



## Analysis of Profitability and Leverage on Company Value with Size and Growth Capacity as Moderating Variables in the Property Sector

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**Abstract:** This study analyzes the effect of profitability (ROA) and leverage (DER) on firm value (Tobin's Q), with firm size and growth capacity as moderating variables in property companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2024 period. The research method uses a quantitative approach with WarpPLS analysis techniques. The results show that ROA has a positive but insignificant effect on firm value, while DER has a positive and significant effect. Firm size and growth capacity are unable to moderate the relationship between profitability and leverage on firm value. These findings confirm that financing decisions through leverage are a dominant factor in increasing firm value, and support Signaling Theory and Pecking Order Theory regarding the importance of capital structure and financial information for investors.

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## INTRODUCTION

The global economy faces macroeconomic uncertainty, pushing companies to maintain long-term value and competitiveness (Brigham & Houston, 2021). Under these conditions, investors no longer rely solely on intuition but need to conduct in-depth evaluations of a company's stock and financial performance (Sartono, 2016). Company value reflects the level of investor confidence in a company's ability to manage resources to generate sustainable profits. When the company value increases, it indicates a positive market perception of the company's potential performance and future prospects. In Indonesia, the property sector is still in the post-pandemic recovery phase and has been impacted by external factors, such as the Russia-Ukraine conflict, which disrupted supply chains and triggered global inflation (Aaf, 2023). The Financial Services Authority (OJK) (2024) noted a significant increase in the DER ratio of property companies, indicating an increased reliance on debt to pursue expansion. In 2025, the Indonesian property sector recorded a relatively strong performance, despite pressure on other sectors. SMGR, for example, reported a 91% decline in net profit due to industry contraction (Fikri, 2025). In contrast, property issuers such as CTRA, SMRA, and BSDE recorded pre-sales of IDR 6.8 trillion, a 0.9% increase (Kontan, 2025). However, the sector's DER surged to 1.89 times in March 2024, the highest since the pandemic (OJK, 2024).

The phenomenon of corporate value also highlights the gap between operational performance and market valuation. Although several issuers have recorded increases in pre-sales, market valuations (Tobin's Q) have not moved in line. Meanwhile, property



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sector leverage has increased significantly, while average ROA remains below 5%. This situation indicates that reliance on debt for expansion has not been sufficiently offset by strong profitability signals, resulting in a lack of positive market response. The Indonesian property sector has fluctuated over the past five years, with the IDXPROPERTY index declining since 2020, although it recovered in 2021 and 2023 (IDX, 2024). The Financial Services Authority (OJK) (2024) noted that the average ROA of property companies remains below 5%, while the DER has increased to 1.89 times. SMGR recorded a 91% decline in net profit in the first quarter of 2025 (Fikri, 2025). Conversely, BSDE, SMRA, and VTRA recorded high pre-sales without increasing valuations. This situation indicates that increasing profitability does not necessarily align with company value, necessitating consideration of other financial and structural variables.

Despite the dynamic development of the property sector in Indonesia, previous studies on profitability, leverage, and firm value have produced inconsistent findings, particularly in the post-pandemic context. Several studies reported a significant effect of ROA and DER (Fatima & Shaik, 2022) (Darmawan, A. R., & Lestari, 2024), while others found insignificant relationships (Eka Puspita Sari & Ferry Santoso, 2024). However, none of these studies have specifically examined the gap between increasing leverage, stagnant profitability, and declining market valuation in the Indonesian property sector during the 2023-2024 period, even though this sector is highly sensitive to macroeconomic shocks and interest rate changes. This creates an empirical gap because it is still unclear whether the recent financial fluctuations in the property sector reflect investor responses to profitability, capital structure, or structural characteristics such as firm size to profitability, capital structure, or structural characteristic such as firm size and growth capacity.

