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Financial Performance Determinants of Firm Value in Indonesian Industrial Sector

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Abstract

This investigation examines financial performance indicators affecting firm valuation within Indonesia's industrial sector during 2020-2023. Utilizing quantitative methodology with 19 purposively-selected companies from the Indonesia Stock Exchange, the study analyzes profitability, leverage, total asset turnover, and firm size impacts through panel data regression. Results demonstrate profitability (t=3.937, p=0.000) and leverage (t=2.070, p=0.042) exert significant positive influences on firm value, while total asset turnover and firm size show negligible effects. The determination coefficient (R^2=0.199) indicates examined variables explain 19.9% of firm value variance, with additional factors including market conditions and corporate governance contributing to remaining variance. Findings validate that earnings capacity and capital structure optimization constitute critical value drivers for industrial enterprises.

Keywords: *Firm Value, Profitability, Leverage, Asset Turnover, Company Size*

Introduction

Contemporary globalization accelerates technological advancement and business transformation, intensifying competitive pressures across industrial sectors. Organizations must formulate sophisticated strategies leveraging available resources to maintain competitive positioning and enhance enterprise value (Feng et al., 2020). Firm valuation represents paramount strategic objectives, reflecting management effectiveness and stakeholder wealth creation capabilities.

Enterprise value encompasses multiple determinants including profitability metrics, financial leverage ratios, asset utilization efficiency, and organizational scale (Diantini & Badjra, 2020). These variables collectively influence investor perceptions and market valuations, particularly within industrial sectors confronting dynamic market environments and regulatory frameworks (Nugroho & Mutmainah, 2021).

Empirical investigations reveal inconsistent findings regarding financial performance-value relationships, necessitating further examination within specific sectoral contexts (Khidmat et al., 2020). Understanding these relationships enables financial managers to implement strategic decisions optimizing firm valuation, strengthening investor confidence, and ensuring sustainable asset growth (Ramli et al., 2021).

This research addresses knowledge gaps concerning individual and combined impacts of profitability, leverage, asset turnover, and firm size on enterprise valuation within Indonesian industrial companies. The investigation period (2020-2023) encompasses significant economic disruptions, providing insights into value determinants during turbulent conditions. Findings contribute theoretical advancement and practical guidance for industrial enterprises pursuing optimal valuation strategies.

Literature Review

Signaling Theory

Signaling Theory, introduced by Spence (1973) and developed by Ross (1977), posits that corporate executives possessing superior information regarding organizational prospects convey signals to investors through financial decisions and disclosures (Connelly et al., 2011). These signals reduce information asymmetry, enabling investors to assess firm quality and future performance potential (Mavlutova et al., 2022). Financial statements, dividend announcements, and capital structure choices constitute primary signaling mechanisms influencing market perceptions and firm valuations.

Management signals through profitability disclosures indicate operational efficiency and competitive capabilities, while leverage decisions communicate growth strategies and risk tolerance (Setiawan et al., 2021). Positive signals enhance investor confidence, elevating stock prices and enterprise values.

Trade-Off Theory

Trade-Off Theory conceptualizes optimal capital structure as balancing debt tax benefits against financial distress costs and agency conflicts (Myers, 1984). Organizations strategically determine leverage levels maximizing firm value through efficient capital allocation (Frank & Goyal, 2022).

Moderate debt utilization generates tax shields enhancing shareholder wealth, while excessive leverage increases bankruptcy probabilities and financial constraints (Hang et al., 2021). Trade-off considerations influence enterprise valuations through capital structure optimization affecting risk-return profiles and investment attractiveness.

Firm Value

Firm value reflects market perceptions of organizational worth, representing accumulated stakeholder confidence developed through sustained operational performance (Lestari et al., 2021). This construct compares market capitalization to book value, indicating investor willingness to pay premium prices for equity ownership (Brigham & Houston, 2021).

Price-to-Book Value (PBV) ratio serves as primary valuation metric, measuring market value relative to accounting book value per share (Kurniawan & Mertha, 2020). Elevated PBV ratios signify positive investor sentiment, reflecting expectations of superior future performance and sustainable competitive advantages.

