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The Role Of Leverage In Moderating The Influence Of Institutional Ownership And Dividend Policy On Firm Value

Anindya Nariswari; Unggul Purwohedi; I Gusti Ketut Agung Ulupui
Aninnaris05@gmail.com
Universitas Negeri Jakarta

Abstract:
This study empirically investigates the effect of institutional ownership and dividend policy on firm value, with leverage serving as a moderating variable. The analysis is based on data from 20 industrial sector companies listed on the Indonesia Stock Exchange (IDX) over the 2017–2023 period, totaling 140 observations. Grounded in Signaling Theory, the study employs Moderated Regression Analysis (MRA) to evaluate the proposed relationships. The findings reveal that institutional ownership and dividend policy do not have a statistically significant direct effect on firm value. In contrast, leverage demonstrates a significant positive impact and significantly weakens the relationship between institutional ownership and firm value, indicating that high debt levels may reduce the effectiveness of governance signals perceived by investors. Conversely, leverage does not significantly moderate the effect of dividend policy on firm value, suggesting that dividend signals are assessed independently of capital structure. These results underscore the critical role of financial structure in shaping market perceptions and contribute to a deeper understanding of the contingent nature of financial signaling in emerging markets.

Keywords:
Leverage; Firm Value; Institutional Ownership; Dividend Policy;

BACKGROUND

In May 2021, Gojek and Tokopedia, two of Indonesia's largest technology companies, completed a strategic merger to form GoTo Group. This consolidation aimed to build an integrated ecosystem across ride-hailing, e-commerce, and financial technology sectors, reflecting both vertical and horizontal expansion strategies in the increasingly competitive digital economy.

Despite its strong initial valuation of USD 32 billion, GoTo faced a significant market downturn following its initial public offering (IPO) in April 2022. Within two years, the company's valuation declined by USD 22 billion

. A major contributor to this decline was the large-scale divestment by institutional investors, including SoftBank and PT Global Digital Niaga, after the expiration of their lock-up period (Abigail, 2023). This sell-off signaled a loss of investor confidence and triggered significant market volatility.

Another factor contributing to declining investor interest was GoTo's decision not to distribute dividends post-IPO. While this policy is typical for high-growth technology firms, it became a point of concern in light of mounting losses and shrinking valuation. Pulungan (2024) highlighted that the absence of dividends, coupled with unclear strategic direction and a delayed path to profitability, further weakened investor sentiment.

These developments suggest that institutional ownership and dividend policy may play crucial roles in shaping firm value. However, existing literature presents inconsistent findings. Suhandi (2021) reported a positive association between institutional ownership and firm value, attributing it to improved managerial oversight. Conversely, Umam & Halimah (2021) argued that institutional investors could collaborate with management for self-serving decisions, potentially reducing firm value. Meanwhile, Sari & Patrisia (2020) found no significant relationship in the property and construction sectors, likely due to low institutional involvement.

Research on dividend policy also yields varied results. Dang et al. (2021) concluded that consistent dividend payments enhance firm value by signaling stability and performance. In contrast, Lumapow & Tumiwa (2017) suggested that large dividends might reflect ineffective capital use. Bon & Hartoko (2022) stated that dividend policy had no significant impact on firm value, which was more influenced by investment and asset management efficiency.

These inconsistencies indicate that the relationship between institutional ownership, dividend policy, and firm value is not straightforward. It is likely moderated by other variables, one of which is leverage. Leverage, or the extent to which a firm relies on debt financing, can influence both financial performance and investor perception.

In GoTo's case, the high level of external funding created liquidity risks due to limited operational cash flow. When dividends are withheld under high leverage conditions, investors may perceive the firm as financially unstable. Mira (2020) emphasized that high leverage constrains managerial flexibility, often forcing a shift from long-term value creation to meeting short-term financial obligations.

Several studies have explored leverage as a moderating factor. For example, Bukit et al. (2021) examined its role in the relationship between profitability, liquidity, and firm value. Andayani & Yanti (2021) also investigated leverage as a moderator in the context of tax avoidance, sustainability reporting, and corporate governance. These findings support the view that leverage plays a strategic role in influencing the effects of ownership and financial policy. Under conditions of high leverage, the influence of institutional investors on enhancing firm value may diminish, as management becomes focused on fulfilling debt obligations rather than pursuing long-term growth (Hsu, 2013). Similarly, dividend payments may be limited, as firms prioritize liquidity and debt servicing over shareholder returns (Bukit et al., 2021; Hussainey et al., 2011).

Considering these dynamics and gaps in the literature, this study explores the role of leverage in moderating the influence of institutional ownership and dividend policy on firm value. The research period spans from 2017 to 2023, encompassing three distinct economic phases in Indonesia: pre-pandemic stability (2017–2018), the COVID-19 crisis (2019–2021), and the post-pandemic recovery amid global uncertainty (2022–2023). This timeframe offers a comprehensive basis for examining the relationship under varied macroeconomic conditions.

THEORETICAL FRAMEWORK

Signalling Theory

Signalling theory explains how information asymmetry between company insiders and external parties such as investors can be reduced through intentional signals. First introduced by Spence (1973) in the context of labor markets, the theory has been widely adopted in financial studies, particularly in capital markets. Managers often use financial policies to communicate credible information about the firm's internal condition and future prospects. These signals are designed to influence investor perception, reduce uncertainty, and enhance firm value (Conelly et al., 2011).

