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RESEARCH ARTICLE

The Effect of Profitability, Liquidity, And Solvency on Firm Value With Firm Size As A Moderating Variable

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Abstract
This study aims to analyze the effects of profitability, liquidity, and solvency on firm value and to examine the role of firm size as a moderating variable among energy sector companies listed on the Indonesia Stock Exchange (IDX). The study population consists of 29 energy sector companies with a total of 87 observations over the 2022–2024 observation period. The analytical methods used are panel data regression and Moderated Regression Analysis (MRA) to test the relationships among variables and the moderating effects. The results indicate that profitability (ROE) has a positive and significant effect on firm value (PBV), while liquidity (CR) and solvency (DER) do not have a significant effect. The moderation test proves that firm size is only able to moderate the effect of profitability on firm value, but does not moderate the effects of liquidity or solvency. The conclusion of this study confirms that profitability is the main factor considered by investors in evaluating energy sector firms, while liquidity and solvency are not yet significant considerations without being supported by good profit performance.

Keywords
Profitability; Liquidity; Solvency; Firm Value; Firm Size.

1 | INTRODUCTION

The energy sector is a fundamental sector that plays a strategic role in supporting economic stability and capital market activity. Global financial dynamics and external influences such as changes in policy, politics, and demand impact corporate finances, including those of energy sector companies. The energy sector is highly susceptible to fluctuations caused by financial phenomena, with one significant such fluctuation occurring in 2023. Data on the energy sector recorded by the Indonesia Stock Exchange (IDX) in 2023 showed a significant correction in stock prices of 7.84% overall, followed by a further decline of 23.76% in the first quarter of 2023. The decline in the stock index continued as the benchmark coal price plummeted from its peak of $462.75 USD per ton in 2022 to $147.39 USD per ton in 2023. The price decline persisted through the end of 2024, reaching $122.36 USD per ton. The decline in the energy stock sector impacted major companies such as PT Bayan Resources Tbk (BYAN), PT Adro Energi Tbk (ADRO), PT Tambangraya Megah (ITMG), and PT Energi Mega Persada (ENRG), which recorded significant declines throughout 2021–2024. This decline in stock prices reflects a decrease in corporate value that affects investors and other stakeholders. therefore, this phenomenon requires further analysis to help companies prepare for similar occurrences (Tio & Putra Prima, 2022). The decline in corporate value in the energy sector is influenced by numerous factors that impact a company's internal finances. Corporate value serves as a benchmark for a company's performance over a given period, making it a key consideration for many investors and other stakeholders in assessing a company's strengths and weaknesses. Enhancing corporate value is a key objective for companies in maintaining the trust of investors who have invested capital in the company (Tio & Putra Prima, 2022). Attracting investors to invest their capital offers significant potential for improving company performance, building a positive corporate image in the capital market, and increasing company profits (Ferdila *et al*., 2023). Companies face the challenge of maintaining the stability and health of their performance to ensure sound corporate finances (Santi & Sudarsi, 2024). Generally, a company's value can be measured through its financials and is influenced by other internal financial factors, including profitability, liquidity, and solvency ratios. Profitability is a key metric for assessing a company's ability to generate profits. Good corporate performance is often measured by the company's profit generation, the higher the profit generated, the better the company's performance is considered, thereby increasing its value (Alfa Dwi Wahyuningrum & Sunarto, 2023). In the previous studies, indicate that profitability has a significant effect on firm value (Ferdila *et al*., 2023) and (Tio & Putra Prima., 2022) . Whereas another study said state that profitability has a positive but non-significant effect (Santi & Sudarsi, 2024).

