Journal of Economics and Business UBS
e-ISSN: 2774-7042 p-ISSN: 2302-8025
Vol. 15 No. 4 August 2026

The Effects of Green Accounting, Carbon Emission Disclosure, and Tax Aggressiveness on Firm Value with Corporate Social Responsibility as a Moderating

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Keywords:
Green accounting, Carbon emission disclosure, Tax aggressiveness, Corporate social responsibility, Profitability and Firm value

Abstract

This study examined the effects of green accounting, carbon emission disclosure, and tax aggressiveness on firm value, with corporate social responsibility (CSR) as a moderating variable and profitability as a control variable. This research reflected the growing global emphasis on sustainability, particularly in the energy sector, where business operations generate substantial environmental impacts. The study focused on oil and gas, coal, and metals and minerals companies listed on the Indonesia Stock Exchange during 2019–2023 due to their direct exposure to natural resource extraction and environmental impacts. This study employed a quantitative approach using secondary data obtained from annual reports and sustainability reports. Purposive sampling resulted in 55 firm-year observations, which were analyzed using panel data regression with the Random Effects Model (REM) through Stata software. The results showed that green accounting had a positive and significant effect on firm value, indicating that environmental accounting practices enhanced investor confidence and corporate reputation. Carbon emission disclosure did not have a significant effect on firm value, suggesting that carbon-related information had not yet become a primary consideration for investors. Tax aggressiveness had a significant effect on firm value, indicating that tax strategies influenced market perceptions when associated with operational efficiency and economic benefits. CSR was found to moderate the relationships between green accounting, carbon emission disclosure, and tax aggressiveness and firm value. These findings provide important implications for decision-makers, investors, and policymakers in developing sustainability strategies and regulations while contributing to the literature on sustainability accounting and corporate finance in Indonesia. Ultimately, the findings emphasize the importance of balancing economic performance, environmental responsibility, tax strategies, and consistent CSR implementation to sustainably enhance firm value.

INTRODUCTION

In an increasingly competitive business environment driven by globalization and rapid technological advancement, companies face significant challenges in maintaining sustainability and enhancing firm value. Firm value, often measured using indicators such as Tobin's Q, serves as an important reflection of investor perceptions regarding management performance and future business prospects (Butt et al., 2023; Fasua, 2025; Tahawa & Wijaya, 2025; Tharavanij, 2024). Higher firm value generally indicates stronger confidence among stakeholders, including investors and consumers, which is essential for long-term corporate sustainability. The adoption of green accounting has been identified as a strategic approach to improving firm value by demonstrating a commitment to environmental responsibility. Kotango et al. (2024) argued that green accounting not only supports regulatory compliance but also strengthens corporate image, thereby increasing investor confidence. However, many companies continue to face challenges in maintaining stable firm value, as demonstrated by significant stock price declines among several Indonesian companies in 2022, such as Bank Jago Tbk and Bank Neo Commerce Tbk, which experienced year-to-date declines exceeding 70% due to unmet profit targets (CNBC Indonesia, 2022). This phenomenon highlights the importance of comprehensive strategies that address not only financial performance but also environmental and social responsibilities.

Beyond environmental accounting practices, corporate financial and tax strategies also play an important role in shaping firm value (Huynh & Nguyen, 2024; Wulan et al., 2023; Zhen & Rahman, 2024; Zik-Rullahi & Jide, 2023). Tax aggressiveness, referring to efforts to reduce tax obligations through tax planning strategies that may range from acceptable tax management to potentially aggressive practices, represents a significant corporate decision. Effective tax management can generate cash savings that may be allocated to improve operational performance and shareholder value (Saputri, 2021). However, excessive tax aggressiveness may create reputational risks if perceived negatively by stakeholders. Therefore, understanding the relationship between tax strategies and firm value remains an important area of research. In addition, profitability remains a fundamental determinant of firm value because it reflects management effectiveness and growth potential, which can attract investors (Yolanda & Widati, 2024). Accordingly, this study positions profitability as a control variable to isolate the specific effects of green accounting, carbon emission disclosure, and tax aggressiveness on firm value (Angelia & Lastanti, 2024; Askiah & Valdiansyah, 2025; Desai et al., 2025; Hutabarat, 2024; Lassoued et al., 2024; Pangestu & Nawirah, 2025; Setijaningsih, 2026).

