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RESEARCH ARTICLE

The Effect of Solvency and Profitability on Firm Value with Dividend Policy as a Moderating Variable in the Infrastructure Sector for the Period 2020–2024

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Abstract
This study aims to analyze the impact of solvency and profitability on firm value, with dividend policy as a moderating variable, among infrastructure sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period. Solvency is measured using the Debt to Equity Ratio (DER), profitability using Return on Equity (ROE), firm value using Price to Book Value (PBV), and dividend policy using the Dividend Payout Ratio (DPR). This study employs a quantitative approach using the Moderated Regression Analysis (MRA) method. The research data was sourced from the companies' annual financial reports, and 18 companies were selected through purposive sampling, resulting in 90 observations. The results indicate that, partially, the DER does not have a significant effect on PBV with a coefficient of -0.002 and a significance level of 0.550 > 0.05. ROE also does not have a significant effect on PBV with a coefficient of 0.254 and a significance level of 0.548 > 0.05. Meanwhile, DPR has a negative and significant effect on PBV with a coefficient of -0.676 and a significance level of 0.008 < 0.05. The interaction results indicate that DER×DPR has a significant positive effect on PBV with a significance level of 0.002 < 0.05, and ROE×DPR also has a significant positive effect on PBV with a significance level of 0.000 < 0.05. These findings suggest that dividend policy moderates the effects of solvency and profitability on firm value in the infrastructure sector.

Keywords
Debt to Equity Ratio; Return on Equity; Dividend Policy; Firm Value; Infrastructure Companies.

1 | INTRODUCTION

Infrastructure plays a crucial role in driving economic growth, improving interregional connectivity, strengthening supply chains, and supporting digital and energy transformation. However, during the 2020–2024 period, this sector faces significant challenges. In 2020, infrastructure investment commitments involving private participation reached only US$45.7 billion, a decline of approximately 52% compared to the previous year (World Bank, 2023). In 2022, investment increased to US$91.7 billion, though it remained below global financing needs (Erin Scronce, 2023). Furthermore, in 2023 global private investment increased by about 10% to approximately US$380 billion, but developing countries have not fully returned to pre-pandemic investment levels (GIH, 2024; World Bank). In Indonesia, infrastructure development remains a priority in the 2020–2024 National Medium-Term Development Plan (RPJMN) with 210 projects and 12 strategic programs valued at approximately Rp5,746.4 trillion through 2022, but as of July 2023, only 158 projects had been successfully completed due to ongoing challenges with financing, land acquisition, and project governance (Ministry of Investment RI, 2023), (Santoso, 2023), (www.tempo.co, 2023). In addition, the 2024 infrastructure budget allocation reached Rp213.7 trillion, but its realization still faces various implementation challenges (Hana Nushratu Uzma, 2023)

These conditions also affect the financial performance of companies in the infrastructure sector, particularly because this sector is capital-intensive and requires long-term financing. Under such conditions, enterprise value becomes a key indicator for assessing how the market responds to a company's prospects, risks, and performance. Enterprise value, proxied by the Price to Book Value (PBV) ratio(Angesti *et al.*, 2025) , indicates that enterprise value is a crucial indicator for investors before making investment decisions, as it reflects the company's performance, investor perceptions, and market confidence. In line with(Maretta & Thamrin, 2025) ,(Hanaffy, 2025) , and(Mauren & Syarif, 2024) , the higher the PBV, the greater the market's confidence in the company's prospects. Conversely, a low PBV may indicate that the market views the company's prospects as less attractive or as carrying relatively high risk(Lestari & Susetyo, 2020) , and (Sibarani *et al.*, 2024)

