



The Effect of Profitability, Capital Structure, and ESG on Firm Value with Dividend Policy as a Moderating Variable: Evidence from the Energy Sector

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Abstract

Background: Firm value in the energy sector reflects financial fundamentals and investors' assessment of sustainability-related risks. Previous studies show mixed findings regarding the effects of profitability, capital structure, ESG performance, and dividend policy on market valuation.

Objective: This study examines the effects of profitability, capital structure, and Environmental, Social, and Governance (ESG) performance on firm value, with dividend policy as a moderating variable.

Methods: Using purposive sampling, 15 of 89 energy sector companies listed on the Indonesia Stock Exchange during 2021–2024 were selected. A quantitative approach with panel data regression was employed using combined time-series and cross-sectional data.

Results: ROA, DER, ESG, DPR, and their interaction terms jointly affect firm value. Partially, ROA, ESG, and DPR significantly affect firm value, whereas DER does not. DPR moderates the relationships between ROA and firm value and between ESG and firm value but does not moderate the relationship between DER and firm value.

Conclusion: Profitability, ESG performance, and dividend policy are significantly associated with firm value, while capital structure is not. Dividend policy moderates the profitability–firm value and ESG–firm value relationships. The negative ESG × DPR coefficient indicates that dividend policy weakens the association between ESG performance and firm value in the analyzed sample.

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INTRODUCTION

In increasingly competitive capital markets, companies are evaluated not only on current profitability but also on their capacity to create sustainable value for shareholders and other stakeholders. Market valuation therefore reflects a combination of financial performance, financing decisions, and non-financial signals concerning risk management and sustainability.

Firm value is an important indicator that reflects management effectiveness in managing company resources to generate profits and improve shareholder welfare, thus becoming one of the main foundations for investors in making investment decisions. High firm value indicates investor confidence in the company's stability and future growth prospects. In the capital market, firm value also reflects investor expectations of management performance and policies, where companies with high value are perceived to have lower risk and better ability to create added value for shareholders (Wijaya & Setyawan, 2025). In the energy sector, decisions regarding funding structure, investment, and commitment to sustainability become important signals that influence investor valuation of firm value.

Indonesia's energy sector has a strategic role in the national economy, with investment realization reaching more than USD 32 billion and Non-Tax State Revenue (PNBP) contribution of Rp269.5 trillion in 2024. Nevertheless, this sector still faces challenges, especially the high dependence on global commodity price fluctuations that impact company revenues and profitability. These conditions cause financial performance uncertainty and affect investor perception of firm value. Therefore, profitability becomes one of the main indicators investors use in assessing company growth prospects, while firm value reflects market perception of stock performance and company sustainability, making the relationship between profitability and firm value in the energy sector important to analyze. The following figure shows the development between the average firm value and profitability of the energy sector listed on the IDX for 2021-2024.

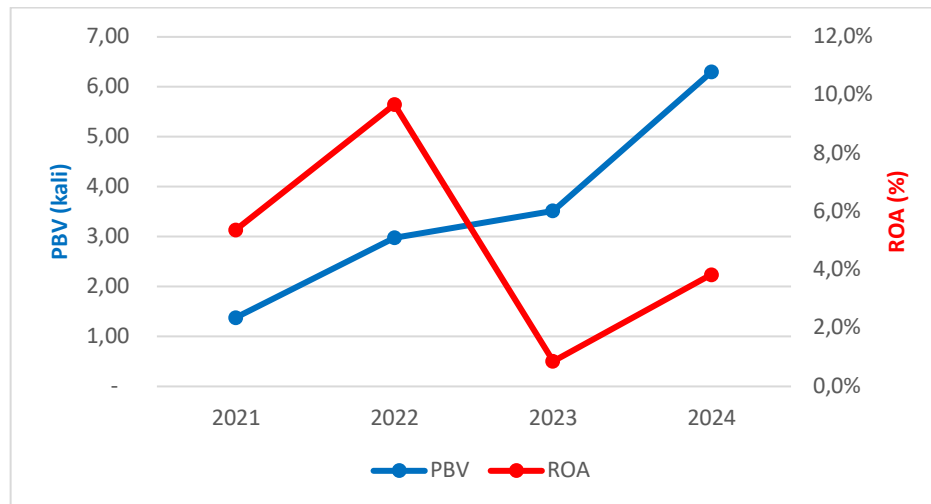


Figure 1. Average PBV and ROA of IDX Energy-Sector Companies, 2021–2024

Source: Author's calculations from the study dataset (2026).