This investigation employs PBV as dependent variable proxy, calculated through:

$$\text{PBV} = \frac{\text{Stock Price}}{\text{Book Value per Share}}$$

Profitability

Profitability metrics quantify organizational capacity generating earnings from operational activities and asset deployments (Alshahrani & Alharbi, 2023). These measures provide fundamental insights into management effectiveness, operational efficiency, and sustainable value creation capabilities essential for investor assessments.

Return on Assets (ROA) indicates profit generation efficiency relative to total asset base, serving as comprehensive profitability indicator (Nguyen & Nguyen, 2020). Superior profitability signals effective resource utilization, competitive positioning, and growth potential, positively influencing firm valuations through enhanced investor confidence (Suherman et al., 2020).

This study measures profitability using ROA:

$$\text{ROA} = \frac{\text{Earnings After Tax}}{\text{Total Assets}}$$

Leverage

Financial leverage represents debt utilization in capital structure, measuring external financing dependence versus equity contributions (Handayani et al., 2020). Leverage ratios assess organizational capacity fulfilling financial obligations and indicate capital structure risk profiles (Chen et al., 2021).

Debt-to-Asset Ratio (DAR) quantifies asset financing through debt obligations, providing insights into financial risk exposure and solvency positions (Akbar et al., 2021). Optimal leverage balances tax benefits against financial distress costs, influencing firm valuations through risk-return trade-offs (Habib et al., 2020).

This investigation employs DAR as leverage proxy:

$$\text{DAR} = \frac{\text{Total Liabilitas}}{\text{Total Assets}}$$

Total Asset Turnover

Asset turnover efficiency measures revenue generation capacity per asset unit, indicating operational effectiveness and resource utilization optimization (Dewi & Abundanti, 2021). Total Asset Turnover (TATO) quantifies sales productivity relative to total asset investments (Kasmir, 2019).

Enhanced asset turnover demonstrates efficient resource deployment, potentially strengthening firm valuations through improved operational performance perceptions (Puspitaningtyas, 2020). However, sectoral variations and business model differences influence turnover ratio interpretations.

TATO calculation follows:

$$\text{TATO} = \frac{\text{Sales}}{\text{Total Assets}}$$

Firm Size

Organizational size represents enterprise scale measured through various dimensions including total assets, sales volumes, and market capitalizations (Dang et al., 2020). Larger organizations typically demonstrate enhanced stability, diversification benefits, and resource access advantages (Le & Tran, 2021).

Size-related economies of scale, market power, and financial flexibility influence valuation premiums, though bureaucratic inefficiencies may constrain performance in excessively large organizations (Pratama & Wiksuana, 2020). This study employs natural logarithm transformation standardizing asset scale variations:

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

Hypotheses

Based on theoretical frameworks and empirical literature, this investigation proposes:

H_1: Profitability exerts positive significant effects on firm value **H_2:** Leverage demonstrates positive significant influence on firm value

H_3: Total asset turnover positively affects firm value **H_4:** Firm size shows positive relationship with firm value **H_5:** Profitability, leverage, total asset turnover, and firm size simultaneously influence firm value

Methods

Research Design

This quantitative investigation employs associative research methodology examining causal relationships between financial variables (Creswell & Creswell, 2018). The approach facilitates empirical hypothesis testing establishing objective relationships between independent variables (profitability, leverage, asset turnover, firm size) and dependent variable (firm value) within positivistic frameworks utilizing numerical data analysis.

Population and Sample

Research population comprises industrial sector companies listed on Indonesia Stock Exchange during 2020-2023. Industrial sector selection reflects stable demand characteristics and relative economic resilience, providing appropriate context for value determinant analysis (Mulyani et al., 2021). This sector contributes significantly to national economic development through consumer goods provision and employment generation.