In the framework of signalling theory, several corporate decisions act as effective signals to the market. A consistent dividend policy is often viewed as a positive signal of financial strength and future cash flow stability (Bon & Hartoko, 2022). Institutional ownership signals strong corporate governance and investor oversight, which enhances firm credibility and attracts investor confidence (Gillan & Starks, 2003). Meanwhile, leverage can signal managerial confidence in the firm's operational sustainability and ability to meet financial obligations, although high debt levels may also raise concerns about financial risk (Adiputra & Hermawan, 2020; Sunjaya & Bertuah, 2024). These variables serve as strategic tools for companies to convey implicit information to investors, thereby influencing market responses and firm valuation.

Firm Value

Firm value is a key indicator of a company's overall performance and managerial effectiveness in utilizing resources to achieve strategic objectives (Hertina et al., 2021). It reflects both financial health and operational efficiency, making it a crucial metric for investors when evaluating investment potential. A company with high firm value is generally perceived as having strong future prospects and is more likely to earn investor trust. Consequently, firm value plays a central role in shaping investor confidence and market perception.

High firm value is often associated with a higher market capitalization, as it directly influences share price through investor sentiment (Hertina et al., 2021). It also signals increased shareholder wealth, serving as a measure of how well a company maximizes investor prosperity (Lumapow & Tumiwa, 2017). One common approach to assess firm value is relative valuation, which compares financial ratios such as Price to Book Value (PBV) across similar firms in the same industry. This method helps identify whether a firm is undervalued or overvalued in the market and serves as a practical tool for investment decisions. While this approach assumes overall market efficiency, discrepancies in individual valuations may offer strategic opportunities for investors (Damodaran, 1995).

Institutional Ownership

Ownership structure refers to how a company’s shares are distributed among various parties, including individual investors, institutions, and internal stakeholders such as managers or founders. This structure plays a critical role in corporate governance as it influences voting rights and the extent to which specific parties can affect strategic decisions. Differences in ownership structures can significantly impact managerial control, agency conflicts, and overall firm performance (Porta et al., 1999). While concentrated ownership may enhance oversight, it can also pose risks of power abuse by majority shareholders over minority interests. Therefore, understanding ownership forms, particularly institutional ownership, is essential in evaluating governance quality.

Institutional ownership contributes not only to stability but also to strategic influence in corporate decision-making. Institutional investors typically have a long-term perspective and rely on thorough analysis when making investment decisions (Suzan & Kania, 2023). Their presence often signals stronger governance and better monitoring due to their resources and expertise. Institutional ownership is commonly measured by the ratio of shares held by institutions to total outstanding shares, indicating both their participation in ownership structure and their capacity to influence management practices. As such, institutional ownership is a vital component of effective governance and can enhance firm accountability and performance.

Dividend Policy

Dividend policy refers to a company's decision on how much of its earnings will be distributed to shareholders versus retained for internal use. This decision balances two often conflicting interests: shareholders' desire for returns and the company’s need to reinvest profits

for growth or financial stability (Lumapow & Tumiwa, 2017; Ross, 1977; Sari & Patrisia, 2020). As a result, dividend policy becomes a strategic tool that must be carefully managed to maintain investor satisfaction while ensuring sustainable business development.

Beyond its financial function, dividend policy also serves a symbolic role in signaling company performance. Dividend payments are often interpreted as a positive signal of financial strength and future prospects, thereby influencing investor confidence. A well-managed dividend policy can enhance firm value, especially when managers are also shareholders, as it aligns their personal financial interests with company performance. Dividend policy is commonly measured using the dividend payout ratio, which reflects the portion of net income allocated to shareholders. This ratio offers insight into managerial decision-making and the firm's long-term strategic orientation

Leverage

Leverage is a financial indicator used to assess the extent to which a company relies on debt to finance its operations (Mira, 2020). It reflects the company's dependency on external funding sources, where a higher leverage level indicates a greater proportion of debt in the capital structure. This implies increased financial obligations that require careful management to maintain financial stability (Ross, 1977). As such, leverage not only represents funding structure but also serves as a key measure of the company’s financial risk and resilience.

In financial analysis, leverage helps evaluate a firm's ability to meet both short-term and long-term obligations (Bukit et al., 2021). An optimal leverage level suggests efficient use of external funds and the potential for enhanced profitability, whereas excessive leverage increases financial risk and may pressure cash flows, threatening operational continuity. Leverage is typically measured using the Debt to Equity Ratio (DER), which compares total liabilities to shareholders' equity. A high DER indicates greater financial risk due to heavier debt servicing demands, while a moderate ratio signals a more balanced and sustainable capital structure, contributing to long-term liquidity and solvency.

Institutional Ownership and Firm Value

Institutional ownership functions as an important corporate governance mechanism that enhances managerial oversight. It refers to the proportion of company shares held by institutions such as pension funds, banks, insurance companies, and other financial entities. A higher level of institutional ownership typically strengthens these entities' ability to monitor and influence management decisions, reducing the likelihood of actions that deviate from shareholder interests (Suhandi, 2021). Given their resources and expertise, institutional investors are well-positioned to evaluate corporate strategies and hold management accountable, thereby encouraging more prudent and responsible decision-making that contributes to firm value.

The relationship between institutional ownership and firm value can also be explained through signaling theory, as introduced by (Spence, 1973). Under this framework, ownership by financial institutions such as pension funds, insurance companies, and mutual funds is perceived as a credible signal of effective corporate governance. Investors often interpret the presence of institutional shareholders as an indication that the firm is under stricter managerial oversight. This is because institutions typically possess greater resources and analytical capabilities to assess corporate performance and risk, making their investment decisions a reliable reference for other market participants (Gillan & Starks, 2003). As such, institutional ownership sends a positive signal about the firm’s future prospects and stability, which in turn can enhance investor confidence and contribute to higher firm value.