Notes:

PBV = Price to Book Value

ROA = Return on Assets

Sector = Energy Sector on the Indonesia Stock Exchange

Based on Figure 1, it can be seen that the average graph of Price to Book Value (PBV) and Return On Assets (ROA) of energy sector companies listed on the Indonesia Stock Exchange (IDX) shows fluctuating dynamics during the 2021–2024 period. This condition indicates that market valuation of energy sector companies does not always align with the profitability performance generated, thus reflecting that there are other factors that also influence firm value in this sector.

The performance of energy sector companies during the 2021–2024 period shows interesting dynamics between profitability and firm value. In 2021, the increase in Return on Assets (ROA) was not fully followed by an increase in Price to Book Value (PBV) because investors remained cautious post-pandemic, thus reflecting a market lag in responding to company performance improvements. This condition is reinforced by the dominance of debt usage in energy sector companies, which increases financial risk and affects market perception of firm value (Zhang et al., 2021). Entering 2022, profitability increased significantly along with improving global economic conditions, but the increase in firm value remained disproportionate because investors still considered company funding risks. In 2023–2024, investor attention began to shift from merely profitability toward long-term prospects, especially energy transition strategies and Environmental, Social, and Governance (ESG) implementation, so firm value is increasingly influenced by a combination of financial and non-financial factors (Gerged et al., 2021).

In addition to profitability, capital structure and ESG are important factors that influence the value of energy sector companies. An optimal capital structure can increase firm value through the debt tax shield benefit, while excessive debt use actually increases bankruptcy risk and reduces investor confidence (Putro & Risman, 2021). However, previous research results still show mixed findings, where capital structure can have a positive, negative, or insignificant effect

on firm value depending on industry characteristics and company conditions (Aldiyansa & Kristanti, 2024; Fitriani & Wirianata, 2026; Hidayyah, 2025; Maulana et al., 2023). On the other hand, profitability generally provides a positive signal for investors because it reflects operational efficiency and good business prospects Azzahra et al. (2025), although its effect can weaken in high-risk sectors (Ng & Darwinson, 2025). Meanwhile, ESG implementation is increasingly viewed as an indicator of governance quality, risk management, and company sustainability, thus able to increase firm value when applied consistently and credibly (Christensen et al., 2022; Maysari & Endri, 2025; Sari & Wahyuni, 2020).

This study also positions dividend policy as a moderating variable that can strengthen or weaken the influence of profitability, capital structure, and ESG on firm value. Based on signaling theory, dividend policy is a signal regarding the company's financial condition and prospects, thus can increase investor confidence in company performance. Several studies show that consistent dividend policy can strengthen the relationship between financial performance and firm value (Pratiwi et al., 2022; Timotius & Setyawan, 2023). Conversely, in companies with high investment needs, dividend distribution can be perceived as reducing the company's capacity to fund growth, thus potentially weakening firm value (Nuswandari, 2025). Additionally, dividend policy can also strengthen the influence of ESG on firm value because it increases the credibility of the company's sustainability commitment in the eyes of investors (Abdi et al., 2022; Gerged et al., 2021).

Dividend policy is not merely a profit distribution decision but also a moderating variable that determines how much influence capital structure, profitability, and ESG can be translated into firm value. Thus, dividend policy in this study is analyzed as a moderating variable to gain an in-depth understanding of the dynamics of firm value formation, particularly in companies facing demands for financial performance and sustainability simultaneously.

Based on the description above, this study aims to analyze the influence of profitability, capital structure, and Environmental, Social, and Governance (ESG) on firm value in energy sector companies listed on the Indonesia Stock Exchange. Furthermore, this study also aims to test the influence of dividend policy on firm value and analyze the role of dividend policy as a moderating variable in strengthening or weakening the relationship between profitability, capital structure, and ESG with firm value. Through these tests, this study is expected to provide empirical evidence regarding the factors that influence firm value in the energy sector and explain the role of dividend policy in the relationship between these variables.