One factor that can influence a company's value is solvency, which in this study is proxied by the Debt to Equity Ratio (DER). The DER indicates the ratio of a company's total debt to its total equity. In the infrastructure sector, the use of debt is often necessary because companies require substantial funds to finance long-term projects (Alfian *et al.*, 2025). However, a high DER can also increase financial risk as the company must bear the burden of interest payments and debt repayment obligations. Based on the trade-off theory, debt can increase a company's value if used productively, but at a certain level, it can decrease a company's value due to increased default risk(Nwankwo, 2025). Therefore, the relationship between DER and PBV is important to examine, especially in the infrastructure sector, which has a high dependence on external financing. Previous research findings have also been inconsistent, where (Salim *et al.*, 2025) ,(Kusuma & Sari, 2025) found that solvency has a negative effect on firm value, whereas (Chang & Wirianata, 2025) ,(Nanut *et al.*, 2025) , and (Nasional *et al.*, 2025) state that the use of debt can elicit a positive market response if used optimally for business expansion.

In addition to solvency, profitability is also a key factor influencing a company's value. In this study, profitability is proxied by Return on Equity (ROE), a ratio that measures a company's ability to generate net income from its equity (Andriana *et al.*, 2025). A high ROE generally indicates that a company is able to manage shareholders' capital effectively. Based on signaling theory, good profitability can serve as a positive signal to investors as it reflects stronger future performance prospects (Nugrahini *et al.*, 2024) . Thus, an increase in ROE is expected to boost investor confidence and drive an increase in firm value. However, previous research findings remain inconsistent. (Kaulika, 2025),(Tanapuan *et al.*, 2022) and (Kusuma & Sari, 2025) found that profitability has a positive effect on firm value, whereas (Astadewi & Suaryana, 2025),(Hartati *et al.*, 2025) and (Sangadji *et al.*, 2025) indicate that ROE does not have a significant effect on firm value.

Another factor that also plays a role in determining a company's value is dividend policy. In this study, dividend policy is proxied by the Dividend Payout Ratio (DPR), which is a ratio indicating the proportion of profits distributed to shareholders in the form of dividends (Listianah & Kurniasih, 2025) . Dividend policy can serve as a signal to investors regarding a company's profit stability, cash flow, and prospects. Companies capable of consistently paying dividends tend to be perceived as having more stable financial conditions. However, excessively high dividend payouts can also reduce internal funds that should be used to finance the company's investments and expansion (Jaud, 2025). In the context of the infrastructure sector, dividend policy becomes increasingly important as companies must balance the funding needs of long-term projects with investor expectations regarding returns. Research (Khoiroh *et al.*, 2024), (Zulpajri *et al.*, 2024) and(Razak *et al.*, 2025) indicates that dividend policy can strengthen the relationship between financial performance and firm value. Meanwhile, (Winnie & Sufiyati, 2024) and (Goh *et al.*, 2024) found that dividend policy acts as a moderating variable in the relationship between financial factors and firm value. These findings reinforce the hypothesis that dividend policy not only has a direct effect on firm value but can also strengthen or weaken the influence of solvency and profitability on PBV.

The situation among infrastructure companies indicates that dividend policies during the 2020–2024 period tend

to be unstable. Some infrastructure companies have not consistently paid dividends due to financial pressures and significant funding needs. PT Adhi Karya Tbk has recorded a 0% Dividend Payout Ratio (DPR) from 2021 to 2024 (Wisesheets, 2025). PT Waskita Karya Tbk saw a decline in its dividend per share from Rp72.99 in 2019 to Rp3.46 in 2020 and has not paid dividends from 2021 to 2024 (id.investing, 2025). Furthermore, the infrastructure subsector's dividend payout in 2025, amounting to Rp17.48 trillion, remains far below that of the financial sector, which reached Rp407 trillion (Gagas Yoga Pratomo, 2025). This situation indicates that dividend decisions in the infrastructure sector are closely tied to a company's ability to manage its capital structure and generate profits. Therefore, a study on the role of dividend policy as a moderating variable is relevant to explain how the market evaluates infrastructure companies.