Dividend Policy and Firm Value

Dividend policy plays a significant role in influencing firm value because it reflects how management allocates profits, either by distributing them to shareholders or retaining them for internal financing to support future expansion. According to Purnamasari & Fauziah (2022), dividend policy is a critical part of a company's strategy to create shareholder value. By designing a balanced policy that meets both reinvestment needs and shareholder expectations, companies can increase investor trust and strengthen their market value.

Several empirical studies support the positive relationship between dividend policy and firm value. Sari & Patrisia (2020) found that larger dividend distributions attract investors, as they are perceived as a signal of strong financial performance. In this context, dividends serve not only as a means of profit distribution but also as a signal of the company's future prospects. This aligns with signalling theory by Spence (1973), which views dividend changes as a form of communication from management to the market. Dang et al. (2021) also found that firms with higher dividend payouts tend to have greater firm value, indicating that investors respond positively to the signals conveyed through dividend policy.

Leverage and Firm Value

Leverage reflects a firm's financing decision regarding the extent to which debt is used in its capital structure. While moderate leverage can enhance firm value by providing additional capital for growth, excessive reliance on debt increases financial risk due to fixed interest obligations that must be met regardless of income stability. This financial pressure can undermine operational flexibility and threaten long-term sustainability.

From the perspective of signalling theory, a highly leveraged capital structure may send a negative signal to investors about the firm's financial health and stability. Excessive debt usage can be perceived as an inability to finance operations internally, increasing uncertainty about future cash flows (Ross, 1977). Empirical studies support this view. Kristofel et al. (2023) found a significant negative effect of leverage on firm value in Indonesia's property and real estate sector. Similarly, Rejeki & Haryono (2021) identified leverage as a dominant factor in reducing firm value, particularly in firms with large asset scale disparities. These findings suggest that high leverage can diminish investor confidence and lead to lower market valuation.

Influence of Leverage on the Association between Institutional Ownership and Corporate Value

Institutional ownership is widely believed to play an important role in enhancing firm value, particularly due to its function as an effective external monitoring mechanism. However, empirical findings on this relationship remain inconsistent. While several studies report a significant positive impact (Dewata & Banaluddin, 2012; Octaviani & Harahap, 2022; Suhandi, 2021; Umam & Halimah, 2021; Wafiyudin et al., 2020), others find no meaningful effect (Hertina et al., 2021; Sari & Patrisia, 2020; Suzan & Kania, 2023). These mixed results suggest that the strength of the relationship between institutional ownership and firm value may depend on certain internal factors, one of which is leverage.

From the signaling theory perspective, leverage is not only a financing decision but also a signal of management's confidence in the firm's future performance. Moderate leverage may enhance the positive signal of institutional ownership by indicating financial discipline and growth potential. However, high leverage can raise concerns about financial risk, which may weaken or even negate the positive perception created by institutional ownership. As a result, the impact of institutional ownership on firm value may depend on how the market interprets the firm's leverage position, making leverage a key moderating factor in this relationship.

Influence of Leverage on the Association between Divdiend Policy and Corporate Value

Dividend policy is generally viewed as a crucial factor in shaping investor perceptions of firm value. Numerous studies have confirmed a significant positive relationship between

dividend policy and firm value (Adiputra & Hermawan, 2020; Dang et al., 2021; Lumapow & Tumiwa, 2017; Purwanti, 2020; Sari & Patrisia, 2020) However, other research presents conflicting results, finding no significant effect (Bon & Hartoko, 2022; Hansda et al., 2020; Purnamasari & Fauziah, 2022; Saputri & Bahri, 2021; Umam & Halimah, 2021). These inconsistencies suggest that the effectiveness of dividend policy in enhancing firm value may be influenced by other variables that shape investor interpretation.

One such variable is leverage, which reflects the company's reliance on debt financing. High leverage levels indicate financial pressure due to continuous obligations for interest and debt repayment. According to signalling theory Spence (1973), dividend payments are interpreted as signals of financial health and management confidence. However, in the context of high leverage, the same dividends may raise concerns. Investors may perceive dividend distribution under financial strain as irresponsible, prioritizing shareholder payouts over maintaining financial stability. As a result, rather than enhancing firm value, dividend policy in highly leveraged firms may weaken investor confidence and diminish the intended positive signal.

METHOD

Data

The unit of analysis in this study comprises industrial sector companies listed on the Indonesia Stock Exchange (IDX). The research covers the period from 2017 to 2023. A quantitative approach was employed, with sample selection based on the availability of publicly disclosed financial statements. The target population includes all industrial sector companies listed on the IDX during the 2017–2023 period, totaling 67 firms. This study applied a purposive sampling method, which involves selecting samples based on specific, predefined criteria (Purwohedi, 2022). The criteria used for sample selection in this research are as follows:

1. Industrial sector companies that are listed on the Indonesia Stock Exchange (IDX).
2. Companies that conducted their Initial Public Offering (IPO) prior to 2017.
3. Companies whose annual reports for the period 2017 to 2023 are fully available.
4. Companies that provide complete and transparent data relevant to the variables used in this study.

Variable Operationalization

In this study, firm value is measured using the Price to Book Value (PBV) ratio, as it reflects market perception relative to the company's book value and indicates the firm's ability to create shareholder value (Rafsanjani et al., 2024). Institutional ownership is proxied by the ratio of institutional shareholding to total outstanding shares, representing the extent of external monitoring by institutional investors (Umam & Halimah, 2021; Widiatmoko et al., 2020). Dividend policy is measured using the dividend payout ratio, which compares dividend per share to earnings per share (EPS), capturing the proportion of profit distributed to shareholders (Adiputra & Hermawan, 2020; Lumapow & Tumiwa, 2017). Lastly, leverage as a moderating variable is proxied by the Debt to Equity Ratio (DER), which illustrates the company's capital structure and its balance between debt and equity (Andayani & Yanti, 2021).