Liquidity ratios play a role in assessing a company's ability to meet its short-term obligations. In the previous study (Tio & Putra Prima, 2022), it was stated that liquidity ratios have a significant impact on firm value, whereas (Prima Dewi, 2024) and (Santi & Sudarsi, 2024) found no significant impact. Solvency ratios are used to measure a company's ability to meet its long-term obligations. In the other study (Purnomo *et al*., 2024), it was stated that solvency ratios have an effect on firm value, whereas (Nagian *et al*., 2021) and (Situmorang *et al*., 2026) found no such effect between solvency to firm value. Company size, assessed from all aspects, serves as a benchmark for corporate performance that influences firm value. In this study, company size acts as a moderating factor that strengthens the influence of profitability, liquidity, and solvency on firm value. In the study (Nagian *et al*., 2021), it was stated that firm size can moderate the effects of profitability, capital structure, and liquidity on firm value. However, the other study demonstrated that the moderating effect of firm size on the influence of profitability and liquidity is significantly negative (Pamungkas *et al*., 2024). Based on the findings of previous studies, which have yielded mixed and sometimes conflicting results regarding the relationship between profitability, liquidity, and solvency and firm value, as well as the role of firm size in moderating the effects of these ratios on firm value. Therefore, this study focuses on profitability, liquidity, and solvency ratios in relation to firm value with the aim of testing whether they are interrelated and whether firm size can moderate the variables under study. This study focuses on energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period.

2 | BACKGROUND THEORY

2.1 Signaling Theory

Signaling theory was first developed by Spence (1973) in his article "Job Market Signaling." This theory explains how companies and managers, who possess more internal information about the company, demonstrate strong performance which serves as the signal in this theory. These signals are directed at external parties such as the public and investors. Signals directed at external parties aim to help them better understand the company's performance through data that requires analysis, so that external parties such as investors gain a clearer understanding of the internal situation within the company (Komara *et al*., 2020). Additionally, companies that send signals to external parties gain an advantage by demonstrating the company's positive business prospects, thereby enhancing the company's reputation among external stakeholders (Putri *et al*., 2023).

2.2 Pecking Order Theory

The pecking order theory was first developed by Myers & Majluf (1984) in their article "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have." The Pecking Order Theory (POT) explains firms' preferences in selecting sources of financing. This theory explains that a company's financing decisions follow a hierarchy of priorities in selecting its funding sources, the foundation of this theory is based on dynamic information asymmetry between managers and investors (Ralna P & Gunarsih T, 2024). In this theory, the hierarchy of priorities does not focus solely on internal or external factors. Rather, it recommends that companies prioritize what the company needs at that particular time (Oktaviyanti & Qomariah Muhadjir Anwar, 2023). H1: Profitability affects firm value. According to Signaling Theory, high profitability serves as a positive signal regarding management's ability to manage equity efficiently. This signal boosts investor confidence, reflected in increased demand for stocks and higher stock prices, thereby enhancing the company's value. This aligns with findings from previous studies by Ferdila *et al*. (2023) and Markonah *et al*. (2020), indicating that profitability has a positive and significant effect on firm value. Therefore, the first hypothesis is formulated. H2: Liquidity affects firm value. A high level of liquidity reflects a company's ability to meet its short-term obligations, which directly reduces the risk of default for creditors and investors. Within the framework of Signaling Theory, this condition is perceived as a signal of financial stability and sound cash flow management, thereby enhancing investor confidence in the company's business continuity. This is consistent with findings from a previous study by Situmorang *et al*. (2026), indicating that liquidity ratios impact firm value. However, another study by Prima (2024) found the opposite result. Theoretically, the current ratio (CR) is still considered an important indicator that can influence investors' perceptions of a company's business continuity. Therefore, the second hypothesis, which states that liquidity affects firm value, is proposed.