Purposive sampling methodology incorporates companies satisfying specific criteria: (1) consistent financial reporting throughout observation period, and (2) sustained profitability maintenance during 2020-2023. Selection procedures identified 19 qualifying companies, generating 76 firm-year observations across four-year investigation window.

Data Collection

Secondary data collection utilized audited financial statements accessed through Indonesia Stock Exchange official platforms and corporate websites. Financial statement analysis extracted relevant variables including stock prices, book values, earnings, total assets, total liabilities, and sales revenues supporting variable

operationalization.

Variables and Measurement

Dependent Variable: Firm Value measured through Price-to-Book Value (PBV) ratio **Independent Variables:**

- Profitability: Return on Assets (ROA)
- Leverage: Debt-to-Asset Ratio (DAR)
- Asset Efficiency: Total Asset Turnover (TATO)
- Organizational Scale: Natural Logarithm of Total Assets [Ln(TA)]

Data Analysis Techniques

Statistical analysis employed IBM SPSS Statistics version 26.0, providing comprehensive quantitative analysis capabilities for financial research applications. Analytical procedures encompassed:

Classical Assumption Testing: Normality assessment through Kolmogorov-Smirnov test; multicollinearity evaluation via Variance Inflation Factor (VIF); heteroscedasticity examination using scatterplot analysis; autocorrelation detection through Durbin-Watson statistic

Multiple Linear Regression Analysis: Estimating independent variable effects on dependent variable through ordinary least squares methodology

Hypothesis Testing: Partial significance evaluation (t-test) assessing individual variable impacts; simultaneous significance testing (F-test) examining collective variable effects

Model Evaluation: Coefficient of determination (Adjusted R^2) quantifying explanatory power and model fitness

Results and Discussion

Descriptive Statistics

Table 1 presents descriptive statistics for research variables across 76 observations (19 companies × 4 years).

Table 1. Descriptive Statistics

Variable	Mean	Minimum	Maximum	Std. Deviation
ROA	0.0868	0.00	0.36	0.06219
DAR	0.3370	0.06	0.67	0.14133
TATO	1.1058	0.22	4.65	0.92421
Ln(TA)	26.6937	22.47	29.30	1.71215
PBV	4.0868	0.05	43.57	8.29230

Source: SPSS 26 analysis, 2025

Descriptive analysis reveals average profitability (ROA) of 8.68%, indicating moderate earnings generation capacity across industrial sector companies. Leverage ratio (DAR) averages 33.70%, suggesting balanced capital structure with predominant equity financing. Asset turnover (TATO) mean of 1.1058 demonstrates revenue generation slightly exceeding total asset values. Firm value (PBV) exhibits substantial variation (SD=8.29), reflecting diverse market valuations influenced by company-specific factors and investor perceptions.

Classical Assumption Tests

Normality Test

Kolmogorov-Smirnov normality assessment generated asymptotic significance value of 0.200 (>0.05), confirming residual normal distribution satisfying regression prerequisites (Field, 2024). Normal P-P plot visualization demonstrates data points aligning closely with diagonal reference line, validating normality assumption compliance.

Multicollinearity Test

Variance Inflation Factor (VIF) analysis produced values below 10.0 for all independent variables, with tolerance statistics exceeding 0.10 thresholds. Results confirm multicollinearity absence, ensuring reliable coefficient estimation and interpretability (Hair et al., 2021).

Heteroscedasticity Test

Scatterplot examination reveals random residual dispersion patterns without systematic clustering, indicating homoscedastic variance structure. Points distribute evenly across horizontal zero line, validating constant variance assumption essential for regression inference validity (Tabachnick & Fidell, 2023).