METHOD

This study used a quantitative approach with an explanatory panel-data design to analyze the influence of profitability, capital structure, and Environmental, Social, and Governance (ESG) on firm value with dividend policy as a moderating variable in energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The data used are secondary data in the form of panel data (cross-section and time series) obtained from annual financial reports, sustainability reports, and official IDX publications. The research population consists of 89 energy sector companies, while the sample was determined using purposive sampling based on certain criteria, resulting in 15 companies or 60 firm-year observations. The research variables include profitability measured by Return on Assets (ROA), capital structure with Debt to Equity Ratio (DER), ESG using the Sustainability Reporting Disclosure Index (SRDI), firm value with Price to Book Value (PBV), and dividend policy proxied through Dividend Payout Ratio (DPR).

Data analysis was conducted using descriptive statistics and inferential statistics through panel data regression preceded by the selection of the best model using the Chow Test, Hausman Test, and Lagrange Multiplier Test. Furthermore, hypothesis testing was conducted using Moderated Regression Analysis (MRA) to test the direct influence and moderating effects of dividend policy on the relationship between profitability, capital structure, and ESG with firm value, and evaluated through the F-test, t-test, and coefficient of determination (Adjusted R²) using EVIEWS 13 software. The panel structure consists of 15 companies observed over 2021–2024 (60 firm-year observations). Model selection was conducted using the Chow, Hausman, and Lagrange Multiplier tests before estimating the final panel specification. Moderation was assessed through interaction terms between DPR and each focal predictor, with coefficient signs interpreted directly when determining whether moderation strengthens or weakens an association. Because the ESG × DPR interaction coefficient is negative and statistically significant,

the revised interpretation is that higher dividend payout is associated with a weaker ESG–firm value relationship, not a stronger one.

RESULTS AND DISCUSSION

Results

Descriptive Analysis

Table 1

Descriptive Statistics of Research Variables

	PBV	ROA	DER	ESG	DPR
Mean	2.6492	0.2247	0.6979	0.6148	0.7370
Median	1.2433	0.1732	0.6103	0.6676	0.7159
Maximum	22.3016	0.6163	2.2105	1.0000	4.6100
Minimum	0.5011	0.0150	0.0587	0.1605	0.0243
Std. Dev.	4.4701	0.1628	0.4829	0.2756	0.6439
Observations	60	60	60	60	60

Source: Data processing results using EViews 13, 2026

Based on the descriptive statistics results, the research variables show diverse characteristics in energy sector companies during the 2021–2024 period. Firm value proxied by Price to Book Value (PBV) has a fairly wide value range, from 0.501 to 23.302, indicating significant differences in market valuation among companies, with a mean value of 2.6492 and standard deviation of 4.4701 indicating high data variation. Profitability measured using Return on Assets (ROA) has a minimum value of 0.0150 and maximum of 0.616, with an average of 0.2247 and standard deviation of 0.1628, thus showing the company's ability to generate profits is relatively heterogeneous. Capital structure proxied by Debt to Equity Ratio (DER) has a minimum value of 0.059 and maximum of 2.211, with an average of 0.6979 and standard deviation of 0.4829, indicating that company funding tends to be dominated by equity and the data dispersion level is relatively low. Meanwhile, the level of Environmental, Social, and Governance (ESG) disclosure ranges from 0.1605 to 1.00 with an average of 0.6148 and standard deviation of 0.2756, indicating that companies have disclosed more than half of ESG indicators relatively uniformly. Dividend policy proxied by Dividend Payout Ratio (DPR) has a minimum value of 0.024 and maximum of 4.61, with an average of 0.7370 and standard deviation of 0.6439, indicating that most companies distribute dividends in relatively high proportions with low variation across companies and research periods.

Panel Data Regression Model Test

Table 2

Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.046304	(14,38)	0.0000
Cross-section Chi-square	87.973516	14	0.0000

Source: Data processing results using EViews 13, 2026.

Based on the significance value of probability $F = 0.000$ (less than 0.05), H_0 is rejected, thus it is stated that the Fixed Effect Model (FEM) is better than the Common Effect Model (CEM).

Table 3

Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	12.492712	7	0.0855

Source: Data processing results using EViews 13, 2026.

Table 3 shows that with a significance probability value = 0.085 (greater than 0.05), H_0 is accepted, thus it is stated that the Random Effect Model (REM) is better than the Fixed Effect

Model (FEM).