Daa Processing Tehniques

This study utilizes secondary quantitative data, which will be processed using EViews version 12. The data analysis procedures include descriptive statistical analysis, model selection, classical assumption testing, hypothesis testing, and moderated regression analysis.

RESULT

Desciptive Statistical Analysis

Table 1. Descriptive Statistics Results

Statistic	FV (Y)	INST (X1)	DIV (X2)	LEV (X3)

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Mean	1.8617	0.8129	0.2566	1.3865
Median	1.0254	0.8854	0.1627	0.6643
Maximum	8.4643	0.9996	2.0000	41.4795
Minimum	-1.6157	0.2034	0.0000	-21.5897
Std. Dev.	2.0019	0.1921	0.3404	4.7797
Skewness	1.5636	-1.6607	2.1715	4.4105
Observations	140.0000	140.0000	140.0000	140.0000

Firm Value in this study displays a right-skewed distribution, with a mean of 1.8617 and a median of 1.0253, indicating that most companies have relatively low market values, while a few outliers with significantly high values raise the overall average. The skewness of 1.5806 confirms this pattern, highlighting the presence of extreme positive values. The standard deviation of 2.0019 reflects a high degree of variation. The highest PBV value, 8.4643, was recorded by PT Impack Pratama Industri Tbk (IMPC) in 2023, showing a strong market position, while the lowest, -1.6157, was observed for PT Kioson Komersial Indonesia Tbk (KOIN) in the same year, indicating substantial financial distress.

Institutional Ownership is generally high across the sample, with a mean of 0.8129 and a median of 0.8854. The skewness value of -1.6607 reveals a left-skewed distribution, suggesting that while most companies exhibit strong institutional presence, a few have significantly lower levels. The highest ownership ratio, 0.9996, was observed in PT Impack Pratama Industri Tbk (IMPC) in 2018, indicating near-total institutional control. On the other hand, the lowest value, 0.2034, was found in PT Intraco Penta Tbk (INTA) across multiple years. The standard deviation of 0.192 shows moderate variability, reflecting differences in shareholder structure.

Dividend Policy appears skewed toward low values, with a mean dividend payout ratio of 0.2566 and a median of 0.1627, indicating that most firms distribute a relatively small portion of their earnings. A skewness of 2.1715 confirms a right-skewed pattern, caused by a small number of firms with unusually high payouts. The maximum value, 2.0000, was reported by PT Asahimas Flat Glass Tbk (AMFG) in 2018, while many firms, including PT MNC Asia Holding Tbk (BHIT), registered a ratio of 0.0000, meaning no dividend was paid. The standard deviation of 0.3404 suggests a considerable range of dividend policies across firms, influenced by differences in financial strategy and profitability.

Leverage demonstrates a highly skewed and volatile distribution. The average DER stands at 1.3865, while the median is only 0.6643, revealing a substantial gap between typical and extreme values. This is further evidenced by a skewness of 4.4584 and a large standard deviation of 4.7797. PT Kioson Komersial Indonesia Tbk (KOIN) again appears as an outlier, with a maximum leverage of 41.4795 in 2022 and a minimum of -21.5897 in 2023, reflecting extreme shifts in debt and equity structure. These findings point to significant financial instability within certain firms, making leverage a critical variable for assessing financial risk.

Model Selection Test

1. Chow Test

Table 2. Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	16.0969	-19115.0000	0.0000
Cross-section Chi-square	181.6252	19.0000	0.0000

The Chow Test compares the Common Effect Model (CEM) and the Fixed Effect Model (FEM). If the p-value is above 0.05, CEM is preferred; if below 0.05, FEM is more appropriate. As shown in table above, the p-value is 0.0000, indicating that the Fixed Effect Model is the better choice.

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2. Hausman Test

Table 3. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	6.8416	5.0000	0.2327

The Hausman Test determines whether the Fixed Effect Model (FEM) or the Random Effect Model (REM) is more appropriate. If the p-value is above 0.05, REM is preferred; if below 0.05, FEM is selected. As shown in table above, the p-value is 0.2327, indicating that the Random Effect Model is the more suitable choice.

3. Langrage Multiplier Test

Table 4. Langrage Multiplier Test Result

Test Hypothesis	Cross-section	Time	Both
Breusch-Pagan	149.4508	1.6799	151.1306
	0.0000	-0.1950	0.0000
Honda	12.2250	-1.2961	7.7279
	0.0000	-0.9025	0.0000
King-Wu	12.2250	-1.2961	4.8591
	0.0000	-0.9025	0.0000
Standardized Honda	13.4092	-1.1235	4.8710
	0.0000	-0.8694	0.0000
Standardized King-Wu	13.4092	-1.1235	2.1002
	0.0000	-0.8694	-0.0179
Gourieroux, et al.	0.0000	0.0000	149.4508
	0.0000	0.0000	0.0000

The Lagrange Multiplier Test compares the Common Effect Model (CEM) with the Random Effect Model (REM). If the p-value is above 0.05, CEM is preferred; if below 0.05, REM is more appropriate. As shown in table above, the p-value is 0.0000, indicating that the Random Effect Model is the better choice.

Classical Assumption Test

1. Normality Test

According to the Central Limit Theorem, as explained by Gujarati & Porter (2009) in Basic Econometrics, when a study uses a large sample size, typically more than 30 observations, the sampling distribution of the mean can be assumed to follow a normal distribution, even if the population distribution is not normal. Since this study includes 140 observations, the data distribution can be considered statistically normal. Therefore, conducting a normality test is considered less essential, as the assumption of normality is theoretically fulfilled through the large sample size.