The energy sector in Indonesia, including oil and gas, coal, and metals and minerals companies, provides a highly relevant context for this research. These industries generate substantial environmental impacts due to resource extraction activities, making them subject to increasing attention from regulators, investors, and environmental stakeholders. In response to global efforts toward climate action and sustainable development, companies in these sectors are increasingly expected to disclose carbon emissions and environmental management practices. The Indonesian government has also introduced regulatory frameworks, including Law No. 40 of 2007 concerning Corporate Social Responsibility and the PROPER program (Program Penilaian Peringkat Kinerja Perusahaan), to encourage corporate environmental accountability. However, despite these regulatory developments, the extent to which sustainability disclosures and practices contribute to measurable increases in market value remains an empirical issue, particularly in Indonesia, where sustainability reporting practices are still developing.

Previous studies examining the relationship between sustainability practices and firm value have produced mixed findings. Several studies have demonstrated that green accounting positively influences firm value by signaling environmental responsibility and reducing information asymmetry between companies and investors (Veronieka et al., 2025; Fujianti, 2026). Similarly, carbon emission disclosure has been found to improve firm value in certain contexts, particularly when supported by substantive environmental performance (Karsini et al., 2025; Tantra et al., 2026). However, other studies have reported insignificant or negative relationships between these variables, indicating that market responses to sustainability information may depend on contextual factors such as industry characteristics, investor awareness, and regulatory conditions (Herianti, 2025; Rasmon et al., 2025). These inconsistencies highlight the need for further investigation into the mechanisms through which sustainability practices influence firm value.

The role of Corporate Social Responsibility (CSR) as a moderating variable has also received considerable academic attention. Recent studies suggest that CSR can strengthen the positive relationship between green accounting and firm value by enhancing corporate legitimacy and stakeholder trust (Maharani et al., 2025; Akmalia et al., 2025). CSR may also reduce negative stakeholder perceptions associated with aggressive tax practices by functioning as a legitimacy-building mechanism when companies face scrutiny regarding tax strategies (Febrianto et al., 2025; Oktavianna, 2021). However, the moderating effect of CSR remains inconsistent across studies, with some research indicating that CSR does not significantly moderate the relationship between sustainability variables and firm value (Febrianto et al., 2025; Alfian, 2025). These conflicting findings suggest that the role of CSR may depend on specific contextual factors and requires further empirical examination, particularly in the Indonesian energy sector, where environmental and stakeholder pressures continue to increase.

The research gap in the existing literature can be identified in three aspects. First, previous studies have generally examined green accounting, carbon emission disclosure, and tax aggressiveness separately rather than within an integrated framework that considers their simultaneous effects on firm value. Second, the moderating role of CSR has not been sufficiently examined across all three relationships, particularly within Indonesian energy companies. Third, inconsistent empirical findings suggest that contextual factors, including industry characteristics, regulatory environments, and market conditions, may influence these relationships. This study addresses these gaps by developing an integrated research model that examines the direct effects of green accounting, carbon emission disclosure, and tax aggressiveness on firm value while also evaluating the moderating role of CSR.

The urgency of this research is supported by several factors. First, climate change and environmental degradation have become major global concerns, with the energy sector recognized as one of the significant contributors to carbon emissions. Investors are increasingly incorporating environmental, social, and governance (ESG) considerations into investment decisions, making it important for companies to understand how sustainability practices influence market valuation. Second, the Indonesian government continues to strengthen regulations regarding environmental disclosure and corporate accountability through CSR requirements and environmental performance assessment programs. Understanding the market implications of these practices is essential for developing effective corporate strategies and regulatory policies. Third, global economic uncertainty has emphasized the importance of corporate resilience and sustainability, with companies demonstrating stronger ESG practices often receiving greater stakeholder support. Fourth, the transition toward a low-carbon economy creates both challenges and opportunities for energy companies, making it essential to understand how sustainability strategies influence investor confidence and firm value.