Based on the above discussion, there remains a research gap because the results of previous studies on the impact of solvency and profitability on firm value have not yielded consistent conclusions. Furthermore, research specifically examining the role of dividend policy as a moderating variable in the relationship between DER and ROE on PBV for companies in the infrastructure sector on the Indonesia Stock Exchange during the 2020–2024 period remains relatively limited. The characteristics of the infrastructure sector which is capital-intensive, has significant financing needs, and faces dividend pressures make this sector an attractive subject for further research.

Thus, this study aims to analyze the effects of solvency proxied by the Debt to Equity Ratio (DER) and profitability proxied by Return on Equity (ROE) on firm value, proxied by the Price to Book Value (PBV) ratio. Additionally, this study also aims to test whether dividend policy, proxied by the Dividend Payout Ratio (DPR), can moderate the effects of solvency and profitability on firm value in infrastructure sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period.

2 | BACKGROUND THEORY

2.1 Theoretical Foundation

This study is based on signaling theory, trade-off theory, and agency theory. Signaling theory explains that financial information published by a company can serve as a signal for investors in assessing the company's prospects, risks, and value (Nur *et al.*, 2024). In the context of the capital market, financial indicators such as profitability, solvency, and dividend policy can be used by investors to assess a company's fundamental condition (Janice & Aryati, 2024). Positive financial signals can boost investor confidence, while weak signals can lower the market's valuation of the company (Rr.Supantiningrum, 2025). The trade-off theory is used to explain the relationship between solvency and firm value. This theory states that debt can be beneficial when used to support a company's financing and expansion (Cahyani *et al.*, 2024) , but at a certain level, debt can also increase financial risk, interest expenses, and the likelihood of default (Nwankwo, 2025). Therefore, debt structure needs to be managed optimally so as not to reduce the company's value. This theory is relevant to the infrastructure sector because that sector requires substantial funding to finance long-term projects. Agency theory explains the relationship between shareholders as principals and management as agents. Agency conflicts can arise when management has discretion in using company funds, while shareholders expect an increase in company value and a return on investment (Sutisna *et al.*, 2024). In this context, dividend policy can serve as a control mechanism because dividend distributions limit management's inefficient use of cash and provide shareholders with certainty of returns (Jasmine *et al.*, 2025).

2.2 Firm value and fundamental information

Enterprise value reflects the market's perception of a company's performance, prospects, and risks (Nanut *et al.*, 2025). In this study, enterprise value is proxied by the Price to Book Value (PBV) ratio, which compares the market price of a stock to its book value per share (Sibarani *et al.*, 2024). A high PBV indicates market confidence in the company's prospects, while a low PBV may reflect low market appreciation or an increased perception of risk (Hanaffy, 2025). Therefore, PBV is used to assess investor response to a company's financial information, including solvency, profitability, and dividend policy.

$$\textit{Price to Book Value (PBV)} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$$

2.3 Solvency (DER)

Solvency describes a company's ability to meet its long-term obligations (Widarti *et al.*, 2021). In this study, solvency is measured using the Debt to Equity Ratio (DER), which compares total debt to total equity (Putri & Munandar, 2024) . The DER indicates the extent to which a company uses debt as a source of funding. In the infrastructure sector, the use of debt is often necessary because companies require large amounts of capital to finance long term projects (Alfian *et al.*, 2025) . However, an excessively high DER can increase financial risk because the company must bear the burden of interest payments and debt repayment obligations (Nwankwo, 2025) . Based on the trade-off theory, debt can increase a company's value if used optimally, but at a certain level, debt can also decrease a company's value due to increased default risk.