H3: Solvency affects firm value. A company's capital structure, as reflected by its solvency ratios, has dual implications for risk assessment and returns. According to Trade-Off Theory, the use of debt measured by the Debt-to-Equity Ratio (DER) provides a tax shield on one hand, but on the other hand increases the risk of bankruptcy, which can reduce the company's value. In the context of Signaling Theory, an excessively high DER is often interpreted as a negative signal by investors, as it indicates the company's reliance on risky external financing. This aligns with findings from a previous study by Purnomo *et al*. (2024), which indicates that solvency ratios impact firm value. Conversely, a study by Nagian *et al*. (2021) found the opposite result. Nevertheless, the debt financing structure remains a factor that investors consider when assessing a company's financial health. Therefore, the third hypothesis, which states that solvency influences firm value, is formulated. H4: Profitability, liquidity, and solvency simultaneously influence firm value. Within the framework of Signaling Theory, investors do not rely on a single indicator but rather consider the entire package of information presented in financial statements. Collectively, profitability, liquidity, and solvency ratios provide a holistic view of a company's fundamental condition. Profitability ratios measure a company's ability to generate profits; liquidity ratios assess its ability to meet short-term obligations; and solvency ratios evaluate the management of long-term funding. Thus, the integration of these three variables forms a comprehensive evaluation of investment feasibility. Based on empirical studies by Tio and Putra (2022), it is proven that these three variables simultaneously influence firm value. Therefore, the fourth hypothesis, which states that there is a simultaneous effect, is proposed.

H5: Firm size moderates the effect of profitability on firm value. Company size acts as a reinforcing signal in the relationship between profitability and firm value. According to Signaling Theory, large companies have greater visibility, better access to information, and more stable cash flows than small companies. Therefore, signals of high profitability from large companies are more credible and have a greater impact on firm value appreciation. Investors tend to place greater trust in the profits generated by large-scale companies because they are perceived as more sustainable and have lower volatility. A previous study by Panjaitan and Supriyati (2023) indicates that firm size can amplify the effect of profitability on firm value. Thus, the fifth hypothesis is proposed to examine whether firm size is expected to amplify the effect of profitability on firm value. H6: Firm size moderates the effect of liquidity on firm value. The relationship between liquidity and firm value may weaken as a firm grows larger. Large firms have easier access to capital markets and are therefore less reliant on high internal cash reserves. Liquidity signals become less relevant to investors because they focus more on the effective use of assets than on the ability to meet short-term obligations, which is considered relatively assured in large firms. A previous study by Yuliyanti *et al*. (2022) indicates that firm size does not strengthen the relationship between liquidity and firm value. Theoretically, firm size is expected to weaken the effect of liquidity on firm value because large firms are considered to have more flexible financing capabilities. Based on the findings of Yuliyanti *et al*., which serve as a reference for further analysis, the sixth hypothesis is therefore proposed. H7: Firm size moderates the effect of solvency on firm value. Company size moderates the effect of solvency by mitigating the negative aspects of debt. According to Trade-Off Theory, large companies have a greater capacity to bear debt due to more stable cash flows and assets. Consequently, the risk of bankruptcy resulting from a high debt-to-equity ratio (DER) is lower. Thus, the negative signal from debt may be reduced for large companies because investors believe that these companies are capable of repaying their long-term

obligations. Based on previous research by Nagian *et al*. (2021), company size moderates the effect of capital structure on firm value. Therefore, the seventh hypothesis is proposed.