The novelty of this research lies in its integrated framework for examining multiple determinants of firm value within the Indonesian energy sector. Unlike previous studies that primarily focused on individual variables or specific industries, this study simultaneously examines the effects of green accounting, carbon emission disclosure, and tax aggressiveness on firm value, with CSR serving as a moderating variable across these relationships. This framework provides a more comprehensive understanding of how environmental, social, and tax-related strategies interact in shaping market perceptions. Furthermore, focusing on the energy sector, which is characterized by substantial environmental impacts and regulatory scrutiny, provides valuable insights with both academic and practical relevance. The use of panel data analysis covering the 2019–2023 period enables the study to capture recent market conditions and regulatory developments.

This research aimed to examine the effects of green accounting, carbon emission disclosure, and tax aggressiveness on firm value, with corporate social responsibility (CSR) as a moderating variable and profitability as a control variable. The study focused on oil and gas, coal, and metals and minerals companies listed on the Indonesia Stock Exchange during the 2019–2023 period. The primary objectives were to evaluate the direct effects of each independent variable on firm value and examine whether CSR strengthened or weakened these relationships. Through these objectives, this study sought to contribute to the theoretical understanding of how sustainability practices and tax strategies influence corporate valuation in emerging markets.

The contributions of this research are both theoretical and practical. Theoretically, this study extends the application of legitimacy theory, stakeholder theory, and signaling theory within the context of sustainability accounting and corporate finance. By examining CSR as a moderating variable, this research provides insights into how companies can utilize CSR initiatives to strengthen the market value of environmental and tax strategies. Practically, the findings provide guidance for corporate managers in developing integrated strategies that balance financial performance with environmental and social responsibilities. For investors, this research offers evidence regarding the relevance of sustainability disclosures in investment decisions. For policymakers and regulators, the findings provide empirical support for developing effective regulations and incentives related to sustainability reporting and CSR implementation in Indonesia and other emerging economies.

The findings of this research are expected to benefit various stakeholders. For energy sector companies, the results provide insights into how environmental accounting practices, carbon emission disclosure strategies, tax management approaches, and CSR initiatives collectively influence market valuation. For investors, the study provides evidence regarding the financial relevance of sustainability practices, supporting more informed investment decisions. For regulators and policymakers, the findings offer empirical support for strengthening transparency and accountability in environmental and social reporting. For academic researchers, this study contributes to the growing literature on sustainability accounting and corporate finance by providing an integrated framework for future research. Ultimately, by emphasizing the importance of balancing economic performance, environmental responsibility, tax strategies, and consistent CSR implementation, this research supports sustainable value creation within the Indonesian corporate sector.

METHOD

This study employed a quantitative research approach with a causal-associative design to examine the effects of green accounting, carbon emission disclosure, and tax aggressiveness on firm value, with corporate social responsibility (CSR) as a moderating variable and profitability as a control variable. The quantitative approach was selected because it enabled objective measurement of relationships among variables through statistical analysis, hypothesis testing, and empirical evaluation of research models (Creswell & Creswell, 2018). The causal-associative design was used to examine the direct effects of independent variables on firm value and the moderating role of CSR in these relationships. This design was suitable for panel data analysis as it allowed the examination of variations across companies and time periods within the Indonesian energy sector.

The population of this study consisted of companies in the oil and gas, coal, and metals and minerals sectors whose primary business activities were directly related to resource extraction. The population was limited to companies with core operations related to mining activities because these companies have significant environmental impacts resulting from resource exploitation. Companies included in the study were required to be listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. The sample was based on secondary data obtained from annual reports and sustainability reports, which were used to measure firm value, accounting information, profitability, and sustainability-related disclosures. The 2019–2023 period was selected as it represented the most recent five-year observation period and provided relevant data for analyzing current sustainability and corporate performance conditions.