Table 4

Lagrange Multiplier Test Results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	20.81768	0.120070	20.93775
	(0.0000)	(0.7290)	(0.0000)

Source: Data processing results using EViews 13, 2026.

From the Lagrange Multiplier test results shown in Table 4, the Breusch-Pagan prob. value = 0.000 (less than 0.05), thus it is stated that the Random Effect Model (REM) is better than the Common Effect Model (CEM).

The following is a summary of panel data model selection from the Chow Test, Hausman Test, and Lagrange Multiplier Test:

Table 5

Summary of Panel Data Model Selection

Test	Model Testing	Final Result
Chow	Common Effect Model (CEM) or Fixed Effect Model (FEM)	FEM
Hausman	Fixed Effect Model (FEM) or Random Effect Model (REM)	REM
Lagrange Multiplier	Common Effect Model (CEM) or Random Effect Model (REM)	REM

Table 5 shows that the Random Effect Model (REM) was selected twice, namely in the Hausman Test and Lagrange Multiplier (LM) Test, compared to the Fixed Effect Model (FEM) which was only selected once. Therefore, it is concluded that the Random Effect Model (REM) is the most appropriate panel regression model to be used in this study.

Table 6

Moderated Regression Analysis Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.406198	0.137062	2.963620	0.0030
ROA	1.522977	0.405573	3.755124	0.0002
DER	-0.174164	0.158880	-1.096204	0.2730
ESG	0.604891	0.191161	3.164305	0.0016
DPR	0.615695	0.123367	4.990763	0.0000
ROA_DPR	1.868459	0.470369	3.972324	0.0001
DER_DPR	0.213105	0.178898	1.191210	0.2336
ESG_DPR	-1.441698	0.227025	-6.350379	0.0000

Source: Data processing results using EViews 13, 2026

Based on the Moderated Regression Analysis (MRA) results, the regression equation shows that Return on Assets (ROA), Environmental, Social, and Governance (ESG), and Dividend Payout Ratio (DPR) have a positive effect on firm value proxied by Price to Book Value (PBV), while Debt to Equity Ratio (DER) has a negative effect. The test results show that ROA, ESG, and DPR have a positive and significant effect on PBV, indicating that increased profitability, ESG disclosure quality, and dividend distribution policy can increase firm value. Conversely, DER has a negative but insignificant effect on PBV, so capital structure has not become a determining factor for firm value in the energy sector. From the moderation perspective, dividend policy is proven to strengthen the positive effect of ROA on firm value, is unable to moderate the relationship between DER and PBV, and negatively moderates the relationship between ESG and PBV, indicating that higher dividend distribution tends to weaken the positive effect of ESG disclosure on firm value. Because the $ESG \times DPR$ interaction coefficient is negative and statistically significant, the revised interpretation is that higher dividend payout is associated with a weaker ESG–firm value relationship, not a stronger one.

Hypothesis Testing

Table 7

REM Regression for F-Test and R² Results

F-statistic	5.033	R-squared	0.40388
Prob(F-statistic)	0.00000	Adjusted R-squared	0.32363

Source: Data processing results using EViews 13, 2026.

Simultaneous Test (F-Test)

The Simultaneous Test (F-test) is part of hypothesis testing that is useful for determining whether independent variables simultaneously or jointly affect the dependent variable in a model. Based on the data processing results, a probability value of 0.0000 was obtained. This value is smaller than the significance level of 0.05 ($0.0000 < 0.05$). This indicates that ROA, DER, and ESG as independent variables with dividend policy (DPR) as a moderating variable jointly affect the firm value of energy sector companies listed on the IDX for 2021–2024.

T-Test (Partial Test)

Table 8

REM Regression for T-Test Results

Variable	Coefficient	Prob.	$\alpha = 0.05$	Interpretation
ROA	1.522977	0.0002	Significant	Positive and Significant
DER	-0.174164	0.2730	Not Significant	Negative and Not Significant
ESG	0.604891	0.0016	Significant	Positive and Significant
DPR	0.615695	0.0000	Significant	Positive and Significant
ROA×DPR	1.868459	0.0001	Significant	Positive and Significant
DER×DPR	0.213105	0.2336	Not Significant	Positive and Not Significant
ESG×DPR	-1.441698	0.0000	Significant	Negative and Significant

Source: Data processing results using EViews 13, 2026.