The property sector is selected as the research setting because it is one of the most capital-intensive industries in Indonesia, where fluctuations in profitability and leverage have direct implications for firm value. Additionally, property issuers have experienced substantial financial pressure during 2023-2024, reflected in increasing debt ratios, slow recovery of profitability, and inconsistent market responses. These conditions highlight the relevance of re-examining financial determinants of firm value in this sector. Therefore, focusing on property companies listed on the IDX provides an appropriate context for capturing recent market dynamics and contributes to reducing the empirical gap in previous studies. Based on the latest financial data, the property sector shows contrasting developments over the last two years. The average DER of property companies increased from debt financing. Meanwhile, average ROA declined from 4.2% in 2022 to below 3% in 2024, suggesting weakening profitability performance. In contrast, market valuation measured by Tobin's Q fluctuated but did not show a strong upward trend despite improvements in pre-sales among several issuers. This mismatch between operational recovery and market valuation reinforces the urgency of analyzing the financial variables that drive firm value in the property sector during the post-pandemic period.

The relationship between financial performance and firm value can also be explained by the concept of financial signaling, where profitability and capital structure information serve as signals that influence investor perceptions (Brigham & Houston, 2021). Profitability is measured by ROA because it indicates a company's efficiency in generating profits from assets (Hanafi, M. M., & Halim, 2016). DER is used to reflect a company's funding structure and financial risk. Firm size is considered relevant because larger companies are generally more stable and trusted by the market (Putri, 2025). Meanwhile, growth capacity indicates expansion potential, which can strengthen market signals (Limba et al., 2023). Firm value is measured using Tobin's Q because it reflects the market's assessment of the company's asset value and prospects (Ghozali, 2021). Firm size often acts as a moderator in the relationship between financial variables and firm value. Larger firms are considered more stable and credible, and have broader

access to funding (Brigham & Houston, 2021). Putri (2025) noted that firm size moderates the effect of leverage on firm value, although it is not significant for ROA. Limba et al. (2023) showed a strong correlation between ROA and firm value in large firms. Goh et al. (2022) found that firm size did not moderate the relationship between ROA and DER in the consumer goods sector, indicating its influence is contextual.

Previous research has yielded inconsistent findings. Fatima & Shaik (2022) and Darmawan, A. R., & Lestari (2024) showed that ROA and DER significantly influence firm value. Conversely, Eka Puspita Sari & Ferry Santoso (2024) stated that neither was significant. Furthermore, firm size and growth are rarely studied simultaneously as moderators. Yet, both variables are believed to influence investor perceptions (Pramudyo, D. & Nugroho, 2021). Furthermore, signaling and pecking order theories do not adequately explain variable interactions in the context of emerging markets like Indonesia (Ghozali, 2021). This study aims to examine the effect of ROA and DER on firm value, with firm size and growth capacity as moderators. Its novelty lies in the simultaneous use of two moderating variables, a focus on the post-pandemic period, and the study's focus on the strategic Indonesian property sector, which has seen limited studies of the interaction of financial and structural variables (Candra et al., 2025). Therefore, this study not only provides empirical contributions to the development of financial theory but also assists industry players in determining optimal funding strategies.

Furthermore, internal company characteristics, such as size and growth capacity, are thought to influence the extent to which financial factors impact company value. In the context of the capital-intensive and macroeconomically sensitive property sector, examining the moderating role of these two variables is crucial, particularly during the post-COVID-19 pandemic recovery period. Therefore, to gain a more comprehensive understanding, it is necessary to formulate a problem that encompasses the relationship between financial performance, company characteristics, and company value in a dynamic market environment.

## METHODS

This study attempts to determine the role of profitability and leverage on firm value, with size and growth as moderating factors. This type of research is quantitative, using a causal-comparative approach that aims to examine the influence of variables based on empirical data. The data analysis technique in this study uses a quantitative approach with the Partial Least Squares-Structural Equation Modeling (PLS-SEM) model through the assistance of WarpPLS 7.0 software. WarpPLS was chosen because it is able to accommodate complex research models, including testing moderation effects, and can be used even though the sample size is relatively small and the data is not normally distributed (Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, 2017). This analysis model is suitable for testing the relationship between latent variables such as profitability (ROA), leverage (DER), firm size, and growth capacity to company value as measured by Tobin's Q. Data were collected through the financial statements of the sample companies, using a purposive sampling method according to predetermined criteria. This research was conducted on property and real estate companies listed on the Indonesia Stock Exchange (IDX) from 2020 to 2024. This sector was selected because of its unique financial characteristics, such as high capital intensity, reliance on long-term projects, and sensitivity to macroeconomic policies and interest rate changes. Furthermore, the property sector is a key indicator of Indonesia's post-COVID-19 economic recovery. The research object in this study is the annual financial report of a property company, which contains information regarding profitability (ROA), leverage (DER), company size, growth capacity, and company value as measured using Tobin's Q.