Research (Kusuma & Sari, 2025), (Nanut *et al.*, 2025) indicates that the DER influences firm value, which is proxied by. Thus, the DER is estimated to have a relationship with firm value, proxied through the PBV.

$$\textit{Debt to Equity Ratio (DER)} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

2.4 Profitability (ROE)

Profitability indicates a company's ability to generate profits from its resources (Aspiati *et al.*, 2022). This study uses Return on Equity (ROE) as an indicator of profitability. ROE is a ratio that measures a company's ability to generate net income from shareholders' equity (Lutfi & Panuntun, 2024). The higher the ROE, the more effectively a company manages its own capital to generate profits. Based on signaling theory, a high ROE can send a positive signal to investors as it reflects better financial performance and prospects for the company (Andriana *et al.*, 2025). Research (Kusuma & Sari, 2025) and (Janice & Aryati, 2024) found that profitability has a significant effect on firm value. Therefore, an increase in ROE is expected to boost investor confidence and drive an increase in firm value.

$$\textit{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Total Equity}}$$

2.5 Dividend Policy (DPR)

Dividend policy refers to a company's decision regarding the proportion of profits distributed to shareholders and the portion retained for the company's internal needs (Jasmine *et al.*, 2025). In this study, dividend policy is proxied by the Dividend Payout Ratio (DPR), which is a ratio indicating the proportion of profits distributed as dividends (Listianah & Kurniasih, 2025). Based on signaling theory, dividends can serve as positive information regarding profit stability, cash flow, and the company's prospects (Janice & Aryati, 2024). Based on agency theory, dividends can also reduce conflicts between management and shareholders by limiting inefficient use of cash (Sutisna *et al.*, 2024). In this study, the DPR is used as a moderating variable to test whether dividend policy can strengthen the effect of DER on PBV and ROE on PBV. This study aligns with (Zulpajri *et al.*, 2024) and (Goh *et al.*, 2024), and (Razak *et al.*, 2025), which indicate that dividend policy can act as a moderating variable in the relationship between financial factors and firm value.

$$\textit{Dividend Payout Ratio (DPR)} = \frac{\text{Dividend per Share}}{\text{Earnings per Share}}$$

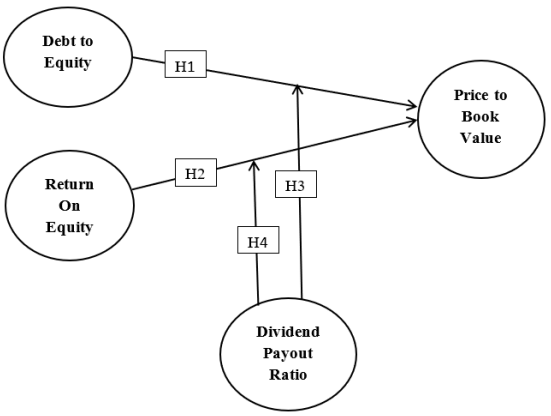

Figure1 Research Model

Based on the theoretical review and previous research, the hypotheses in this study are formulated as follows.
H1: Solvency affects firm value.
H2: Profitability affects firm value.
H3: Dividend policy moderates the effect of solvency on firm value.
H4: Dividend policy moderates the effect of profitability on firm value.

3 | METHOD

This study employs a quantitative approach with a causal-associative design. A quantitative approach was chosen because this study uses numerical data, hypothesis testing, and statistical analysis to obtain objective results (Mweshi & Muhyila, 2024). A causal-associative design was used because this study aims to test the effects of solvency and profitability on firm value, as well as to examine the role of dividend policy as a moderating variable. The population in this study consists of all infrastructure sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period. This period was selected because it reflects the conditions of the infrastructure sector during the pandemic, economic recovery, and increased demand for long-term project financing. The sampling technique used non-probability sampling with a purposive sampling method. Non-probability sampling was used because not all members of the population have an equal chance of being selected as a sample (Fajriah, 2025). Purposive sampling was used because the sample was selected based on specific criteria aligned with the research objectives (Subhaktiyasa, 2024). This technique is appropriate when researchers need units of analysis with specific characteristics relevant to the research needs (Asrulla *et al.*, 2023).

The sample criteria for this study include infrastructure sector companies listed on the Indonesia Stock Exchange that were listed prior to 2020, published complete financial reports for the 2020–2024 period, use the rupiah as their currency, and distributed cash dividends at least three times during the study period. The dividend distribution criteria were used to ensure the availability of Dividend Payout Ratio (DPR) data as a moderating variable. Based on these criteria, 18 companies with a five-year observation period were identified, resulting in a total of 90 firm-year observations for the study.

