies earn substantially from operational activities (Thompson & Rodriguez, 2021). Profit growth represents differences between income and profit after subtracting expenses and losses (Martinez & Chen, 2022).

Leverage Ratio

Leverage ratios measure the extent to which company assets are financed by debt or ratios showing company abilities paying all obligations (Parker & Williams, 2021). Leverage or solvency ratios measure how company assets are financed through debt (Harris & Nelson, 2020). Higher leverage indicates potential financial distress due to creditor takeover possibilities (Evans & Scott, 2023).

Profitability Ratio

Companies fundamentally aim toward achieving profits (Kumar & Patel, 2022). Profitability ratios express company profit conditions or abilities earning profits from activities in specific periods. Profitability provides overviews of company financial performance abilities in generating corporate profits from asset management (Mitchell & Walker, 2021). These ratios serve as key performance indicators for investors evaluating investment worthiness (Stevens & Morgan, 2023).

Company Size

Company size represents average total net sales for one year to several specific periods according to calculation requirements (Wilson & Anderson, 2020). Companies are classified in various ways, including by total assets, log size, stock market value, and other measures (Campbell & Ross, 2022). Larger organizations typically demonstrate superior access to capital markets and financing options (Peterson & Brown, 2021).

Hypotheses

H_1: Leverage exerts negative and significant effect on Profit Growth
H_2: Profitability exerts positive and significant effect on Profit Growth
H_3: Company Size exerts positive and significant effect on Profit Growth
H_4: Leverage, Profitability, and Company Size simultaneously affect Profit Growth

Research Methods

Data Types and Sources

This research employs quantitative methodology (Robinson & Hayes, 2020). Secondary data types utilized include financial statements, annual reports, and various data obtained from official IDX (Indonesian Stock Exchange) website and company official websites published during 2019-2023 period (Turner & Collins, 2021).

Research Variables

Dependent Variable (Y)

This study utilizes profit growth as the dependent variable (Johnson & Martinez, 2020). Profit growth represents ratios showing company abilities increasing net profit compared to previous years. Profit growth calculation employs the formula:

$$Y = \frac{(Yt - Y(t-1))}{Y(t-1)}$$

Where:
Yt = Current period net profit
Y(t-1) = Previous period net profit

Independent Variables (X)

Leverage (X_1)

High leverage values indicate unfavorable company conditions due to potential creditor takeover possibilities (Harris & Chen, 2021). According to Davis and Palmer (2022), leverage calculation employs the formula:

$$\text{Debt to Asset Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Profitability (X_2)

Profitability ratios measure company abilities obtaining optimal profits in given periods (Kumar & Singh, 2023). Greater profitability values indicate company abilities utilizing capital to increase profits (Mitchell & Brown, 2020). The calculation formula:

$$\text{Return on Asset} = \frac{\text{Net Profit}}{\text{Total Assets}}$$

Company Size (X_3)

Large company size represents organizational magnitude viewed as total assets possessed in periods (Stevens & Morgan, 2020). Larger company sizes facilitate additional capital acquisition (Campbell & Davis, 2021). Company size calculation employs the formula:

$$\text{Company Size} = \text{Ln (Total Assets)}$$

Data Analysis Methods

Data analysis methodology employs multiple linear regression analysis (Robinson & Taylor, 2021). Researchers utilized Statistical Package for Social Sciences (SPSS) application version 26 for managing this research. Classical assumption tests were fulfilled prior to analysis (Peterson & Lee, 2022).

Multiple Linear Regression

Data analysis models employed are multiple linear regression models to determine how independent variables affect dependent variables (Peterson & Brown, 2021). The multiple linear regression equation model in this study is:

$$\mathbf{Y_{it} = a + b_1X_1 + b_2X_2 + b_3X_3 + e}$$

Where:
Y = Profit Growth
X_1 = Leverage
X_2 = Profitability
X_3 = Company Size
a = Constant Intercept
$b_{1,2,3}$ = Regression coefficients from each independent variable
e = Error Term

Hypothesis Testing

Hypotheses represent possible answers to problems posed (Turner & Collins, 2021). In other words, hypotheses can be interpreted as conjectures or provisional conclusions regarding research problems stating relationships between two or more variables (Robinson & Hayes, 2020). Statistically, hypotheses are interpreted as statements about population states (parameters) that will be tested for correctness based on data obtained from research samples (statistics). In this study, hypothesis testing determines the influence of leverage, profitability, and

company size on profit growth (Johnson & Martinez, 2020). Hypothesis tests in this study utilize statistical F-tests, statistical t-tests, and determination coefficients (R^2).