Multiple Linear Regression Analysis

Table 2. Regression Coefficient Estimates

Model	Unstandardized Coefficients
	B
(Constant)	-6.545
ROA	10.005
DAR	2.325
TATO	-0.028
Ln(TA)	0.183

Source: SPSS 26 analysis, 2025

Regression equation formulation:

Firm Value = -6.545 + 10.005(ROA) + 2.325(DAR) - 0.028(TATO) + 0.183(Ln TA)

Interpretation:

- **Constant (-6.545):** Baseline firm value absent independent variable influences
- **ROA Coefficient (10.005):** One-unit profitability increase enhances firm value by 10.005 units, controlling other variables
- **DAR Coefficient (2.325):** One-unit leverage increase elevates firm value by 2.325 units, ceteris paribus
- **TATO Coefficient (-0.028):** One-unit asset turnover increase marginally decreases firm value by 0.028 units
- **Ln(TA) Coefficient (0.183):** One-unit firm size increase augments firm value by 0.183 units

Hypothesis Testing

Partial Significance Test (t-test)

Table 3. Individual Variable Significance

Variable	Coefficient	t-statistic	Significance	t-table	Decision
ROA	10.005	3.937	0.000	1.993	H_1 Accepted
DAR	2.325	2.070	0.042	1.993	H_2 Accepted
TATO	-0.028	-0.171	0.865	1.993	H_3 Rejected
Ln(TA)	0.183	1.902	0.061	1.993	H_4 Rejected

Source: SPSS 26 analysis, 2025

Profitability (ROA): Statistical evidence (t=3.937 > t-table=1.993; p=0.000 < 0.05) confirms significant positive effects on firm value, supporting H_1. Results indicate enhanced earnings capacity strengthens market valuations through improved investor confidence and growth expectations.

Leverage (DAR): Analysis demonstrates significant positive relationship (t=2.070 > t-table=1.993; p=0.042 < 0.05), validating H_2. Findings suggest optimal leverage utilization generates tax benefits and financial flexibility enhancing enterprise values within acceptable risk parameters.
Total Asset Turnover (TATO): Results reveal insignificant negative relationship (t=-0.171 < t-table=1.993; p=0.865 > 0.05), rejecting H_3. Asset turnover efficiency alone insufficient influencing firm valuations within industrial sector context, potentially reflecting sectoral characteristics prioritizing profitability over turnover metrics.
Firm Size [Ln(TA)]: Evidence shows insignificant positive association (t=1.902 < t-table=1.993; p=0.061 > 0.05), rejecting H_4. Organizational scale demonstrates marginal valuation influence, suggesting size-related advantages offset by potential inefficiencies in industrial sector enterprises.

Simultaneous Significance Test (F-test)

Table 4. Simultaneous Effect Testing

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	41.183	4	10.296	5.653	0.001
Residual	129.317	71	1.821		
Total	170.501	75			

Source: SPSS 26 analysis, 2025

F-test results (F=5.653 > F-table=2.50; p=0.001 < 0.05) confirm profitability, leverage, asset turnover, and firm size collectively exert significant influence on firm value, supporting H_5. Simultaneous effects demonstrate comprehensive financial performance indicators jointly determine enterprise valuations.

Coefficient of Determination (R^2)

Table 5. Model Summary Statistics

Model	R	R Square	Adjusted R Square	Std. Error
1	0.491	0.242	0.199	1.34958

Source: SPSS 26 analysis, 2025

Adjusted R^2 value (0.199) indicates examined independent variables explain 19.9% of firm value variance. Correlation coefficient (R=0.491) demonstrates moderate positive relationship between predictor variables and firm value. Remaining 80.1% variance attributes to external factors including market conditions, corporate governance practices, macroeconomic variables, competitive dynamics, and regulatory frameworks not incorporated within research model (Ararat et al., 2023).

Discussion
Profitability Effects on Firm Value
Empirical findings confirm significant positive profitability-firm value relationships, consistent with Signaling Theory principles suggesting earnings capacity signals management effectiveness and competitive advantages (Mavlutova et al., 2022). Superior profitability demonstrates efficient resource utilization, sustainable business models, and growth potential attracting investor interest and elevating market valuations (Alshahrani & Alharbi, 2023).
Results align with investigations by Nguyen and Nguyen (2020) and Suherman et al. (2020) documenting positive profitability-value associations across diverse sectoral contexts. Industrial sector companies generating substantial returns on assets communicate operational excellence and strategic positioning, reducing perceived investment risks and commanding valuation premiums (Ramli et al., 2021).