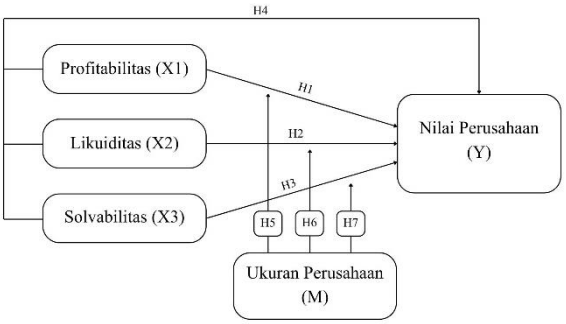

Figure 1. Research Framework

3 | METHOD

This study employs a quantitative approach using a causal-associative research design. The quantitative approach was chosen because the data used consists of secondary numerical data and is analysed using statistical methods. Causal-associative research is used to measure the influence or cause-and-effect relationship among the variables that are the focus of the study, namely the influence of profitability (ROE), liquidity (CR), and solvency (DER) on firm value (PBV), with firm size (Ln of assets) serving as a moderating variable. The research uses panel data that combines cross-sectional and time-series data with an observation from 2022-2024 period. The use of panel data is considered appropriate because it allows the researcher to capture differences in characteristics among companies as well as changes in financial performance over time more comprehensively. The population consists of all energy sector companies listed on the Indonesia Stock Exchange (IDX) for the 2022–2024 period. Purposive sampling was employed, with selection criteria including companies listed on the main board, consistent publication of financial statements from 2022 to 2024, and the availability of complete data for all variables. Based on these criteria, a sample of 29 companies was obtained comprising a total of 87 observations (over a three-year period). The data utilized consists of secondary data from the IDX's official website and audited company financial statements.

Table 1. Sample Criteria and Population

Sample Criteria	Population
Companies in the energy sector listed on the Indonesia Stock Exchange (IDX) for the 2022–2024 period.	91
Energy sector companies listed on the main board of the Indonesia Stock Exchange (IDX).	39
Companies that published their reports prior to 2022 and consistently throughout 2022–2024.	31
Companies that have the necessary data related to the research variables, namely profitability (ROE), liquidity (CR), solvency (DER), firm value (PBV), and firm size (Ln of assets).	29

Data analysis techniques include panel data regression and Moderated Regression Analysis (MRA), processed using Eviews and Excel. The analysis stages include descriptive statistics, selection of the panel data regression model (Chow Test, Hausman Test, and Lagrange Multiplier Test), tests of classical assumptions (normality, multicollinearity, heteroscedasticity), and hypothesis testing (t-test, F-test, and coefficient of determination R^2). MRA was used to test the ability of firm size to moderate the relationship between the independent and dependent variables, with a significance level of 5% ($\alpha = 0.05$).

4 | RESULTS AND DISCUSSION

4.1 Results

4.1.1 Descriptive Statistical

The results of the descriptive statistical analysis provide an overview of the characteristics of the research data, which consists of 87 observations. The price-to-book ratio (PBV) variable has a mean of 2.4975 and a standard deviation of 4.2743, indicating a fairly high degree of variation among companies. Profitability (ROE) has a mean of 0.3879, liquidity (CR) has a mean of 2.3649, solvency (DER) has a mean of 2.0242, and firm size (Ln assets) has a mean of 30.3334.

Table 2. Descriptive Statistical Results

Variable	N	Mean	Minimum	Maximum	Std. Dev
PBV (Y)	87	2.4975	0.0228	23.4875	4.2743
ROE (X1)	87	0.3879	-0.0199	9.3837	1.0455
CR (X2)	87	2.3649	0.5331	12.9829	2.2552
DER (X3)	87	2.0242	0.0473	26.8079	4.5913
LN Aset (Z)	87	30.3334	27.5545	32.7646	1.3112

4.1.2 Model Selection Analysis

The selection of the panel data regression model was conducted through three stages of testing. The results of the Chow test showed a p-value of 0.0000 < 0.05, so the null hypothesis was rejected and the Fixed Effects Model (FEM) was deemed. And for the Hausman test yielded a probability value of 0.3215 > 0.05, indicating that the null hypothesis is not rejected. Thus, the Random Effects Model (REM) is deemed more efficient and consistent than the FEM because there is no significant correlation between unobserved individual effects and the independent variables in the model. The Breusch-Pagan Lagrange Multiplier (LM) test yielded a p-value of 0.0000 < 0.05, so the null hypothesis was rejected, and the Random Effects Model (REM) is more appropriate than the Common Effects Model (CEM). Based on these three tests, it can be concluded that the most suitable model for this study is the Random Effects Model (REM).