Based on the partial test results (t-test), Return on Assets (ROA), Environmental, Social, and Governance (ESG), and Dividend Payout Ratio (DPR) are proven to have a positive and significant effect on firm value (Price to Book Value), so the hypotheses related to these three variables are accepted. Conversely, Debt to Equity Ratio (DER) has a negative but insignificant effect, so the hypothesis regarding the effect of capital structure on firm value is rejected. The moderation test results show that DPR is able to positively and significantly moderate the relationship between ROA and firm value and is categorized as a quasi-moderator because it acts as both an independent variable and moderator. DPR is unable to moderate the relationship between DER and firm value, thus classified as a predictive moderator, while the interaction between ESG and DPR has a negative and significant effect on firm value, so DPR is also categorized as a quasi-moderator that weakens the positive effect of ESG on firm value. These findings indicate that profitability, ESG implementation, and dividend policy are important factors in increasing firm value, while dividend policy only strengthens the effect of profitability, does not affect the relationship between capital structure and firm value, and actually weakens the effect of ESG on firm value. Because the $ESG \times DPR$ interaction coefficient is negative and statistically significant, the revised interpretation is that higher dividend payout is associated with a weaker ESG–firm value relationship, not a stronger one.

Coefficient of Determination (R²)

The coefficient of determination (R²) is used to measure the ability of independent variables to explain variations in the dependent variable in a regression model. The coefficient of determination value ranges from 0 to 1. The larger the coefficient of determination value, the greater the ability of independent variables to explain variations in the dependent variable, while the smaller the value indicates that the model's ability to explain the dependent variable is increasingly limited.

Based on Table 7, the R-squared value is 0.403882 or 40.39%, while the Adjusted R-

squared value is 0.323635 or 32.36%. According to Indartini et al. (2024), in multiple regression models, the interpretation of the coefficient of determination should use the Adjusted R-squared value because this value has been adjusted for the number of independent variables used in the model. Unlike R-squared, the Adjusted R-squared value provides a more objective estimate of the model's ability to explain variations in the dependent variable. Thus, it can be concluded that the variables profitability (ROA), capital structure (DER), Environmental, Social, and Governance (ESG), dividend policy (DPR) as a moderating variable, as well as the interactions between $ROA \times DPR$, $DER \times DPR$, and $ESG \times DPR$ are able to explain variations in firm value proxied using Price to Book Value (PBV) by 32.36%, while the remaining 67.64% is influenced by other variables outside the research model not included in this study.

Discussion

The Effect of Profitability on Firm Value

The research results show that profitability has a significant effect on firm value. This finding indicates that the higher the company's ability to generate profits through the utilization of its assets, the higher the firm value. This signifies that profitability remains one of the important indicators investors consider in assessing company prospects. Companies with high ROA levels are perceived to have good ability to manage resources effectively so as to generate optimal profits. This condition increases investor confidence in the company's future prospects and drives an increase in firm value.

This result is consistent with Signaling Theory proposed by Spence, which states that information regarding company financial performance is a signal for investors in making investment decisions. High profitability levels reflect management's success in managing company assets to generate profits, thus becoming a positive signal for the market. This information is positively responded to by investors through increased share demand, which ultimately increases firm value.

This research aligns with studies conducted by Alwan and Risman (2023) in their research showing that ROA has a positive effect on firm value.

The Effect of Capital Structure on Firm Value

The research results show that capital structure has a negative but insignificant effect on firm value. This finding indicates that the level of debt usage in energy sector companies has not been able to provide a significant influence on changes in firm value. In other words, investors do not only consider the magnitude of the debt level but also pay attention to how the company manages the funds obtained from that debt to create sustainable operational performance.

This result is also consistent with Trade-off Theory proposed by Modigliani and Miller (1963), which states that debt usage can increase firm value through tax shield benefits. However, as the proportion of debt increases, the company will also face increased financial distress risk, bankruptcy costs, and agency costs. Therefore, companies need to determine an optimal capital structure so that the benefits of debt usage still outweigh the risks posed.

In energy sector companies, the industry characteristics are capital-intensive because they require large investments for exploration activities, infrastructure development, fixed asset procurement, and technology development. These conditions cause energy sector companies to tend to utilize a combination of funding from both equity and debt to support operational activities and business expansion.