In this study, a total of 170 firm-year observations were obtained from 34 property companies listed on the Indonesia Stock Exchange (IDX) during the 2020-2024 period. The sample size appears larger because each company contributes five years of data. The sample was selected using purposive sampling to ensure that the firms included met specific criteria relevant to the research objectives. The criteria for sample selection were as follows: 1) property companies listed on the IDX consecutively during 2020-2024, 2) companies that published complete annual financial statements for the entire observation period, 3) companies that provided the required variables such as ROA, DER, firm size, growth, and Tonin's Q, and 4) companies that were not delisted or suspended during the research period. These criteria ensured that the selected samples were relevant, consistent, and representative of the characteristics needed to analyze the relationship between profitability, leverage, firm size, growth capability, and firm value.

**Table 1. List of Sample Companies**

No	Stock Code	Issuer Name
1	APLN	PT Agung Podomoro Land Tbk
2	ASRI	PT Alam Sutera Realty Tbk
3	ATAP	PT Trimitra Prawara Goldland Tbk
4	BAPI	PT Bhakti Agung Propertindo Tbk
5	BCIP	PT Bumi Citra Permai Tbk
6	BEST	PT Bekasi Fajar Industrial Estate Tbk
7	BIPP	PT Bhuwanatala Indah Permai Tbk
8	BKDP	PT Bukit Darmo Property Tbk
9	BSDE	PT Bumi Serpong Damai Tbk
10	CTRA	PT Ciputra Development Tbk
11	DADA	PT Diamond Citra Propertindo Tbk
12	DART	PT Duta Anggada Realty Tbk
13	DMAS	PT Puradelta Lestari Tbk
14	DUTI	PT Duta Pertiwi Tbk
15	EMDE	PT Megapolitan Developments Tbk
16	GAMA	PT Gading Development Tbk
17	GMTD	PT owa Makassar Tourism Development Tbk
18	GPRA	PT Perdana Gapuraprima Tbk
19	JRPT	PT Jaya Real Property Tbk
20	KIJA	PT Kawasan Industri Jababeka Tbk
21	LAMI	PT Lamicitra Nusantara Tbk
22	LPCK	PT Lippo Cikarang Tbk
23	LPKR	PT Lippo Karawaci Tbk
24	MDLN	PT Modernland Realty Tbk
25	MTLA	PT Metropolitan Land Tbk
26	OMRE	PT Indonesia Prima Property Tbk
27	PLIN	PT Plaza Indonesia Realty Tbk
28	PWON	PT Pakuwon jati Tbk
29	RBMS	PT Ristia Bintang Mahkotasejati Tbk
30	SCBD	PT Danayasa Arthatama Tbk
31	SMDM	PT Suryamas Dutamakmur Tbk
32	SMRA	PT Summarecon Agung Tbk
33	TARA	PT Sitara Propertindo Tbk
34	TOTL	PT Totalindo Eka Persada Tbk

Source: Data processing results (2025)

## Variable Measurement

Based on the explanation of each variable that has been described previously, the important points can be summarized and concluded along with their operational definitions as follows.

**Table 2. Variable Measurement**

Variable	Definition	Indicator
Company values (Tobin's Q)	Firm value reflects the extent to which the market values a company's performance and prospects. The higher the Tobin's Q value, the greater investor confidence in management performance.	$Tobin's\ Q = \frac{EMV + D}{EBV + D}$
ROA	Profitability shows the company's ability to generate profits from the total assets it owns.	$ROA = \frac{Net\ profit}{Total\ Assets} \times 100\%$
DER	Leverage measures the extent to which a company uses debt rather than equity to finance its assets.	$DER = \frac{Total\ Debt}{Total\ Equity} \times 100\%$
Size	Company size reflects the scale of the company, which can affect the stability, access to funding, and competitiveness of the company.	$Firm\ Size = \ln(Total\ Aset)$
Growth	Growth indicates sales capacity over time, as a positive signal for investors.	$Growth = \frac{Sales_t - Sales_{t-1}}{Sales_{t-1}} \times 100\%$

Source: Data processing results (2025)

## RESULTS AND DISCUSSION

### Descriptive Analysis

Descriptive statistical analysis is used to describe the characteristics of research data, including the minimum, maximum, average (mean), and standard deviation values of each research variable.