Table 3. Model Selection Analysis Results

Model Selection Test	Test Statistic	Degrees of Freedom (df)	Probability	Statistical Decision	Selected Model
Chow Test	F = 22.538577	(28,54)	0.0000	Reject H_0	Fixed Effect Model (FEM)
Hausman Test	χ^2 = 4.682519	4	0.3215	Fail to Reject H_0	Random Effect Model (REM)
Lagrange Multiplier (LM) Test	Breusch–Pagan LM = 609.4481	406	0.0000	Reject H_0	Random Effect Model (REM)

4.1.3 Normality Test

The results of the residual normality test using the Jarque-Bera test show a p-value of 0.071904, which is greater than the significance level of 0.05. Based on this value, it can be concluded that the residuals in the regression model are normally distributed. Therefore, the assumption of normality is met and the model is suitable for further analysis.

Table 4. Normality Test Results

Test	Prob.	Jarque-Bera	Decision
Jarque Bera	0.0719	35.6561	Normal

4.1.4 Multicollinearity Test

Based on the results of the correlation matrix analysis, it can be concluded that the relation between the independent variables and the moderator variable in this study is classified as low to moderate. The correlation between Return on Equity (ROE) and Debt-to-Equity Ratio (DER) shows a positive relation of moderate strength with a coefficient of 0.544933, indicating that an increase in profitability tends to be accompanied by an increase in leverage, yet remains below the multicollinearity threshold. And for the relation between the Current Ratio (CR) and the Debt-to-Equity Ratio (DER) shows a moderate negative correlation with a value of -0.2117, indicating that companies with high liquidity tend to be less dependent on debt. Overall, all correlation coefficients are below 0.80, so it can be concluded that there is no indication of multicollinearity in this research model.

Table 5. Results of the Multicollinearity Test

Variable	ROE (X1)	CR (X2)	DER (X3)	VIF
ROE (X1)	1.0000	-0.0825	0.5449	3,57
CR (X2)	-0.0825	1.0000	-0.2117	3,40
DER (X3)	0.5449	-0.2117	1.000	1,10

4.1.5 Heteroscedasticity Test

Based on the results of the heteroscedasticity test, it can be concluded that all independent variables in the model have probability values <0.05. The fulfillment of this homoscedasticity assumption ensures that the estimation of regression coefficients and hypothesis testing in this study can be conducted efficiently and provide reliable results. This finding

confirms that the regression model has met one of the important assumptions in panel data regression analysis and is deemed suitable for further analysis.

Table 6. Results of the Heteroscedasticity Test

Variable	Prob.
ROE (X1)	0.2741
CR (X2)	0.6676
DER (X3)	0.7761

4.1.6 Panel Data Regression Estimation (REM)

Based on the results of the regression analysis, it can be concluded that Return on Equity (ROE) has a positive and significant effect on firm value, with a coefficient of 0.913143 and a significance level of 0.0003 < 0.05. This finding confirms that any increase in the ability of energy sector firms to generate profits from their equity significantly drives an increase in firm value in the eyes of investors. Thus, H1 is accepted. Conversely, the Current Ratio (CR) has a negative coefficient of -0.010550 with a significance value of 0.9396 (p > 0.05), indicating it does not have a significant effect on firm value. This suggests that the level of a firm's liquidity is not a primary consideration for investors when evaluating energy sector firms, so H2 is rejected. Similarly, the Debt-to-Equity Ratio (DER) shows a negative coefficient of -0.017305 with a significance level of 0.7854 (p > 0.05), meaning its effect on the company's value is not significant. The financing structure reflected by the leverage ratio has not been proven to be a dominant factor influencing the company's value in this sector during the study period. Therefore, H3 is rejected. As for firm size, proxied by the natural logarithm of total assets, it shows a coefficient of 0.598003 with a significance of 0.0210 (p < 0.05), indicating a positive and significant effect on firm value. Every increase in firm size is followed by an increase in firm value, which can be attributed to business stability, broader access to financing, and higher market confidence in large-scale companies. Overall, only profitability and firm size were found to be significant determinants of firm value in the energy sector within this model.