This finding is in line with research by Khan (2022) stating that capital structure does not have a significant effect on firm value. Similar findings were also put forward by Oktaviana (2023), who found that debt policy does not affect firm value.

The Effect of Environmental, Social, and Governance (ESG) on Firm Value

The research results show that Environmental, Social, and Governance (ESG) has a significant positive effect on firm value. This indicates that good ESG practice implementation can increase investor confidence and provide added value for the company.

The results of this research support Stakeholder Theory proposed by Freeman, which explains that companies must be able to meet the interests of all stakeholders in order to obtain sustainable support.

In energy sector companies, ESG implementation becomes increasingly important considering the characteristics of this industry are closely related to natural resource utilization, carbon emissions, energy efficiency, occupational safety, and corporate governance. The operational activities of the energy sector are also under stricter supervision from the government, regulators, investors, and the public because they have the potential to have significant economic, social, and environmental impacts. Therefore, companies that are able to implement ESG practices consistently are perceived to have lower non-financial risk, better business sustainability, and more promising long-term prospects. This condition encourages increased investor confidence, which is ultimately reflected in increased firm value.

This finding aligns with Gerged et al. (2021) and Tamasiga et al. (2024), who state that ESG has a positive effect on firm value.

The Effect of Dividend Policy on Firm Value

The research results show that dividend policy proxied by Dividend Payout Ratio has a positive and significant effect on firm value (PBV). This finding indicates that the higher the dividends distributed by the company to shareholders, the higher the firm value. This condition shows that dividend policy is one of the factors investors consider in assessing energy sector companies.

The results of this research support Bird in the Hand Theory proposed by Gordon and Lintner, which states that investors prefer dividends received currently compared to potential future capital gains because dividends are considered to have a higher level of certainty. Dividend distribution is viewed as a form of investment return certainty, thus able to increase investor confidence in company prospects.

Furthermore, the results of this research are also in line with Signaling Theory, which states that dividend policy is one of the signals management gives to investors regarding the company's future prospects. Companies that are able to distribute dividends consistently indicate that the company has a good financial condition, adequate cash flow, and the ability to generate sustainable profits. This information will be positively responded to by investors, thus increasing share demand which ultimately impacts the increase in firm value.

In energy sector companies, dividend policy becomes one of the indicators investors pay attention to because this sector has revenue characteristics influenced by energy price fluctuations and global economic conditions. Companies that are still able to distribute dividends consistently amidst industry dynamics demonstrate the ability to maintain financial performance stability. Therefore, dividend distribution is perceived as a positive signal regarding business sustainability and the company's ability to create value for shareholders.

This finding aligns with research by Oktaviana (2023), which shows that dividend policy is a factor capable of increasing firm value and strengthening investor confidence in company prospects. This indicates that dividend distribution is viewed as a positive signal regarding the company's financial condition, thus encouraging increased investor valuation of the company.

The Effect of Dividend Policy in Moderating Profitability on Firm Value

The research results show that Dividend Payout Ratio (DPR) is able to moderate the effect of Return on Assets (ROA) on firm value. The moderation that occurs is positive, indicating that dividend policy is able to strengthen the influence of profitability on firm value. The higher the company's profitability accompanied by dividend distribution, the greater the increase in firm value.

From the perspective of Signaling Theory, it explains that high earnings will become a more credible signal if followed by dividend distribution to shareholders. Dividend distribution shows that the earnings generated by the company truly have good quality and are supported by adequate cash flow conditions. Thus, investors give a more positive response to companies that are not only able to generate profits but also distribute part of those profits as dividends. In energy sector companies, the ability to generate high profits does not necessarily directly increase firm value if those profits are not followed by a clear distribution policy. Therefore, dividend distribution becomes a form of realization of the company's success in creating profits, thereby increasing investor confidence in the company's future prospects.

The results of this research align with research by Dewi (2020), which states that dividend

policy is able to strengthen the influence of profitability on firm value. Similar findings were also put forward by Fajrin (2023), which show that dividend policy strengthens the relationship between profitability and firm value.