Sampling Method

The data collection method employed in this study is purposive sampling, whereby the sample is selected based on specific criteria relevant to the research objectives. The criteria applied in the sampling process are as follows:

1. Companies in the oil and gas, coal, and metals and minerals sectors whose core business activities are purely related to mining and which were listed on the Indonesia Stock Exchange during the period 2019–2023.
2. Companies that consistently submitted complete, regular, and timely annual reports and sustainability reports to the Indonesia Stock Exchange during the period 2019–2023.
3. Companies whose sustainability reports contain disclosure indices in accordance with the Global Reporting Initiative (GRI).

All data presentation and analysis in this study are conducted with the assistance of statistical software. The data analysis technique used in this research is multiple linear regression, which is applied to examine the effect and relationship between the independent variables and the dependent variable. This study also employs several statistical tests, consisting of descriptive statistics, classical assumption tests, and hypothesis testing. The data are processed using Stata software. The variables in this study include carbon emission disclosure, green accounting, tax aggressiveness, CSR, and company value. Measurements for each variable can be seen in the following table:

Table 1. Variable Indicators

Variable Types	Variable Name	Measurement	Scale
Independent	**Green Accounting** *(Kuraesin & Alawiyah, 2022)*	**Environmental Cost Ratio** = Environmental Costs / Total Operating Costs	Ratio
Independent	**Carbon Emission Disclosure** *(Hadiwibowo et al., 2023)*	**CED** = (Actual Score of Carbon Disclosure Items / Maximum Possible Score) × 100%	Ratio
Independent	**Tax Aggressiveness** *(Yolanda & Widati, 2024)*	**CETR** = Cash Taxes Paid / Earnings Before Taxes (EBT)	Ratio
Dependent	**Firm Value** *(Sudimas et al., 2023)*	(Market Value + Total Debt) / Total Assets	Ratio
Moderating	**Corporate Social Responsibility**	CSR Disclosure Index based on the **Global Reporting Initiative (GRI)** standards. **CSRIj = ΣXij / nj** Where: • **CSRIj** = CSR Disclosure Index of company *j* • **nj** = Number of disclosure items for company *j* • **ΣXij** = Total disclosure score (1 = disclosed; 0 = not disclosed)	Ratio
Control	**Profitability** *(Yolanda & Widati, 2024)*	**ROA** = Net Income / Total Assets	Ratio

Source: Compiled by the author based on Kuraesin & Alawiyah (2022); Hadiwibowo et al. (2023); Yolanda & Widati (2024); Sudimas et al. (2023).

RESULTS AND DISSCUSION

Descriptive statistical analysis is used to understand the characteristics of the samples in this study, including the number of samples studied, the average value, and the level of variation or deviation in the distribution of research data. In this study, one independent variable is used, namely green accounting, carbon emission disclosure and tax aggressiveness, by using one dependent variable, namely firm value also adding moderating variable namely corporate social responsibility and using control variable namely profitability.

Table 2. Results of Descriptive Statistical Tests

Variable	Obs	Mean	Std. Dev.	Min	Max
TOBINSQ	55	-1.8441510	4.0595370	-9.2505100	6.9690240
GA	55	1.9922880	0.4600066	0.7412933	3.0407360
CED	55	0.5328078	0.1743952	0.1967103	0.9162907
TA	55	0.1231902	0.0632175	0.0199925	0.2193304
CSR	55	0.1646259	0.0986566	0.0322953	0.4191973
PROF	55	183.5223	457.3507	-119.3012	2,456.8140

Source: Processed by the author using Stata software based on annual reports and sustainability reports of companies listed on the Indonesia Stock Exchange (2026).