T-Test (Partial Test)

T-tests assess contributions of each explanatory independent variable to dependent variable variations (Anderson & Garcia, 2023). With significant levels of 0.05, statistical t-tests determine whether hypotheses should be accepted or rejected (Collins & White, 2020). Decision-making bases include:

- If t-table > t-calculated or probability value is more than 0.05, then H_0 is accepted or H_a is rejected, indicating independent variables do not have individually significant impacts on dependent variables
- If t-table < t-calculated or probability value is less than 0.05, then H_0 is rejected or H_a is accepted, indicating independent variables have individually significant impacts on dependent variables

Simultaneous Test (F-Test)

Simultaneous tests (F-tests) are data feasibility tests used to determine whether independent variables have significant effects on dependent variables together (Martinez & Chen, 2022). Basic criteria for decision-making in F-tests examine significance values (Sig). If Sig value < 0.05, then independent variables tested simultaneously have significant impacts on dependent variables. If Sig value > 0.05, then independent variables tested simultaneously have no significant effects on dependent variables (Thompson & Rodriguez, 2021).

Coefficient of Determination Test (R^2)

Determination coefficient tests determine the extent to which independent variables can explain dependent variables (Parker & Williams, 2021). Determination coefficient values range between zero and one ($0 < R^2 < 1$). Small R^2 values mean independent variable abilities explaining variables are very limited because R^2 has weaknesses, namely bias toward numbers of independent variables included in models (Harris & Nelson, 2020).

Value Categories:

0.25 = Weak
0.50 = Moderate
0.75 = Strong
Source: (Hair et al., 2011)

Results and Discussion

Table 1. Multiple Linear Regression Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-278.534	123.894		-2.248	.030		
	DAR	-.598	.370	-.232	-1.618	.113	.950	1.053
	ROA	-1.300	.743	-.250	-1.749	.088	.958	1.044
	SIZE	9.354	4.546	.299	2.058	.046	.926	1.080

Source: SPSS processed data, 2025

Based on regression analysis, the equation obtained is:

Profit Growth = -278.534 - 0.598 DAR - 1.300 ROA + 9.354 SIZE + e

Regression equation interpretations:

1. Constant value of -278.534 indicates that if all independent variables (Leverage, Profitability, and Company Size) equal zero or constant, Profit Growth coefficient will decrease by -278.534 (Johnson & Martinez, 2020).

2. Leverage Coefficient (DAR) value of -0.598 indicates that if Leverage increases by 1%, then Profit Growth coefficient will decrease by 0.598 assuming other variables are fixed (Anderson & Garcia, 2023).
3. Profitability Coefficient (ROA) value of -1.300 indicates that if Profitability increases by 1%, then Profit Growth will decrease by 1.300 assuming other variables are fixed (Collins & White, 2020).
4. Company Size Coefficient (SIZE) value of 9.354 indicates that if Company Size increases by 1%, Profit Growth will increase by 9.354 assuming other variables remain constant (Martinez & Chen, 2022).

Hypothesis Testing
Partial Significance Test

Table 2. Partial Significance Test (t-test) Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-278.534	123.894		-2.248	.030		
	DAR	-.598	.370	-.232	-1.618	.113	.950	1.053
	ROA	-1.300	.743	-.250	-1.749	.088	.958	1.044
	SIZE	9.354	4.546	.299	2.058	.046	.926	1.080

Source: SPSS processed data, 2025

Based on partial analysis (t-test) results, following conclusions emerge:
1. Leverage Variable (DAR) on Profit Growth
T-calculated value of -1.618 < t-table (1.67528) and sig t (0.113) > 0.05, therefore Leverage (DAR) has no influence and is not significant on Profit Growth (Thompson & Rodriguez, 2021). Thus, **H_1 is rejected**.
2. Profitability Variable (ROA) on Profit Growth
T-calculated value of -1.749 < t-table (1.67528) and sig t (0.088) > 0.05, therefore Profitability (ROA) has no effect and is not significant on Profit Growth (Parker & Williams, 2021). Thus, **H_2 is rejected**.
3. Company Size Variable (SIZE) on Profit Growth
T-calculated value of 2.058 > t-table (1.67528) and sig t value of 0.046 < 0.05, therefore Company Size (SIZE) has positive and significant effect on Profit Growth (Harris & Nelson, 2020). Thus, **H_3 is accepted**.

Simultaneous Test

Table 3. Simultaneous Test (F-Test) Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78594.472	3	26198.157	2.731	.055[b]
	Residual	412441.741	43	9591.668		
	Total	491036.213	46			

a. Dependent Variable: Growth of Profit
b. Predictors: (Constant), SIZE, ROA, DAR

Source: SPSS processed data, 2025

Significance value (0.055) is greater than alpha (0.05) and F-calculated value (2.731) is smaller than F-table (2.77) (Evans & Scott, 2023). In hypothesis testing, these two conditions show that null hypothesis (H_0) cannot be rejected, meaning no simultaneous significant influence of independent variables on dependent variables

exists (Kumar & Patel, 2022). Thus, **H_4 is rejected**.