The data used in this study consists of secondary data obtained through documentation. Secondary data was chosen because this study utilizes financial information that has been officially published by the companies and the Indonesia Stock Exchange. The data collected includes total debt, total equity, net income after tax, dividends per share, earnings per share, stock price, and book value per share. Data analysis was conducted using Moderated Regression Analysis (MRA) with the aid of IBM SPSS Statistics version 25. MRA was chosen because this study involves a moderating variable namely, dividend policy which is hypothesized to strengthen or weaken the effects of solvency and profitability on firm value (Safitri & Rofiuddin, 2021). The regression model used in this study is formulated as follows.

$$PBV = \alpha + \beta 1DER + \beta 2ROE + \beta 3DPR + \beta 4(DER \times DPR) + \beta 5(ROE \times DPR) + \varepsilon$$

In this equation, PBV represents firm value, proxied by the Price to Book Value ratio. DER represents solvency, proxied by the Debt to Equity Ratio, while ROE represents profitability, proxied by the Return on Equity. DPR represents dividend policy, proxied by the Dividend Payout Ratio. The variable DER×DPR indicates the interaction between solvency and dividend policy, while ROE×DPR indicates the interaction between profitability and dividend policy. Furthermore, α is a constant, β_1 through β_5 are regression coefficients, and ε is the error term. The analysis was conducted in several stages, namely descriptive statistics, classical assumption tests, and hypothesis testing. Descriptive statistics were used to describe the minimum, maximum, mean, and standard deviation of each variable. Classical assumption tests included tests for normality, multicollinearity, heteroscedasticity, and autocorrelation to ensure the suitability of the regression model. Next, hypothesis testing is conducted using MRA and t-tests at a 5% significance level. DPR is declared to act as a moderating variable if the interaction coefficient of DER×DPR or ROE×DPR has a significance value less than 0.05. With these stages, this research method is expected to produce a systematic and valid analysis that can be replicated by future researchers.

4 | RESULTS AND DISCUSSION

4.1 Results

4.1.1 Descriptive Statistics

The descriptive statistics results describe the condition of the research variables consisting of solvency, profitability, dividend policy, and firm value in infrastructure sector companies during 2020–2024. This analysis shows the minimum value, maximum value, average value, and standard deviation of each variable. Through these results, the pattern and spread of the data can be identified more clearly. Differences in average values and deviations indicate variations in financial performance among companies observed in this study. The descriptive statistics also help assess the suitability of the data before continuing to hypothesis testing and other statistical analyses, so the interpretation of the research findings becomes more accurate and objective.

Table 1. Results of Descriptive Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Standard Deviation
DER	90	.29	71.78	25.9263	23.46942
ROE	90	.04	.82	.3283	.14159
PBV	90	.24	2.61	1.1145	.48506
House of Representatives	90	.00	2.55	.6216	.39583
Valid N (listwise)	90				

Source: Processed data, 2026

Based on Table 1, the solvency variable, measured by the Debt to Equity Ratio (DER), has a mean of 25.9263 and a standard deviation of 23.46942. Profitability, proxied by Return on Equity (ROE), has a mean of 0.3283 and a standard deviation of 0.14159. Furthermore, firm value, proxied by the Price to Book Value (PBV) ratio, showed a mean of 1.1145 and a standard deviation of 0.48506. For the dividend policy variable, proxied by the Dividend Payout Ratio (DPR), the mean is 0.6216 and the standard deviation is 0.39583. These findings indicate that DER has the highest level of data variation, while ROE exhibits relatively lower data variation.

4.1.2 Classical Assumption Test

The normality test evaluates whether the data for solvency, profitability, dividend policy, and firm value in infrastructure sector companies from 2020–2024 follow a typical distribution pattern. Results show that most variables align closely with expected statistical behavior, indicating minimal skewness or irregularities. This outcome strengthens the credibility of regression analysis and reduces the risk of misleading results. Understanding the distribution allows for more precise interpretation of how financial performance and dividend decisions relate to firm value, ensuring that subsequent analysis rests on solid, reliable data.