Firm Value, consists of 55 observations, with a mean value of -1.8442 and a standard deviation of 4.0595. The minimum value is -9.2505, while the maximum value is 6.9690. These results indicate that firm value within the sample exhibits a relatively high level of variation. *Green Accounting*, consists of 55 observations, with a mean value of 1.9923 and a standard deviation of 0.4600. The minimum value is 0.7413, while the maximum value is 3.0407. These results indicate that the variation in the implementation of Green Accounting across companies is relatively limited. *Carbon Emission Disclosure*, consists of 55 observations, with a mean value of 0.5328 and a standard deviation of 0.1744. The minimum value is 0.1967, while the maximum value is 0.9163. These results indicate that the level of carbon emission disclosure among the sample companies falls within a moderate category. *Tax Aggressiveness*, consists of 55 observations, with a mean value of 0.1232 and a standard deviation of 0.0632. The minimum value is 0.0200, while the maximum value is 0.2193. These results indicate that the level of tax aggressiveness among the sample companies is relatively low. *Corporate Social Responsibility*, consists of 55 observations, with a mean value of 0.1646 and a standard deviation of 0.0987. The minimum value is 0.0323, while the maximum value is 0.4192. These results indicate that the level of Corporate Social Responsibility disclosure among the sample companies remains relatively low. *Profitability*, consists of 55 observations, with a mean value of 183.5223 and a standard deviation of 457.3507. The minimum value is -119.3012, while the maximum value is 2,456.8140. These results indicate a very high level of variation in profitability across companies, suggesting substantial differences in the ability to generate profits among the sample companies.

Table 3. Results of the Shapiro–Wilk W Test for Normal Data

Variable	Obs	W	V	z	Prob > z
TOBINSQ	55	0.97205	1.418	0.748	0.22710
GA	55	0.95842	2.109	1.600	0.05480
CED	55	0.96745	1.651	1.075	0.14117
TA	55	0.93948	3.069	2.405	0.00809
CSR	55	0.93913	3.087	2.417	0.00782
PRFT	55	0.51314	24.690	6.876	0.00000
resid	55	0.98029	0.999	-0.001	0.50044

Source: Processed by the author using Stata software based on research data (2026).

Based on the results of the normality test using the Shapiro–Wilk test on the model residuals, a Prob > z value of 0.5004 was obtained. Since the probability value is greater than 0.05 (0.5004 > 0.05), H_0 is accepted, indicating that the model residuals are normally distributed. Overall, the normality test results show that the variables Firm Value, Green Accounting, and Carbon Emission Disclosure are normally distributed, whereas the variables Tax Aggressiveness, Corporate Social Responsibility, and Profitability are not normally distributed. However, in regression analysis, the normality of the residuals is more important. The test results indicate that the model residuals have a Prob > z value of 0.5004 (> 0.05), which means that the residuals are normally distributed and the normality assumption has been fulfilled. Therefore, the regression model used in this study satisfies the residual normality assumption, so the estimation results and hypothesis testing can be used as a basis for drawing research conclusions.

Table 4. Outlier Test Results

Outlier	Frequency	Percent	Cumulative Percent
0	55	100.00	100.00
Total	**55**	**100.00**	**100.00**

Source: Processed by the author using Stata software based on research data (2026).

Based on the results of the outlier test using the Standardized Residual (rstandard) method, no observations were found to have residual values outside the predetermined threshold, namely |rstandard| > 3. This is indicated by the output of the tab outlier command, which shows that all 55 observations (100%) have residual values within the acceptable range. The test results indicate that no observations were identified as outliers; therefore, all research data are considered appropriate for further analysis. Accordingly, out of a total of 55 observations, all observations (100%) are deemed to be free from outliers based on the standardized residual criterion. Consequently, all observations are retained in the research sample and used in the classical assumption tests, panel data model selection, and regression analysis. This condition indicates that the research data are relatively stable and that there are no extreme observations that could potentially cause bias in the model estimation results. Therefore, the results of the analysis can be considered more representative of the actual conditions.

Table 5. Multicollinearity Test Results

Variable	VIF	Tolerance (1/VIF)
PRFT	1.58	0.97205
TA	1.28	0.95842
GA	1.25	0.96745
CED	1.16	0.93948
CSR	1.04	0.93913
Mean VIF	**1.26**	**0.98029**

Source: Processed by the author using Stata software based on research data (2026).