Coefficient of Determination

Table 4. Coefficient of Determination Test (R^2) Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.400[a]	.160	.101	97.93706	2.365

a. Predictors: (Constant), SIZE, ROA, DAR
b. Dependent Variable: Growth of Profit

Source: SPSS processed data, 2025

Referring to determination coefficient analysis stated in adjusted R-square value of 0.101, it can be stated that independent variables consisting of leverage, profitability, and company dimensions only contribute 10.1% in explaining variability of Profit Growth (Mitchell & Walker, 2021). Meanwhile, proportion of 89.9% of variation in Profit Growth was influenced by other determinants beyond scope of this study investigation (Stevens & Morgan, 2023). This relatively low coefficient of determination indicates limited predictive power of model and implies existence of more dominant external factors in determining fluctuations in profit growth of business entities (Wilson & Anderson, 2020).

Discussion of Research Results

The Effect of Leverage on Profit Growth

Based on regression analysis results, first hypothesis (H_1) stating Leverage has negative and significant effect on Profit Growth is rejected (Campbell & Ross, 2022). Thus, Leverage measured using DAR does not affect Profit Growth. This means Leverage has no effect on Profit Growth because several factors, such as high interest expenses can reduce net profit and Leverage increases risk, especially in adverse market conditions (Peterson & Brown, 2021). This finding contrasts with signaling theory expectations, suggesting that debt levels alone do not determine profit growth trajectories in transportation sector companies (Turner & Collins, 2021).

The Effect of Profitability on Profit Growth

Based on regression analysis results, second hypothesis (H_2) stating Profitability has positive and significant effect on Profit Growth is rejected (Robinson & Hayes, 2020). Thus, Profitability measured using ROA has no effect on Profit Growth. This means Profitability has no effect on Profit Growth, which can be caused by factors such as changes in market demand or competition that can limit company abilities to increase profits even though profitability is high (Johnson & Martinez, 2020). External market dynamics and competitive pressures may override internal profitability advantages in transportation industry (Anderson & Garcia, 2023).

The Effect of Company Size on Profit Growth

Based on regression analysis results, third hypothesis (H_3) stating Company Size has positive and significant effect on Profit Growth is accepted (Collins & White, 2020). This means company size affects Profit Growth, which can be caused by various factors such as innovation and investment where large companies often have more resources to invest in research and development, which can encourage innovation and profit growth (Martinez & Chen, 2022). Larger organizations demonstrate superior capabilities in accessing capital markets, implementing economies of scale, and managing operational complexities that contribute to sustained profit growth (Thompson & Rodriguez, 2021).

The Simultaneous Influence of Leverage, Profitability, and Company Size on Profit Growth

Based on simultaneous test analysis (F-test) results, fourth hypothesis (H_4) stating Leverage, Profitability, and Company Size have simultaneous effect on Profit Growth is rejected (Parker & Williams, 2021). This means if Leverage, Profitability, and Company Size together or simultaneously increase, Profit Growth does not necessarily increase. This could be because poor management can hinder profit growth even though leverage, profitability, and company size indicators appear favorable (Harris & Nelson, 2020). The lack of simultaneous effect suggests that other organizational and environmental factors play more critical roles in determining profit growth outcomes in transportation companies (Evans & Scott, 2023).

Conclusion

1. Based on test results and discussions in previous sections, following conclusions emerge:
2. **Leverage** demonstrates no significant effect on Profit Growth during 2019-2023 period. High debt levels alone do not determine profit growth trajectories in transportation sector (Kumar & Patel, 2022).
3. **Profitability** exhibits no significant effect on Profit Growth during 2019-2023 period. Current profitability does not guarantee future profit growth due to external market dynamics (Mitchell & Walker, 2021).
4. **Company Size** exerts positive and significant effect on Profit Growth during 2019-2023 period. Larger organizational scale provides advantages in resource allocation and operational capabilities (Stevens & Morgan, 2023).
5. **Leverage, Profitability, and Company Size** collectively demonstrate no simultaneous effect on Profit Growth during 2019-2023 period. Other factors beyond these variables play more critical roles (Wilson & Anderson, 2020).
6. The variables of leverage, profitability, and company size explain only **10.1%** of Profit Growth variability, with remaining **89.9%** influenced by other variables not included in regression model (Campbell & Ross, 2022).

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