Table 7. Panel Data Regression Estimation Results (REM)

Variable	Coefficient	Std. Error	Sig.
Constant	-15.93614	14.39113	0.2714
ROE (X1)	0.913143	0.243765	0.0003
CR (X2)	-0.010550	0.138916	0.9396
DER (X3)	-0.017305	0.063349	0.7854
LN Aset (Z)	0.598003	0.473363	0.0210

4.1.7 Hypothesis Testing (Partial)

Based on the results of the hypothesis testing partial, it can be concluded that Return on Equity (ROE) has a significant effect on firm value with a significance level of 0.0001 (p < 0.05). This finding confirms that an increase in the ability of energy sector companies to generate profits from their equity significantly drives an increase in firm value in the eyes of investors. Thus, the hypothesis stating that profitability influences firm value is accepted. Conversely, the Current Ratio (CR) was found to have no significant effect on firm value, with a significance level of 0.8602 (p > 0.05). This indicates that liquidity levels or a firm's ability to meet its short-term obligations do not serve as a determining factor in the formation of firm value within the energy sector during the study period. Therefore, the hypothesis regarding the influence of liquidity on firm value is rejected. Similarly, the Debt-to-Equity Ratio (DER) does not show a significant influence on firm value, with a significance value of 0.7612 (p > 0.05). The capital structure reflected by the solvency ratio was not found to have a meaningful impact on investor valuation, even though, theoretically, leverage can affect risk and firm value. Thus, the hypothesis stating that solvency influences firm value is rejected.

Table 8. Hypothesis Testing Results (Partial)

Variable	Prob.
Constant	0.0048
ROE (X1)	0.0001
CR (X2)	0.8602
DER (X3)	0.7612

4.1.8 Hypothesis Testing (Simultaneous)

The F-test results show a statistic value of 9.339331 with a probability of 0.000022, which is less than 0.05. Therefore, it can be concluded that the independent variables have a significant simultaneous effect on the dependent variable. The R-squared value of 0.252373 indicates that 25.24% of the variation in firm value can be explained by the independent

variables in the model. Simultaneously, variables X1, X2, and X3 collectively influence Y because the probability value (F-statistic) is <0.05.

Table 9. Hypothesis Testing Results (Simultaneous)

F-statistic	Prob.	R-squared
9.339331	0.000022	0.252373

4.1.9 Determinant Test

The adjusted R-squared value of 0.225 indicates that Return on Equity (ROE), Current Ratio (CR), and Debt-to-Equity Ratio (DER) collectively explain only 22.5% of the variation in firm value, meaning that approximately 77.5% of the variability cannot be explained by the model. This low explanatory power suggests that the regression model has limited predictive utility. Although the F-test shows that the model is statistically significant as a whole (p = 0.000), most of the variation in firm value within the sample is likely driven by factors outside the current model specification, such as omitted variables, measurement errors, or nonlinear relationships not captured by the linear framework used.

Table 10. Determinant Test Results

R-squared	Adjusted R-squared
0.252373	0.225351

4.1.10 Moderated Regression Analysis (MRA)

The results of the Moderated Regression Analysis (MRA), it was found that the interaction between profitability (X1) and firm size (M) on firm value (Y) has a probability value of 0.000 < 0.05, indicating that firm size moderates the effect of profitability on firm value. Thus, firm size acts as a moderator that strengthens the relationship between profitability and firm value. Furthermore, the interaction between liquidity (X2) and firm size (M) on firm value shows a p-value of 0.887 > 0.05, so it can be concluded that firm size is unable to moderate the effect of liquidity on firm value. This result indicates that firm size actually weakens the relationship between liquidity and firm value. Additionally, the results of the interaction test between solvency (X3) and firm size (M) on firm value show a p-value of 0.771 > 0.05, meaning that firm size also fails to moderate the effect of solvency on firm value. Thus, firm size acts as a moderator that weakens the relationship between solvency and firm value.