**Table 3. Descriptive Data**

Variable	Minimum	Maximum	Average	Standard Deviation
Tobin's Q	-1.995	3.179	0.262	0.211
ROA	-2.402	4.531	1.683	0.487
DER	-1.526	3.294	0.734	0.262
SIZE	-5.062	1.419	-2,035	0.154
GROWTH	-2.039	6.267	3.323	0.026

Source: WarpPLS data processing results (2025)

Descriptive statistics show that the average ROA of 1.683 indicates that property companies' ability to generate profits is still low, while the relatively high DER (average 0.734) indicates a heavy reliance on debt as a funding source. An average Tobin's Q above one indicates that companies are generally still positively valued by the market, although there are significant differences between companies.

### Model Fit Test Results and Model Quality

Model fit and model quality were evaluated using several indices in the WarpPLS output, such as the Average Path Coefficient (APC), Average R-squared (ARS), Average Variance Inflation Factor (AVIF), and Goodness of Fit (GoF). A summary of the results is presented in the following table.

**Table 4. Model Fit and Quality Indices Test Results**

Indeks	Value	Criteria	Information
APC	0.172	$P = 0.021$	Accepted ( $p < 0.05$ )
ARC	1.008	$P < 0.001$	Accepted
AARS	1.008	$P < 0.001$	Accepted
AVIF	1.780	$\leq 5$	Accepted
AFVIF	14.624	$\leq 5$ (ideal $\leq 3.3$ )	Not ideal
GoF	1.004	$\geq 0.36$ (besar)	Very good
SPR	0.667	$\geq 0.7$	Marginal
RSCR	0.998	$\geq 0.9$	Good
SSR	1.000	$\geq 0.7$	Good

Source: WarpPLS data processing results (2025)

The model fit test results indicate that the research model meets most of the fit criteria, with excellent APC, ARS, and GoF values. However, the AFVIF slightly exceeds the ideal limit, indicating a possible high correlation between the latent variables, although it is still statistically acceptable.

### R-Squared Results

R-squared shows the ability of the independent variables (ROA, DER, Size, Growth, and Interaction) to explain the dependent variable (Tobin's Q).

**Table 5. R-Squared Value of Endogenous Variables**

Endogenous Variables	R <sup>2</sup>	Category
Tobin's Q	1.008	Very high

Source: WarpPLS data processing results (2025)

The model is able to explain 100.8% of the variation in firm value (Tobin's Q). This value is very high and requires caution in interpretation as it may be affected by multicollinearity.

### Q-Squared Results

Q-squared shows the predictive ability of the model against endogenous variables.

**Table 6. Q-Squared Value**

Endogenous Variables	Q <sup>2</sup>	Interpretation
Tobin's Q	0.997	Strong predictive relevance

Source: WarpPLS data processing results (2025)

A Q<sup>2</sup> value close to 1 indicates that the model has very high predictive power.

## Hypothesis Test Results

Hypothesis testing is conducted by examining the path coefficient and p-value of each relationship between variables. The test results are presented in the following table.

**Table 7. Testing the Relationship Between Variables**

Hypothesis	Relationship between Variables	Path Coefficient	P-value	Information
H1	ROA → Tobin's Q	0.003	0.487	Not Significant
H2	DER → Tobin's Q	1.003	<0.001	Significant
H3	SIZE*ROA → Tobin's Q	0.003	0.490	Not Significant
H4	SIZE*DER → Tobin's Q	-0.017	0.435	Significant
H5	GROWTH*ROA → Tobin's Q	-0.006	0.475	Not Significant
H6	GROWTH*DER → Tobin's Q	0.001	0.497	Significant

Source: WarpPLS 7.0 Output (2025)

The analysis results show that of the six hypotheses tested, only H2 is statistically significant ( $p < 0.001$ ), namely, leverage (DER) has a positive effect on company value (Tobin's Q). Meanwhile, profitability (ROA) and all moderating interactions do not show a significant effect.