From practical perspectives, organizations should prioritize operational efficiency enhancements, cost management initiatives, and revenue optimization strategies strengthening profitability metrics. Enhanced earnings capacity translates into improved investor perceptions, elevated stock prices, and sustained enterprise value creation supporting long-term stakeholder wealth maximization objectives.

Leverage Effects on Firm Value

Statistical analysis demonstrates significant positive leverage-firm value relationships, supporting Trade-Off Theory propositions regarding optimal capital structure benefits (Frank & Goyal, 2022). Moderate debt utilization generates tax shield advantages, enhances financial flexibility, and signals management confidence in future cash flow generation capabilities (Hang et al., 2021).

Findings corroborate investigations by Chen et al. (2021) and Habib et al. (2020) identifying positive leverage effects within optimal threshold boundaries. Industrial sector companies strategically employing debt financing access external capital supporting growth initiatives, capacity expansions, and technological investments enhancing competitive positioning and market valuations (Akbar et al., 2021).

However, excessive leverage elevates financial distress probabilities, constrains operational flexibility, and increases bankruptcy risks potentially diminishing firm values (Handayani et al., 2020). Organizations must maintain balanced capital structures optimizing tax benefits while preserving financial stability and stakeholder confidence essential for sustained value creation.

Managerial implications emphasize strategic capital structure optimization through prudent debt management, financial risk monitoring, and stakeholder communication regarding leverage rationale and risk mitigation frameworks. Transparent financial policies enhance investor confidence, supporting favorable market valuations and capital access opportunities.

Total Asset Turnover Effects on Firm Value

Results reveal insignificant negative asset turnover-firm value relationships, contradicting theoretical expectations regarding operational efficiency benefits. Asset turnover metrics alone insufficient driving valuation premiums within industrial sector contexts characterized by capital-intensive operations and longer investment horizons (Dewi & Abundanti, 2021).

Sectoral characteristics prioritizing profitability margins over turnover velocity explain limited turnover influence on firm values. Industrial enterprises often require substantial fixed asset investments supporting production capacities, potentially constraining turnover ratios despite operational effectiveness (Puspitaningtyas, 2020). Investors emphasize earnings quality and financial returns rather than asset utilization efficiency when assessing industrial sector valuations.

Alternative explanations include measurement limitations, industry-specific dynamics, and temporal factors affecting asset turnover interpretations. Future investigations should examine non-linear relationships, threshold effects, and contextual moderators clarifying asset efficiency-value linkages across diverse operational environments.

Firm Size Effects on Firm Value

Analysis demonstrates insignificant positive size-firm value associations, suggesting organizational scale alone insufficient commanding valuation premiums. While larger companies potentially benefit from economies of scale, market power, and resource advantages, size-related bureaucratic inefficiencies, coordination challenges, and strategic rigidity may offset these benefits (Dang et al., 2020).

Findings align with Le and Tran (2021) documenting mixed size-value relationships influenced by industry contexts, competitive dynamics, and growth opportunities. Industrial sector companies face complex size-performance trade-offs balancing operational scale advantages against organizational complexity costs (Pratama & Wiksuana, 2020).

Investors evaluate firm values based on multiple dimensions beyond organizational scale, including profitability sustainability, competitive positioning, innovation capabilities, and governance quality. Size metrics serve as control variables rather than primary value drivers within comprehensive valuation

frameworks considering multifaceted performance indicators.
Managerial implications suggest focusing on operational excellence, strategic positioning, and sustainable growth rather than pursuing size expansion objectives disconnected from value creation fundamentals. Organizations should emphasize quality growth strategies enhancing profitability, competitive advantages, and stakeholder value rather than quantitative scale enlargement.