Table 2. Results of the Normality Test Before Transformation

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		90
Normal Parameters [a, b]	Mean	.0000000
	Standard Deviation	1.06372925
Most Extreme Differences	Absolute	.109
	Positive	.109
	Negative	-.063
Test Statistic		.109
Asymptotic Significance (2-tailed)		.011[c]

Source: Processed data, 2026

Based on Table 2, the results of the normality test before transformation show an Asymp. Sig. (2-tailed) value of 0.011. This value is less than 0.05, so the residuals of the regression model are not normally distributed. Thus, the normality assumption has not been met, and data transformation is necessary.

Table 3. Results of the Normality Test After Transformation

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		90
Normal Parameters [a, b]	Mean	.0000000
	Standard Deviation	.39809460
Most Extreme Differences	Absolute	.067
	Positive	.067
	Negative	-.050
Test Statistic		.067
Asymptotic Significance (2-tailed)		.200[c,d]

Source: Processed data, 2026

Based on Table 3, after applying a square root transformation, the Asymp. Sig. (2-tailed) value increased to 0.200. This value is greater than 0.05, so the residuals are considered to be normally distributed. Thus, the assumption of

normality has been met, and the regression model is suitable for further analysis.

Table 4. Results of the Multicollinearity Test

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	DER	.967	1.034
	ROE	.981	1.019
	DPR	.951	1.051

a. Dependent Variable: PBV

Source: Processed data, 2026

Based on Table 4, the results of the multicollinearity test show that all variables have tolerance values greater than 0.10 and VIF values less than 10. The tolerance values are 0.967 for DER, 0.981 for ROE, and 0.951 for DPR, while the VIF values are 1.034 for DER, 1.019 for ROE, and 1.051 for DPR. These results indicate that there is no multicollinearity among the variables in the regression model. Thus, the DER, ROE, and DPR variables do not have a strong linear relationship with one another, so that each variable is still capable of providing different information in explaining the company's value, which is proxied by PBV.

Table 5. Heteroscedasticity Test Results

Model	Coefficients	t	Sig.
1	(Constant)	2.856	0.005
	DER	1.452	0.150
	ROE	1.475	0.144
	DPR	-1.529	0.130

Source: Processed data, 2026

Based on Table 5, the results of the heteroscedasticity test show that the significance values are 0.150 for DER, 0.144 for ROE, and 0.130 for DPR. All of these significance values are greater than 0.05, so it can be concluded that the regression model does not exhibit heteroscedasticity. These results indicate that changes in the DER, ROE, and DPR variables do not cause unequal residual variances in the research model.

Table 6. Autocorrelation Test Results

Model	R	R-Square	Adjusted R-Square	Standard Error of the Estimate	Durbin-Watson
1	0.382	0.146	0.116	0.33188	1.545

Source: Processed data, 2026

Based on Table 6, the Durbin-Watson statistic of 1.545 indicates that there is no strong evidence of autocorrelation in the regression model. This means that the residuals across periods are not excessively correlated with one another.

4.1.3 Results of the Moderated Regression Analysis (MRA)

The Moderated Regression Analysis (MRA) evaluates how dividend policy affects the link between solvency, profitability, and firm value in infrastructure companies. Findings show that while solvency and profitability influence firm value directly, dividend policy modifies the intensity of these effects. This indicates that payout strategies can shape financial outcomes, suggesting that managerial decisions on dividends play a measurable role in how company performance translates into market valuation.