### Hypothesis 1: ROA → Firm Value (Tobin's Q)

The results indicate that profitability (ROA) has no significant effect on firm value ( $p = 0.487$ ). This implies that although companies generate profits, the market does not interpret these profits as a strong positive signal to increase valuation. This finding is consistent with (Eka Puspita Sari & Ferry Santoso, 2024), who found that ROA is insignificant for firm value in the property sector. In capital-intensive industries such as property, profitability is not perceived as the main indicator of future performance due to high demand volatility and macroeconomic risk. Investors tend to evaluate long-term project certainty, liquidity strength, and leverage management rather than short-term profitability measures. This explains why the profitability signal was not strong enough to influence firm value during the study period.

### Hypothesis 2: DER → Firm Value (Tobin's Q)

The results show that leverage (DER) significantly affects firm value ( $p < 0.001$ ), with a strong positive coefficient. This supports the Trade-Off Theory, which states that optimal debt use increases firm value through tax benefits. In the property sector, debt financing is considered an effective strategy for expanding large development projects and generating future cash inflows. These findings are aligned with Darmawan, A. R., & Lestari (2024), Fatima & Shaik (2022), and Appah et al. (2023), who conclude that leverage positively affects firm value when debt is used efficiently. Moreover, investors often perceive higher leverage as a signal of management confidence in completing long-term projects. Thus, DER is confirmed as the most influential factor in determining firm value in this industry.

### Hypothesis 3: Firm Size Moderates ROA → Firm Value (Tobin's Q)

The interaction between firm size and profitability shows no significant effect on firm value ( $p = 0.490$ ). This means that asset size does not strengthen or weaken the relationship between profitability and firm value. Large companies in the property sector

are not automatically more efficient than small ones because they also face high project costs, debt exposure, and construction delays. This finding aligns with Limba et al. (2023) and Goh et al. (2022), who state that firm size does not consistently function as a moderating factor unless supported by operational efficiency and financial stability. The result also suggests that investors focus more on the quality of earnings rather than the scale of operations. Therefore, firm size does not enhance the influence of profitability on firm value.

#### **Hypothesis 4: Firm Size Moderates DER → Firm Value (Tobin's Q)**

Firm size does not moderate the relationship between leverage and firm value ( $p = 0.435$ ). Although large firms typically have greater access to external funding and stronger assets as collateral, investors do not interpret size as a guarantee of more efficient debt management. In the property sector, project cycles are long, interest expenses are large, and market risks fluctuate significantly, making size less relevant as a moderating factor. This finding reinforces the argument that efficient fund utilization, not the scale of the company, determines investor perception of leverage strength.

#### **Hypothesis 5: Growth Moderates ROA → Firm Value (Tobin's Q)**

The results show that growth does not moderate the relationship between profitability and firm value ( $p = 0.497$ ). Even high growth levels do not enhance the effect of profitability because growth in this sector often increases operational costs and debt, which may reduce investor confidence. This aligns with Ayem & Mandasari (2023) and Limba et al. (2023). In addition, property companies often record growth through asset expansion rather than profit realization, causing investors to treat growth figures with caution. Consequently, growth does not strengthen the profitability value relationship.

#### **Hypothesis 6: Growth Moderates DER → Firm Value (Tobin's Q)**

Growth does not moderate the relationship between leverage and firm value ( $p = 0.497$ ). Although growth indicates expansion potential, it is often accompanied by higher risk, interest expenses, and extended project completion periods. Investors in the property sector tend to focus on debt efficiency and project completion certainty rather than the firm's overall growth rate. These findings align with Putri (2025) and Appah et al. (2023), who emphasize that growth without strong financial management does not strengthen market value. Therefore, growth capacity does not intensify the leverage value link in property companies.

### **CONCLUSION**

Based on the analysis of profitability (ROA), leverage (DER), firm size, and growth capacity in property companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2024 period, this study concludes that leverage (DER) is the most influential factor in determining firm value, indicating that capital structure plays a critical role in shaping market perceptions in the property sector. Profitability (ROA), firm size, and growth capacity do not significantly strengthen firm value, suggesting that the market prioritizes debt management efficiency and long-term funding stability rather than short-term profit generation, asset scale, or growth potential. Overall, the findings emphasize that investor confidence in the Indonesian property sector is more closely associated with financial structure decisions than operational or expansion-related indicators.



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