2. Multicollinearity Test

Table 5. Multicollinearity Test Result

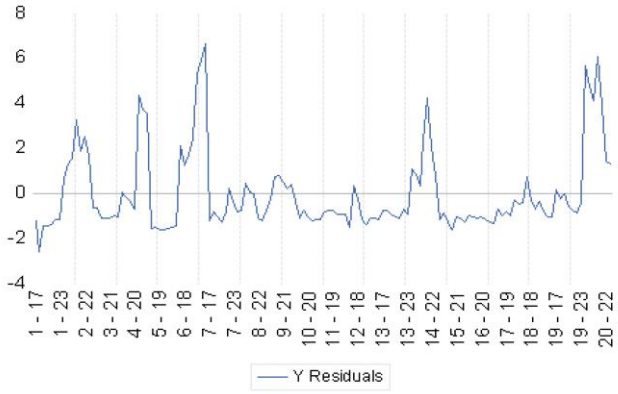
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.2645	10.3619	NA
INST	1.7077	10.2718	1.0239
DIV	0.3406	3.1219	2.9382
LEV	0.0028	7.6106	7.5667
INST_LEV	0.0042	7.5784	7.5464
DIV_LEV	0.2642	3.0103	2.9405

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The multicollinearity test is used to detect any high linear correlation among independent variables in a regression model. A model is considered free from multicollinearity if the centered VIF values are below 10 (Robinson & Schumacker, 2009). Based on the results in the table above, all centered VIF values are below this threshold, with values ranging from 1.0239 to 7.5464. This indicates that no multicollinearity is present among the independent variables, including the interaction terms. Therefore, all variables can be considered statistically independent and appropriate for inclusion in the regression analysis.

3. Heteroskedasticity Test

Figure 1. Heterosledasticity Test Result



The heteroskedasticity test aims to determine whether the variance of residuals in a regression model is constant (homoskedastic) or not (heteroskedastic), using the Glejser Test method (Glejser, 1969). According to the set criteria, residual values within the range of +500 to –500 indicate no signs of heteroskedasticity. Based on the results shown in the figure above, all residuals fall within this range, confirming that the model satisfies the assumption of homoskedasticity. Therefore, the regression model is considered valid, with no indication of variance inconsistency in the residuals.

4. Autocorrelation Test

According to Ekananda (2016) and Mardani (2019), conducting an autocorrelation test on cross-sectional or panel data is generally unnecessary, as it may produce multiple and inconsistent test results within the same regression model. For instance, the Durbin-Watson statistic can vary depending on how the data is ordered. As a result, autocorrelation testing is considered irrelevant under both ordinary least squares and generalized least squares approaches. Based on this reasoning, this study does not perform an autocorrelation test, as the data used is panel data.

Moderated Regression Analysis

Table 6. Moderated Regression Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.2059	1.1245	0.1831	0.8550
INST	1.6545	1.3068	1.2661	0.2077
DIV	-0.0992	0.5836	-0.1700	0.8652
LEV	0.3965	0.0528	7.5048	0.0000
INST_LEV	-0.3223	0.0650	-4.9601	0.0000
DIV_LEV	0.5382	0.5140	1.0470	0.2970

Regression analysis is used to examine the effect of independent variables on a dependent variable. This study employs Moderated Regression Analysis (MRA) to test whether leverage moderates the relationship between institutional ownership, dividend policy, and firm value. The results, presented in the table above, show that leverage (LEV) has a significant

positive effect ($p < 0.01$), while the interaction term INST_LEV is significantly negative ($p < 0.01$), indicating that leverage weakens the positive influence of institutional ownership on firm value. Meanwhile, DIV_LEV is not statistically significant, suggesting that leverage does not significantly moderate the effect of dividend policy on firm value.

The resulting regression equation is:

$$Y = 0.2059 + 1.6545X_1 – 0.0992X_2 + 0.3965Z – 0.3223(X_1Z) + 0.5382(X_2Z)$$

Where:

Y = Firm Value
X_1 = Institutional Ownership
X_2 = Dividend Policy
Z = Leverage

Hypotesis Test

1. F Test

Table 7. F Test Result

Category	Statistics
R-squared	0.3987
Adjusted R-squared	0.3763
S.E. of regression	0.9949
F-statistic	17.7717
Prob(F-statistic)	0.0000

The F-test evaluates the overall significance of a regression model. A model is considered statistically valid if the F-statistic exceeds the critical F-table value and the p-value is below 0.05. As shown in the table above, the calculated F-statistic is 17.77, which is greater than the F-table value of 2.43, and the p-value is 0.0000. These results indicate that the regression model is both feasible and statistically significant.

2. T Test

Table 8. T Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.2059	1.1245	0.1831	0.8550
INST	1.6545	1.3068	1.2661	0.2077
DIV	-0.0992	0.5836	-0.1700	0.8652
LEV	0.3965	0.0528	7.5048	0.0000
INST_LEV	-0.3223	0.0650	-4.9601	0.0000
DIV_LEV	0.5382	0.5140	1.0470	0.2970

The t-test evaluates the individual effect of each independent variable on the dependent variable. A variable is considered to have a significant effect if its p-value is below 0.05. Based on the results in the table above, the findings are summarized as follows:

a. Institutional ownership (INST) has a p-value of 0.2077, which exceeds the 0.05 threshold. This indicates no significant effect on firm value, so Hypothesis 1 is rejected.
b. Dividend policy (DIV) also shows no significant impact, with a p-value of 0.8652. Thus, Hypothesis 2 is rejected.
c. Leverage (LEV) significantly affects firm value, with a p-value of 0.0000 and a positive coefficient of 0.3965, meaning higher leverage contributes to higher firm value. Therefore, Hypothesis 3 is rejected, as the expected negative effect was not supported.
d. The interaction term INST_LEV has a significant p-value of 0.0000 and a negative coefficient of -0.3223, indicating that leverage moderates the relationship between institutional ownership and firm value. Thus, Hypothesis 4 is accepted.

e. The interaction between dividend policy and leverage (DIV_LEV) is not significant (p = 0.2970), suggesting no moderating effect. Therefore, Hypothesis 5 is rejected.