Table 7. Results of the Moderated Regression Analysis

Model	Coefficients	t-value	p-value	Notes
1	(Constant)	4.257	0.000	Significant
	DER	-0.601	0.550	Not significant
	ROE	0.604	0.548	Not significant
	DPR	-2.715	0.008	Significant
	DER_DPR	3.159	0.002	Significant
	ROE_DPR	3.932	0.000	Significant

Source: Processed data, 2026

Based on Table 7, DER has a coefficient of -0.002 with a p-value of 0.550, indicating that solvency does not significantly affect PBV. ROE has a coefficient of 0.254 with a p-value of 0.548, showing that profitability also does not significantly influence PBV. In contrast, DPR has a coefficient of -0.676 with a p-value of 0.008, suggesting that dividend policy has a significant negative effect on PBV. Additionally, the interaction variables DER×DPR and ROE×DPR have coefficients of 0.017 ($p = 0.002$) and 2.433 ($p < 0.001$), respectively, indicating that dividend policy moderates the effects of DER and ROE on PBV.

4.1.4 Hypothesis Testing Results

Hypothesis testing shows that solvency (DER) and profitability (ROE) alone do not significantly influence PBV, while dividend policy (DPR) exerts a clear negative effect. Interaction results indicate that DPR alters how DER and ROE relate to PBV, suggesting that payout decisions shape the financial impact on firm value. These findings refine understanding of how policy choices adjust performance outcomes in infrastructure companies.

Table 8. Summary of Hypothesis Testing Results

Hypotheses	Variable Relationship	Sig.	Decision	Interpretation
H1	DER → PBV	0.550	Rejected	Solvency does not significantly affect firm value.
H2	ROE → PBV	0.548	Rejected	Profitability does not significantly affect firm value.
H3	DER×DPR → PBV	0.002	Accepted	Dividend policy moderates the effect of solvency on firm value.
H4	ROE×DPR → PBV	0.000	Accepted	Dividend policy moderates the effect of profitability on firm value.

Source: Processed data, 2026

Based on Table 8, the results indicate that H1 and H2 are rejected because DER and ROE do not have a significant effect on PBV. This implies that solvency and profitability have not yet been the primary factors directly explaining firm value in the infrastructure sector during the 2020–2024 period. However, H3 and H4 are accepted because the interaction variables DER×DPR and ROE×DPR have a significant effect on PBV. These findings indicate that dividend policy plays a crucial role in strengthening the relationship between a company's financial condition and its value. Thus, the results of this study are consistent with the research objectives, namely to examine the effects of solvency and profitability on firm value and to examine the role of dividend policy as a moderating variable. Although the debt to equity ratio (DER) and return on equity (ROE) do not have a direct effect on price to book value (PBV), dividend policy has been shown to clarify the market's response to the solvency and profitability of firms in the infrastructure sector.

4.2 Discussion

The results of the analysis indicate that solvency, as proxied by the Debt to Equity Ratio (DER), does not have a significant effect on firm value, with a coefficient of -0.002 and a p-value of 0.550, which is greater than 0.05. These results suggest that the level of debt utilization in infrastructure sector firms does not directly influence an increase or decrease in firm value. This finding may occur because the infrastructure sector is capital-intensive, so the use of debt is often considered reasonable to finance long-term projects. Thus, investors do not always view a high DER as a negative signal as long as the debt is still used to support the company's operational activities and expansion. These results align with the trade-off theory, which explains that debt usage can provide benefits if managed optimally but can pose risks if it exceeds the company's capacity. These findings support the research (Salsabila *et al.*, 2025), (Nainggolan *et al.*, 2023) as well as (Rahmi *et al.*, 2024) which found that solvency does not have a significant effect on firm value. Based on these results, solvency has not been a primary factor directly determining the value of companies in the infrastructure sector during the 2020–2024 period.