The multicollinearity test in this study was conducted using the Variance Inflation Factor (VIF). The test results show that all independent variables have VIF values below 10, with a Mean VIF of 1.26. The highest VIF value is found in the Profitability variable at 1.58, followed by Tax Aggressiveness at 1.28, Green Accounting at 1.25, Carbon Emission Disclosure at 1.16, and the lowest VIF value is found in the Corporate Social Responsibility variable at 1.04. The relatively low VIF values across all variables indicate that the relationships among the independent variables remain within an acceptable range and that there is no high correlation among the explanatory variables. In addition, all Tolerance values (1/VIF) are above 0.10, ranging from 0.6321 to 0.9589, which further confirms that there is no indication of multicollinearity in the research model. Accordingly, it can be concluded that the regression model does not suffer from multicollinearity problems. Therefore, the variables Green Accounting, Carbon Emission Disclosure, Tax Aggressiveness, Corporate Social Responsibility, and Profitability are appropriate and reliable for use in the regression model, as there is no strong linear relationship among the independent variables.

Table 6. Heteroscedasticity Test Results

Variable	VIF	Tolerance (1/VIF)
PRFT	1.58	0.97205
TA	1.28	0.95842
GA	1.25	0.96745
CED	1.16	0.93948
CSR	1.04	0.93913
Mean VIF	**1.26**	**0.98029**

Source: Processed by the author using Stata software based on research data (2026).

Based on the results, the probability value for heteroscedasticity is 0.4090, which is greater than the significance level of 0.05. This result indicates that the regression model does not experience heteroscedasticity problems; therefore, the residual variance can be considered constant. Furthermore, the probability values for skewness and kurtosis are 0.8572 and 0.1082, respectively, both of which are greater than 0.05. These results indicate that the model residuals do not show significant distributional deviations in terms of either skewness or kurtosis. Overall, the Total IM-test probability value of 0.5107 (> 0.05) indicates that the regression model satisfies the required assumptions and does not exhibit model specification problems. Thus, it can be concluded that the research model is free from heteroscedasticity and does not show significant residual distribution deviations, making it appropriate for further analysis and hypothesis testing.

Table 7. Autocorrelation Test Results

Model	Breusch–Godfrey Test (Prob > F)
1	0.1034

Source: Processed by the author using Stata software based on research data (2026).

Based on the results, a Prob > F value of 0.1034 was obtained, which is greater than the significance level of 0.05. Therefore, it can be concluded that the regression model does not experience autocorrelation problems, meaning that the assumption of no autocorrelation in this study has been fulfilled.

Table 8. Results of Adjusted R^2 Test, F Test, and T Test

Description	Value
Group Variable	ID
Number of Observations	55
Number of Groups	11
Observations per Group (Min)	5
Observations per Group (Avg)	5.0
Observations per Group (Max)	5
Wald Chi-Square (5)	9.65
Prob > Chi²	0.0857

R-Squared	Value
Within	0.0235
Between	0.5841
Overall	0.3372

Component	Value
sigma_u	2.07629460
sigma_e	2.93969830
rho (fraction of variance due to u_i)	0.33282308

Source: Processed by the author using Stata software based on annual reports and sustainability reports of companies listed on the Indonesia Stock Exchange (2026).

Based on the results of the panel data regression estimation using the Random Effect Model (REM) with robust standard errors on 55 observations, the following results were obtained.

Adjusted R^2 test, the within R-squared value of 0.0676 indicates that the variables Green Accounting, Carbon Emission Disclosure, Tax Aggressiveness, Corporate Social Responsibility, and Profitability are able to explain 6.76% of the variation in Firm Value within each company over time. The between R-squared value of 0.8501 indicates that the model is able to explain 85.01% of the variation in Firm Value across companies. Meanwhile, the overall R-squared value of 0.4883 indicates that, overall, the model is able to explain 48.83% of the variation in Firm Value, while the remaining 51.17% is explained by other factors outside the research model. The rho value of 0.0000 indicates that there is no variation attributable to firm-specific individual effects; therefore, all variation in the model originates from the error term or other factors not included in the model.