3. Coefficient Determinacy Analysis

Table 9. Coefficient Determinacy Test Result

Category	Statistics
R-squared	0.3987
Adjusted R-squared	0.3763
S.E. of regression	0.9949
F-statistic	17.7717
Prob(F-statistic)	0.0000

The coefficient of determination (R^2) is used to assess how well the independent variables explain the variation in the dependent variable. Based on the table above, the adjusted R^2 value is 0.3763, indicating that institutional ownership, dividend policy, leverage, and their respective interaction terms collectively explain 37.7% of the variation in firm value. This suggests that the remaining 62.3% is influenced by other factors not included in the model.

DISCUSSION

The Influence of Institutional Ownership in Firm Value

The first hypothesis in this study proposed a positive relationship between institutional ownership and firm value. This is grounded in Signaling Theory (Spence, 1973), which argues that firms can reduce information asymmetry by signaling their quality to the market. Institutional investors, due to their greater resources and analytical capabilities, are often considered reliable indicators of strong governance and long-term value (Gillan & Starks, 2003).

However, the empirical findings did not support this hypothesis. Regression analysis using the Random Effect Model produced a coefficient of 1.6545 with a p-value of 0.2077, which exceeds the 5% significance threshold. This suggests no statistically significant relationship between institutional ownership and firm value across the sample period. These findings align with prior studies in developing markets. Hertina et al. (2021) and Sari & Patrisia (2020) found that low institutional ownership in Indonesian firms does not significantly affect firm value. Dewata & Banaluddin (2012) also highlighted that affiliations between institutions and management may weaken independent oversight.

Descriptive data from the 2020–2023 period show that both institutional ownership and firm value declined concurrently. In 2020–2021, firm value dropped by -6.21%, while ownership decreased to 0.08%. A sharper drop occurred in 2022–2023, with firm value falling -22.62% and ownership declining by -1.01%. Despite the apparent parallel trend, the regression results confirm that no causal link can be established between the two variables. The simultaneous decline may reflect external pressures such as the COVID-19 crisis rather than an intrinsic relationship between the variables.

One possible explanation lies in the low variability of institutional ownership across firms, indicated by a standard deviation of 0.1921 and high negative skewness of -1.6607. These figures suggest that institutional ownership levels are not only low but also concentrated among similar firms, making them ineffective as distinctive signals. In such a scenario, institutional presence lacks the strength to influence market perceptions or firm valuation. Moreover, institutional investors in Indonesia may adopt a passive monitoring role, especially during times of crisis, further diminishing their impact.

The contrast between theoretical expectations and empirical results emphasizes the critical role of scientific validation in evaluating the applicability of established theories. While Signaling Theory provides a strong conceptual basis, the strength of ownership signals is context-dependent, shaped by market characteristics, investor profiles, and macroeconomic

conditions. As such, this finding enriches the academic discourse by showing that institutional ownership's signaling effect is not universal and warrants further investigation in diverse market settings.

The Influnce of Dividend Policy in Firm Value

The second hypothesis posited that dividend policy positively affects firm value. This argument is supported by Signaling Theory (Spence, 1973), which suggests that consistent dividend payments serve as a signal of management's confidence in the firm's financial stability and future cash flows. Investors often perceive stable or increasing dividends as an indication of positive managerial expectations, which may enhance market trust and firm valuation (Conelly et al., 2011).

However, regression analysis reveals that this hypothesis is not supported empirically. The coefficient for dividend policy was -0.0992 with a p-value of 0.8652, far above the 5% significance level. This result indicates no significant relationship between dividend policy and firm value during the observation period. Annual average data further support this conclusion. For example, in 2021–2022, dividend policy rose sharply by 85.04%, while firm value remained relatively low at 3.56%. Conversely, in 2020–2021, firm value increased significantly by 21.02%, despite a decline in dividends by -22.61%. These inconsistencies show that changes in dividend policy do not consistently align with firm value.

This inconsistency suggests that dividends may not function as a strong or reliable signal in the Indonesian market context. During periods of crisis, such as the COVID-19 pandemic and economic turbulence in 2022–2023, many firms adjusted their dividend policies not to reflect business prospects, but to preserve liquidity. In such conditions, the market may interpret dividend decisions as tactical rather than as indicators of financial strength. Moreover, investors in developing markets often focus more on fundamental indicators like profitability or risk rather than dividend announcements.

From a statistical perspective, dividend policy also showed a distribution with notable asymmetry. The variable's standard deviation was 0.3404 and its skewness reached 2.1715, indicating the presence of extreme values. This uneven distribution may reduce the reliability of dividends as a consistent signal of corporate stability. These findings align with prior studies in the Indonesian market. Research by Bon & Hartoko (2022), Purnamasari & Fauziah (2022), and Umam & Halimah (2021) observed that investors prioritize retained earnings for growth or investment, especially in high-growth or externally pressured sectors.