The Effect of Dividend Policy in Moderating Capital Structure on Firm Value

The research results show that Dividend Payout Ratio (DPR) is unable to moderate the effect of Debt to Equity Ratio (DER) on firm value. This finding indicates that dividend policy has not been able to moderate the relationship between capital structure and firm value. These results show that the company's decision to distribute dividends has not been able to change investor perception of the company's debt usage. Investors still assess capital structure based on the level of risk and the company's ability to manage its financial obligations, regardless of the amount of dividends distributed. In energy sector companies, debt usage is generally intended to support long-term investments that require large funding. Therefore, dividend distribution does not automatically reduce the inherent risk perception attached to debt usage. Investors still consider the company's ability to maintain balance between leverage levels, profitability, and operational sustainability.

The results of this research align with research by Oktaviana (2023), which states that dividend policy is unable to moderate the influence of leverage on firm value. Similar findings were also put forward by (Oktaviana, 2023).

The Effect of Dividend Policy in Moderating Environmental, Social, and Governance (ESG) on Firm Value

The research results show that Dividend Payout Ratio (DPR) is able to negatively moderate the effect of Environmental, Social, and Governance (ESG) on firm value. This finding indicates that dividend policy weakens the positive effect of ESG on firm value. In other words, the higher the dividend distribution level, the weaker the influence of ESG implementation in increasing firm value.

This finding can be explained through Stakeholder Theory proposed by Freeman, which states that companies need to meet the interests of all stakeholders through the implementation of sustainable business practices. Additionally, Legitimacy Theory explains that ESG implementation is one form of corporate responsibility in obtaining and maintaining legitimacy from the community, investors, government, and other stakeholders. On the other hand, Signaling Theory explains that dividend policy is a signal regarding the company's prospects and financial condition conveyed to investors.

Through good ESG implementation, companies are expected to be able to improve reputation, reduce non-financial risk, and build investor confidence, which will ultimately increase firm value.

However, ESG implementation requires long-term commitment and adequate financial resource support. When companies set high dividend distribution levels, part of the company's profits will be allocated to shareholders so that internal funds available to support investment in environmental, social, and governance aspects become more limited. This condition causes the benefits of ESG implementation on increasing firm value to become less than optimal. Thus, high dividend policy can weaken the positive effect of ESG on firm value.

In energy sector companies, ESG implementation becomes increasingly important because the industry characteristics are closely related to natural resource utilization, emission management, energy efficiency, occupational safety, and corporate governance. The high attention of investors, regulators, and the public to sustainability issues encourages companies to continuously improve the quality of ESG implementation. Therefore, companies need to consider the balance between dividend distribution policy and commitment to ESG implementation so that the benefits of ESG implementation remain able to provide optimal contribution to increasing firm value in the long term.

Research on the role of dividend policy in moderating the relationship between ESG and firm value is still relatively limited, so the results of this study provide new empirical evidence that in energy sector companies, excessively high dividend policy can actually reduce the strength of the positive effect of ESG implementation on firm value. These findings enrich the literature on the relationship between corporate sustainability, dividend policy, and firm value, particularly in

energy sector companies listed on the Indonesia Stock Exchange.

CONCLUSION

Based on the results of data analysis and hypothesis testing, Return on Assets (ROA), Environmental, Social, and Governance (ESG), and dividend policy proxied by Dividend Payout Ratio (DPR) have a positive and significant effect on firm value in energy sector companies listed on the Indonesia Stock Exchange during the 2021–2024 period. Meanwhile, Debt to Equity Ratio (DER) has a negative but insignificant effect on firm value. The research results also show that dividend policy can act as a moderating variable in strengthening the relationship between ROA and firm value as well as between ESG and firm value. However, dividend policy is unable to moderate the relationship between DER and firm value. Thus, this study proves that increased profitability, ESG implementation, and optimal dividend policy are important factors in increasing firm value, while capital structure measured by DER has not shown a significant effect on firm value in the energy sector during the research period. Because the ESG × DPR interaction coefficient is negative and statistically significant, the revised interpretation is that higher dividend payout is associated with a weaker ESG–firm value relationship, not a stronger one.

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AUTHOR CONTRIBUTION STATEMENT

All authors contributed substantially to the conception and design of the study, experimental investigation, data collection, analysis and interpretation of the results, and preparation of the manuscript. All authors participated in reviewing and revising the manuscript, approved the final version for publication, and agreed to be accountable for the accuracy and integrity of the work.

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