Simultaneous Effects on Firm Value

F-test results confirming collective variable significance demonstrate comprehensive financial performance assessment importance for enterprise valuation. Profitability, leverage, asset turnover, and firm size interactions create complex value determination dynamics requiring integrated analytical frameworks (Ararat et al., 2023).
Combined effects reflect multidimensional value creation processes incorporating earnings capacity, capital structure optimization, operational efficiency, and organizational capabilities. Investors employ holistic evaluation approaches considering multiple financial indicators, contextual factors, and strategic positioning when assessing investment opportunities and determining appropriate valuations (Feng et al., 2020).
Research contributions advance theoretical understanding regarding financial determinants of firm value within emerging market industrial sectors, providing empirical evidence supporting signaling and trade-off theoretical frameworks. Practical applications enable managers to prioritize strategic initiatives optimizing profitability and capital structure as primary value drivers while maintaining operational excellence across secondary performance dimensions.

Conclusion

This investigation examined profitability, leverage, total asset turnover, and firm size effects on enterprise valuation within Indonesian industrial sector companies during 2020-2023. Empirical analysis confirms profitability exerts significant positive influence on firm value ($t=3.937$, $p=0.000$), demonstrating earnings capacity constitutes primary value driver enhancing investor confidence and market valuations. Leverage similarly shows significant positive effects ($t=2.070$, $p=0.042$), validating optimal debt utilization generates tax benefits and financial flexibility supporting value creation within acceptable risk parameters.
Conversely, total asset turnover demonstrates insignificant negative relationship with firm value ($t=-0.171$, $p=0.865$), suggesting operational efficiency metrics alone insufficient driving valuation premiums within capital-intensive industrial contexts. Firm size exhibits insignificant positive association ($t=1.902$, $p=0.061$), indicating organizational scale provides marginal valuation benefits potentially offset by size-related inefficiencies and complexity costs.
Collective variable analysis confirms simultaneous significant effects ($F=5.653$, $p=0.001$), with examined factors explaining 19.9% of firm value variance. Remaining variance attributes to external determinants including market conditions, corporate governance frameworks, macroeconomic factors, competitive dynamics, and regulatory environments requiring future investigative attention.

Research Limitations and Future Directions

Investigation limitations include single-sector focus potentially constraining findings generalizability across diverse industrial contexts. Four-year observation window provides limited temporal perspective for examining long-term value dynamics and structural relationship evolution. Moderate explanatory power ($R^2=0.199$) indicates substantial unexplained variance necessitating additional variable incorporation.
Future research should expand sample sizes encompassing multiple sectors, incorporate longitudinal designs capturing extended temporal patterns, and examine complementary value determinants including corporate governance quality, innovation capabilities, sustainability practices, and market competition intensity. Cross-country comparative analyses would illuminate institutional and market context influences on financial performance-value relationships within emerging economies.
Methodological extensions incorporating non-linear specifications, threshold regression models, and structural equation modeling approaches could reveal complex relationship patterns and interaction effects enhancing

theoretical understanding and practical applications. Qualitative investigations exploring managerial perspectives and strategic decision-making processes would provide contextual insights complementing quantitative findings.

Managerial Implications

Research findings generate actionable recommendations for industrial sector enterprises:

Profitability Enhancement: Prioritize operational efficiency improvements, cost optimization initiatives, and revenue diversification strategies strengthening earnings capacity and competitive positioning. Focus on sustainable profitability generation rather than short-term performance fluctuations.

Capital Structure Optimization: Maintain balanced leverage ratios optimizing tax benefits while preserving financial flexibility and stability. Implement comprehensive financial risk management frameworks monitoring debt service capabilities and market condition sensitivities.

Integrated Performance Management: Develop holistic performance measurement systems encompassing profitability metrics, capital efficiency indicators, and operational effectiveness measures supporting comprehensive value creation strategies.

Stakeholder Communication: Enhance transparency regarding financial strategies, value creation initiatives, and risk management approaches building investor confidence and supporting favorable market valuations.

Strategic Investment Prioritization: Allocate resources toward initiatives demonstrating clear profitability enhancement potential and strategic competitive advantage development rather than pursuing organizational scale expansion disconnected from fundamental value drivers.

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