Although dividend policy theoretically serves as a signal of confidence and financial stability, the empirical results suggest that it does not significantly influence firm value in this context. The rejection of the second hypothesis highlights the complexity of market responses to dividend signals, which depend on macroeconomic conditions, internal corporate strategies, and investor behavior. Overall, this finding reinforces the idea that dividend distribution is not the sole determinant of firm value. The effectiveness of dividend signals is highly contextual rather than universal, creating opportunities for further research on when and under what conditions dividends serve as credible signals in capital markets.

The Influence of Leverage in Firm Value

The third hypothesis of this study proposed a negative relationship between leverage and firm value. This hypothesis is grounded in Signaling Theory, particularly the approach introduced by Ross (1977), which suggests that a firm's capital structure can signal its financial condition and future outlook to the market. On one hand, the use of debt may reflect management's confidence in the firm's ability to generate future cash flows. On the other hand, high levels of leverage may increase perceived financial risk, reduce investor trust, and potentially lower firm value.

The empirical findings of this study contradict the initial hypothesis. Based on panel regression using the random effect model, leverage produced a positive coefficient of 0.1157 with a p-value of 0.0016. This indicates a statistically significant effect, but in the opposite direction of what was predicted. Annual trend data also support this result. From 2020 to 2021, leverage increased by 31.67 percent and was followed by a 21.02 percent rise in firm value. In 2021 to 2022, leverage surged by 181.86 percent, while firm value still grew, albeit modestly at 3.56 percent. In contrast, during the 2022 to 2023 period, a sharp decline in leverage was accompanied by a substantial drop in firm value by -22.62 percent. This suggests that, under certain conditions, leverage may be viewed positively by the market.

Descriptive analysis reveals that the leverage variable had a standard deviation of 4.7797 and a skewness value of 4.4105, indicating considerable variation across firms and the presence of extreme values. This implies that there are firms with high leverage that are still valued positively by investors. In such cases, leverage may be interpreted not as a risk signal, but as an indicator of the firm's strategic financial planning and growth potential. Therefore, the effectiveness of leverage as a market signal is not absolute but context-dependent.

Several explanations support this interpretation. First, leverage in this context may reflect efficient capital structure management, where debt is utilized to fund productive investments or expansion activities. Investors may interpret this positively, especially when returns are evident. Second, although not the primary theoretical foundation of this study, the findings align with the Pecking Order Theory by (Myers & Majluf, 1984), which states that firms tend to prioritize debt over equity when internal funds are insufficient. Properly managed debt can improve return on equity and overall profitability, which may contribute to higher firm valuation. Additionally, during the COVID-19 pandemic and the subsequent economic uncertainty, many firms relied on debt financing as a means of maintaining liquidity and operations, which may have been perceived as a rational strategy by investors.

In summary, although prior theories often associate high leverage with financial distress and lower firm value, the findings of this study indicate otherwise. Leverage, when managed efficiently and aligned with productive use of capital, can signal managerial confidence and potential for growth. This highlights the importance of contextual factors in interpreting the relationship between leverage and firm value. Rather than avoiding debt altogether, firms should aim to maintain a balanced capital structure that communicates strategic intent and financial strength to the market.

The Role of Leverage as The Moderating Variable in the Relationsip of Institutional Ownership and Firm Value

The fourth hypothesis proposed that leverage moderates the relationship between institutional ownership and firm value, specifically by weakening it. This argument is based on Signaling Theory (Spence, 1973), which explains that firms communicate information to the market through financial policies, including capital structure and ownership patterns. Institutional ownership is generally seen as a positive governance signal, indicating the presence of professional and competent investors who actively monitor management.

However, the strength of this signal does not operate in isolation. Its effectiveness may be diminished by other, more dominant signals such as capital structure, particularly leverage. High leverage reflects reliance on debt financing, which may raise investor concerns about financial risk, reduced cash flow flexibility, and managerial constraints. Under such conditions, the positive signal from institutional ownership may be overshadowed by the perceived financial instability, thus weakening its influence on firm value (Andayani & Yanti, 2021).

The regression analysis supports this hypothesis. The interaction between institutional ownership and leverage produced a statistically significant and negative coefficient of -0.3223,

with a t-statistic of -4.9601 and a p-value of 0.0000. These results confirm that as leverage increases, the impact of institutional ownership on firm value becomes weaker. This suggests that debt within the firm's capital structure can obscure or even neutralize the governance signal typically associated with institutional investors.

Although the first hypothesis found no significant direct effect of institutional ownership on firm value, this does not invalidate the relevance of the interaction. Instead, it indicates that the relationship is conditional. In this case, leverage determines whether the signal from institutional ownership is perceived positively or ignored. A moderating effect can be significant even when the direct effect is not, as it captures how the relationship changes under varying levels of the moderating variable, rather than measuring the main effect alone.
These findings are consistent with prior research. Gao (2021) noted that financial stress caused by debt can undermine strategic decision-making, even in firms with sound governance. The external environment during the study period also contributed to investor perceptions. During the COVID-19 crisis and its aftermath, firms faced severe liquidity pressures and rising global uncertainty. In such contexts, investors became more risk-sensitive and prioritized financial stability over governance indicators. As a result, firms cannot rely solely on institutional ownership as a value-creation strategy. Effective capital structure management is essential to ensure that ownership signals remain credible in the eyes of the market.

The Role of Leverage as The Moderating Variable in the Relationsip of Dividend Policy and Firm Value

The fifth hypothesis posited that leverage weakens the effect of dividend policy on firm value. This argument is grounded in Signaling Theory (Spence, 1973), which suggests that dividends serve as a primary mechanism for companies to convey financial strength and future prospects to the market. A stable and consistent dividend policy is typically seen as a positive signal of profitability, strong cash flow, and managerial confidence. However, under certain financial conditions, particularly when leverage is high, this positive signal may lose its credibility.