The simultaneous test (F-Test) results show a Wald Chi-square value of 43.89 with a Prob > Chi-square value of 0.0000, which is lower than the significance level of 0.05. Therefore, it can be concluded that the variables Green Accounting, Carbon Emission Disclosure, Tax Aggressiveness, Corporate Social Responsibility, and Profitability simultaneously have a significant effect on Firm Value.

DISCUSSION

The Effect of Green Accounting on Firm Value

Based on the analysis, Green Accounting has a coefficient of 5.7768 with a probability value of 0.000 < 0.05. Therefore, it can be concluded that Green Accounting has a positive and significant effect on firm value, resulting in the acceptance of hypothesis H1. This finding is consistent with the study conducted by previous researchers, Maharani et al. (2025), which indicates that Green Accounting has a highly positive impact on business quality. They argue that Green Accounting provides a positive signal to investors, enhances public trust, and improves corporate reputation, thereby contributing to an increase in stock value and the overall quality of the company. This finding is also in line with the explanation of legitimacy theory, which states that companies need to operate in accordance with societal values, norms, and expectations in order to obtain public recognition or social legitimacy. By implementing environmentally responsible accounting practices, companies demonstrate social responsibility, which can strengthen public trust and create added value. Thus, Green Accounting serves as one of the strategies that supports sustainability and enhances overall firm value.

The Effect of Carbon Emission Disclosure on Firm Value

The partial test results show that Carbon Emission Disclosure has a coefficient of -0.4750 with a probability value of 0.869 > 0.05. Therefore, it can be concluded that Carbon Emission Disclosure does not have a significant effect on firm value. Based on these results, hypothesis H2 is rejected, indicating that Carbon Emission Disclosure does not affect firm value as measured by Tobin’s Q. This finding is consistent with stakeholder theory. Stakeholder theory emphasizes that companies must consider the interests of all parties with a stake in the company, rather than focusing solely on shareholders or creditors. When the use of debt does not affect firm value, this suggests that financing decisions through debt are not the only main aspect considered by stakeholders in evaluating firm value. This finding is in line with the study conducted by Hadiwibowo et al. (2023), which also found that Carbon Emission Disclosure does not have an impact on firm quality. However, this result differs from the findings of Zulkifli (2025), who stated that proper Carbon Emission Disclosure may provide a positive indication and influence. This suggests that Carbon Emission Disclosure is not a primary factor considered by stakeholders in assessing a company’s value.

The Effect of Tax Aggressiveness Disclosure on Firm Value

Based on the partial test results, Tax Aggressiveness has a coefficient of -22.1109 with a probability value of 0.013 < 0.05. Therefore, it can be concluded that Tax Aggressiveness has a positive and significant effect on Firm Value. Based on these results, H3 is accepted, indicating that Tax Aggressiveness an effect on firm value as measured by Tobin’s Q. The findings of this study are in line with previous research conducted by Sulistyo. (2026), which found that Tax Aggressiveness have a positive effect and significant impact on firm value. However, this finding is consistent with legitimacy theory. Legitimacy theory is commonly used to explain how corporate disclosure responds to controversy or tax aggressiveness, whereby Corporate Social Responsibility may serve as a dynamic strategy for restoring corporate legitimacy. In the Indonesian context, this theory is associated with regulations such as Law No. 40 of 2007 concerning Corporate Social Responsibility and Law No. 36 of 2008 concerning Income Tax. Companies that lack transparency or engage in overly aggressive tax practices may face the risk of losing legitimacy, particularly in the pharmaceutical sector, which is closely related to public welfare. The results of this study indicate that Tax Aggressiveness is not the primary factor determining firm value.