The results of the analysis indicate that profitability, as proxied by Return on Equity (ROE), does not have a significant effect on firm value, with a coefficient of 0.254 and a p-value of 0.548, which is greater than 0.05. These results indicate that an increase in ROE has not yet been able to directly influence an increase in PBV. According to signaling theory, high profitability should serve as a positive signal to investors as it demonstrates the company's ability to generate profits from its equity. However, the findings of this study suggest that investors do not solely consider profitability when evaluating companies in the infrastructure sector. Investors may also consider other factors such as debt burden, long-term project funding needs, cash flow stability, and dividend policies. Therefore, even if a company is able to generate profits, this does not necessarily immediately increase the company's value if the market perceives that financing risks and uncertainty regarding the sector's prospects still exist. These findings align with (Khalifaturofi'ah & Setiawan, 2025), (Hartati *et al.*, 2025), and (Sangadji *et al.*, 2025), which found that ROE or profitability does not have a significant impact on firm value. Based on these results, profitability has not yet become a direct determinant in the formation of firm value in the infrastructure sector.

The results of the analysis indicate that the DER×DPR interaction has a positive and significant effect on firm value,

with a coefficient of 0.017 and a p-value of 0.002, which is less than 0.05. These results suggest that dividend policy moderates the effect of solvency on firm value. This finding implies that the presence of a dividend policy can amplify the market's response to a firm's debt structure. When a company remains able to pay dividends despite having a certain level of debt, investors may assess that the company still possesses adequate cash flow capacity and sound financial management. Based on signaling theory, dividends can serve as a signal that the company has financial stability. Additionally, based on agency theory, dividend payments can alleviate shareholders' concerns regarding management's inefficient use of funds. Thus, the DPR can clarify the relationship between solvency and firm value. These findings align with(Muhammad Bima Setianata & Khabib, 2025), (Zulpajri *et al.*, 2024) as well as (Winnie & Sufiyati, 2024) which indicate that dividend policy can act as a moderating variable in the relationship between leverage and firm value.

The results of the analysis indicate that the ROE×DPR interaction has a positive and significant effect on firm value, with a coefficient of 2.433 and a p-value of 0.000, which is less than 0.05. These results suggest that dividend policy moderates the effect of profitability on firm value. This finding implies that profitability will be more strongly responded to by the market when supported by dividend policy. ROE indicates a company's ability to generate profits, while the DPR indicates that those profits can be realized in the form of returns to shareholders. Based on signaling theory, dividend distribution can strengthen the credibility of profit information because investors view profits not merely as accounting figures but also as the company's ability to deliver actual returns. Thus, the combination of profitability and dividend policy can enhance investor confidence in the company's prospects. These findings align with(Dwi Vina Rahmawati *et al.*, 2023) ,(Fitriani, 2024) , and(Razak *et al.*, 2025) which demonstrate that dividend policy can strengthen the relationship between profitability and firm value.

5 | CONCLUSIONS AND FUTURE WORK

The findings of this study indicate that solvency, as proxied by the Debt to Equity Ratio (DER), and profitability, as proxied by Return on Equity (ROE), do not have a significant direct effect on firm value, as proxied by the P rice to Book Value (PBV) ratio, for companies in the infrastructure sector during the 2020–2024 period. These findings confirm that the value of infrastructure sector companies is not solely determined by debt levels and profit-generating capacity but is also influenced by how the market assesses the company's broader financial policies. Dividend policy, proxied by the Dividend Payout Ratio (DPR), was found to have a significant negative effect on PBV; however, the DPR also moderated the effects of DER and ROE on PBV in a positive and significant manner. This implies that dividend policy plays a crucial role in strengthening the market's response to a company's solvency and profitability conditions. Practically, infrastructure sector companies need to manage debt structure, profitability, and dividend policy in a balanced manner, as this sector requires substantial funding for long-term projects. Management is advised to formulate dividend policies carefully to avoid depleting internal funds for investment while still maintaining investor confidence. This study has limitations as it only uses infrastructure sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period; therefore, the results may not necessarily be generalizable to other sectors. Additionally, this study only uses DER, ROE, DPR, and PBV as research variables. Therefore, future research is advised to expand the scope of the study, extend the observation period, and include other variables such as firm size, liquidity, firm growth, cash flow, corporate governance, or macroeconomic factors to make the research findings more comprehensive.

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