In theory, firms with high levels of debt face increased financial risk, including interest burden and liquidity constraints. If such firms continue to distribute dividends, investors may perceive it as an aggressive or even imprudent decision. Thus, leverage is expected to reduce the signaling strength of dividend policy. However, the empirical findings from this study do not support this assumption. The interaction term between dividend policy and leverage showed a positive coefficient of 0.5382 with a t-statistic of 1.0470 and a p-value of 0.2970, indicating no statistically significant moderating effect. This result suggests that, within the observed sample, leverage does not significantly influence the relationship between dividend policy and firm value.

Several factors may explain the rejection of this hypothesis. First, the direct effect of dividend policy on firm value, as tested in Hypothesis 2, was also found to be insignificant. In such cases, it is common for the interaction term to show a similar lack of statistical significance. Annual trend data reinforce this interpretation. For instance, in 2021–2022, both dividend policy and leverage increased substantially, while firm value showed only a modest rise. In 2022–2023, all three variables declined, but not in a pattern that suggests a consistent moderating relationship.

External factors also played a role during the observation period. During the COVID-19 crisis, many firms relied on debt to maintain operations, while dividend policy was adjusted based on internal cash needs rather than signaling intent. In the recovery phase, with inflation, rising interest rates, and political uncertainty ahead of the 2024 elections, dividend decisions were likely perceived as tactical rather than fundamental signals. Consequently, investors may

have evaluated dividend policy independently from leverage, focusing instead on broader financial indicators such as net income and cash flow.

Overall, these findings suggest that dividend signals are interpreted independently of capital structure in the context of Indonesian firms during the study period. Investors did not necessarily associate high leverage with weakened dividend signals. In fact, they may view both variables in the context of broader corporate strategy and sectoral performance. This aligns with the findings of Hansda et al. (2020) and Saputri & Bahri (2021), who argue that leverage does not always moderate the dividend–firm value relationship. Thus, although the fifth hypothesis is not supported, the results contribute to a deeper understanding of the conditional and context-specific nature of financial signals in emerging markets.

CONCLUSION

This study aimed to examine the factors that influence firm value, with a particular focus on institutional ownership and dividend policy. In addition, leverage was analyzed both as an independent variable and as a moderating variable that may strengthen or weaken the relationship between institutional ownership and dividend policy on firm value. The research was motivated by inconsistencies in previous empirical findings concerning these variables, as well as the relatively limited number of studies that incorporate leverage as a moderating factor in this context. The data consisted of 140 firm-year observations over a seven-year period, collected from the Indonesia Stock Exchange (IDX) and official corporate websites. The analytical method employed was panel-based Moderated Regression Analysis (MRA).

Based on the empirical results, several conclusions can be drawn. First, institutional ownership does not have a significant effect on firm value. Second, dividend policy also shows no significant impact on firm value. Third, leverage has a significant positive effect on firm value, suggesting that under certain conditions, debt is perceived positively by investors. Fourth, leverage significantly weakens the relationship between institutional ownership and firm value, indicating that financial structure can diminish the signaling effect of institutional investors. Lastly, leverage does not significantly moderate the relationship between dividend policy and firm value, implying that the effectiveness of dividend signals tends to be evaluated independently of the firm's capital structure.

Overall, the findings emphasize the importance of contextual interpretation when analyzing financial signals. Institutional ownership and dividend policy may not always act as strong predictors of firm value unless accompanied by other supporting conditions. Leverage, in particular, plays a dual role as both a direct influencer and a conditional factor in shaping how other variables are perceived by the market. These insights contribute to the broader academic discourse on corporate finance in emerging markets, while also offering practical implications for firms in managing ownership structures, payout policies, and capital strategies to sustain firm value.

Limitations

This study is subject to several limitations that should be acknowledged. First, the research scope is limited to industrial sector firms listed on the Indonesia Stock Exchange, excluding other sectors such as banking and mining, which possess fundamentally different financial characteristics. As a result, the findings are sector-specific and may not be generalizable to all industries. Interpretation of the results should therefore be made within the context of the industrial sector.

Second, the independent variables included in the model explain only 37.7 percent of the variation in firm value, leaving 62.3 percent unexplained by the current framework. This indicates the presence of other influential factors beyond the scope of this study that were not identified or included in the analysis.

Third, the observation period includes both the global crisis and the post-pandemic economic recovery phase. This timing may introduce bias in signal interpretation, as investor behavior during periods of economic uncertainty tends to differ significantly from behavior under normal market conditions. Future studies should consider more stable timeframes or explicitly account for such economic cycles in their design.

Recomendations

Based on the limitations and findings of this study, several recommendations are proposed for future research. First, comparative studies across different sectors are encouraged, particularly between industries with contrasting capital structures, such as financial and manufacturing sectors. This approach would offer a broader understanding of how sector-specific financial characteristics influence the relationship between institutional ownership, dividend policy, leverage, and firm value.

Second, future research is advised to incorporate additional independent variables such as Return on Assets (ROA), firm size, business risk, and managerial reputation. Including these variables may enhance the explanatory power of the model, which in the present study accounted for only 37.7 percent of the variation in firm value. A more comprehensive model could provide deeper insights into the multifaceted nature of firm valuation and investor perception.

Third, it is recommended to extend the observation period beyond 2024 to assess whether the moderating effect of leverage remains consistent under more stable macroeconomic conditions. Since the current study includes periods of global crisis and recovery, further investigation in a post-crisis environment could offer more definitive conclusions regarding the role of leverage in shaping financial signals and market responses.

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