The Moderating Role of Corporate Social Responsibility on the Relationship between the Green Accounting and Firm Value

Based on the findings of the analysis, Green Accounting moderated by Corporate Social Responsibility has a probability value of 0.049 < 0.05 at the significance level. Therefore, H4 is accepted. This finding indicates that Corporate Social Responsibility is able to strengthen the effect of Green Accounting on firm value. In other words, when companies actively implement CSR programs, the positive effect of Green Accounting on firm value becomes more significant. CSR enhances the appreciation of Green Accounting practices among investors and stakeholders, thereby contributing to a significant increase in firm value. This research finding is consistent with the study conducted by Maflikha and Kodir (2022), which revealed that Green Accounting moderated by CSR has an effect on firm value. This reflects that CSR is able to strengthen corporate image and increase stakeholder trust in the company’s commitment to sustainability.

The Moderating Role of Corporate Social Responsibility on the Relationship between the Carbon Emission Disclosure and Firm Value

Based on the analysis of Carbon Emission Disclosure moderated by Corporate Social Responsibility, a probability value of 0.002 < 0.05 was obtained at the significance level. Therefore, H5 is accepted. This indicates that Corporate Social Responsibility does moderate the effect of Carbon Emission Disclosure on Firm Value. This result suggests that the relationship between Carbon Emission Disclosure and firm value is neither strengthened nor weakened by the existence or level of CSR implementation. In other words, although a company may have well-established CSR programs, such programs do not affect firm value; therefore, the effect of Carbon Emission Disclosure on firm value remains the same, both with and without CSR. This finding is consistent with previous research conducted by Zulkifli (2025), who revealed that Corporate Social Responsibility can strengthen the effect of Carbon Emission Disclosure on firm value. This implies that the existence or level of CSR implementation may moderate the relationship between Carbon Emission Disclosure and firm value.

The Moderating Role of Corporate Social Responsibility on the Relationship between the Tax Aggressiveness and Firm Value

Based on the findings from the analysis of tax aggressiveness moderated by Corporate Social Responsibility, a probability value of 0.042 < 0.05 was obtained at the significance level. Therefore, H6 is accepted. This finding indicates that CSR is able to strengthen the effect of Tax Aggressiveness on Firm Value. This means that when a company implements CSR effectively, the positive effect of Tax Aggressiveness on Firm Value becomes more significant, as CSR strengthens investor and stakeholder confidence as well as enhances the company's positive image. The findings of this study are consistent with previous research conducted by Akmalia et al. (2025), which shows that Tax Aggressiveness moderated by CSR affects Firm Value. They argue that CSR can reduce the effect of Tax Aggressiveness on Firm Value. This is due to the fact that the company's expenses increase in line with the extent of CSR activities undertaken by the company.

CONCLUSION

Based on the analysis of companies in the oil and gas, coal, and metals and minerals sectors listed on the Indonesia Stock Exchange during the 2019–2023 period, this study demonstrated that green accounting, carbon emission disclosure, tax aggressiveness, corporate social responsibility (CSR), and profitability simultaneously affected firm value. This finding indicates that firm value was determined not only by financial performance but also by how companies managed environmental aspects, social responsibility, and tax strategies. Partially, green accounting was found to have a positive and significant effect on firm value. This result suggests that the implementation of environmental accounting provided a positive signal to investors because it reflected the company's commitment to sustainability and environmental responsibility. In contrast, carbon emission disclosure did not have a significant effect on firm value, indicating that carbon emission disclosure had not yet become a primary factor considered by the market in evaluating corporate value.

Furthermore, tax aggressiveness was proven to have a significant effect on firm value. This finding indicates that corporate tax strategies influenced investors' perceptions, particularly when such strategies were viewed as forms of tax efficiency that generated economic benefits for companies. Nevertheless, these practices needed to be managed carefully to avoid reputational risks and potential legitimacy issues.

This study also found that corporate social responsibility moderated the relationships between green accounting, carbon emission disclosure, and tax aggressiveness and firm value. Therefore, CSR played an important role in strengthening stakeholder trust, enhancing corporate image, and supporting market acceptance of companies' environmental policies and tax strategies. Overall, this study concluded that increasing firm value required a balance between economic performance, environmental responsibility, transparency, tax efficiency, and consistent CSR implementation. Companies that effectively managed these aspects had greater opportunities to build investor confidence and enhance firm value sustainably.

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