Table 11. MRA Test Results

Interaction Variables	Coefficient	Sig.
X1_M (ROE × LN Asset)	0.029915	0.0002
X2_M (CR × LN Asset)	-0.000680	0.8879
X3_M (DER × LN Asset)	-0.000618	0.7710

4.2 Discussion

The study findings reveal that profitability, measured by Return on Equity (ROE), has a positive and significant effect on firm value, indicated by a significance level of 0.000, which is less than 0.05. This confirms that H1 is accepted, as profitability significantly impacts firm value. This result aligns with Markonah *et al*. (2020), who state that profitability is a primary signal for investors evaluating a firm, reflecting its ability to generate profits and future prospects. In contrast, liquidity, represented by the Current Ratio (CR), shows a coefficient of –0.010 and a significance level of 0.939, leading to the rejection of H2, as liquidity does not significantly affect firm value. This suggests that investors do not prioritize the ability to meet short-term obligations when evaluating a firm, consistent with signaling theory, which posits that investors focus more on profit prospects than liquidity ratios. Similarly, solvency, measured by the Debt-to-Equity Ratio (DER), has a coefficient of –0.017 and a significance level of 0.785, resulting in the rejection of H3, indicating that solvency does not significantly influence firm value. This finding aligns with trade-off theory, which suggests that debt utilization can only increase firm value up to an optimal point; beyond that, bankruptcy risk may reduce investor perception. When examining the simultaneous effects of profitability, liquidity, and solvency, the results indicate a significant effect on firm value, leading to the acceptance of H4. This reflects that investors consider a firm's overall financial health rather than just its profitability. The Moderated Regression Analysis (MRA) reveals that firm size significantly strengthens the relationship between profitability and firm value, with a coefficient of 0.0299 and a significance value of 0.000, confirming H5. This supports signaling theory, as high profits from large-scale companies are perceived as more stable and sustainable. Conversely, the interaction between liquidity and firm size shows a coefficient of –0.00068 and a significance value of 0.887, leading to the rejection of H6, indicating that firm size does not moderate the effect of liquidity on firm value. This finding suggests that a high ability to meet short-term obligations is not viewed positively by investors, consistent with

Yuliyanti *et al*. (2022). Finally, the interaction between solvency and firm size has a coefficient of –0.000618 and a significance value of 0.771, resulting in the rejection of H7, indicating that firm size does not moderate the effect of solvency on firm value. This finding does not fully support trade-off theory, as high debt levels are not perceived positively by investors, aligning with Eva and Santoso (2025), who found that leverage does not significantly affect firm value. Overall, these results suggest that investors prioritize profitability and growth prospects over liquidity and debt structures when evaluating firms.

5 | CONCLUSIONS AND FUTURE WORK

This study examines the effect of profitability (ROE), liquidity (CR), and solvency (DER) on firm value (PBV), with firm size as a moderating variable, among energy sector companies listed on the Indonesia Stock Exchange during the 2022–2024 period. Based on panel data regression analysis and Moderated Regression Analysis (MRA), it was found that profitability has a positive and significant effect on firm value, while liquidity and solvency do not have a significant effect. Simultaneously, these three independent variables have a significant effect on firm value. Company size was found to moderate the effect of profitability on firm value but did not moderate the effects of liquidity or solvency. The adjusted R-squared value of 0.225 indicates that 22.5% of the variation in firm value is explained by the independent variables in the model, while the remainder is explained by factors outside the scope of this study. These findings support signaling theory, which posits that high profits serve as a positive signal to investors, particularly when generated by large-scale companies. However, the ability to manage short-term and long-term liabilities is not perceived as a critical signal by investors in the energy sector. This study has several limitations that should be addressed in future research. The observation period covers only three years (2022–2024). Therefore, future studies are advised to extend the time horizon to capture long-term trends and cyclical patterns in the energy sector. Only three independent variables were used (profitability, liquidity, and solvency) with one moderating variable (firm size). Future research could add other variables such as dividend policy, capital structure, corporate governance, or macroeconomic factors to improve the model's explanatory power. The sample is limited to energy sector firms on the IDX, so comparative studies across sectors or countries would enhance the generalizability of the findings. Finally, alternative proxies for firm value (e.g., Tobin's Q) and moderating variables (e.g., firm age or growth opportunities) could be explored to provide deeper insights.

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