

FIRM SIZE AS A MODERATOR OF THE RELATIONSHIP BETWEEN PROFITABILITY, GREEN ACCOUNTING, CARBON EMISSION DISCLOSURE, AND FIRM VALUE

Nicholas Bintang Satria Dewa¹, Muslimin^{2*}

muslimin.ak@upnjatim.ac.id*

Universitas Pembangunan Nasional "Veteran" Jawa Timur, Indonesia^{1,2}

Accepted:	Reviewed:	Published:
May 24, 2026	June 7, 2026	August 30, 2026

Abstract

This research was conducted to analyze the influence of profitability, green accounting, and carbon emission disclosure (CED) on firm value, with firm size positioned as a moderating variable. The study focused on companies in the basic materials sector listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. From a total population of 92 companies, 14 companies were selected as samples through a purposive sampling method, resulting in 56 observation data collected over four years. The analysis was carried out using Moderated Regression Analysis (MRA). The findings reveal that green accounting has a positive and significant impact on firm value. In contrast, profitability and carbon emission disclosure were not found to significantly affect firm value. In addition, firm size was not able to moderate the relationship between profitability, green accounting, and carbon emission disclosure on firm value, either by strengthening or weakening the effect. These results indicate that the market tends to respond more positively to companies with strong environmental accounting practices, regardless of their size, which aligns with the concepts of Legitimacy Theory and Stakeholder Theory.

Keywords: Carbon Emission Disclosure, Firm Size, Firm Value, Green Accounting, Profitability

*Correspondence Author



By Authors

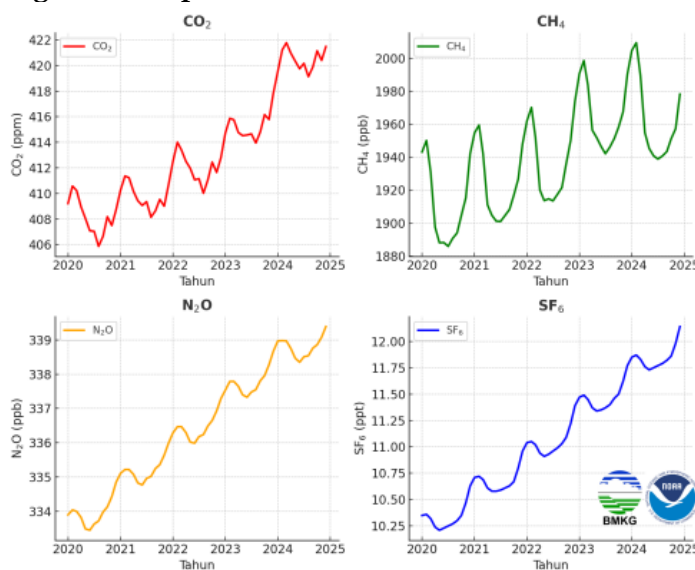
This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

1. Introduction

Every company founded basically has a main organization to generate maximum profits for the sustainability and growth of its business. However, ever-evolving business dynamics are now encouraging companies to not only achieve financial results but also meet their responsibilities for environmental sustainability. The ever-increasing issue of climate change at the global level is

also strengthened by the continuation of the UN Climate Change Conference as a coordination forum between countries in dealing with climate change. This commitment is also supported by a number of international legal instruments such as the Kyoto Protocol, the Paris Agreement and the UNFCCC, which together aim to stabilize greenhouse gas (GHG) concentrations in order to prevent the negative impact of human activities on the Earth's climate system. (Setiawan et al., 2025).

Figure 1. Graph of Indonesian GHG Concentration 2020-2024



Source: Badan Meteorologi Klimatologi Geofisika (2024)

Data shows that greenhouse gas (GHG) concentrations in Indonesia continue to trend upward. Based on the graph above, the pattern of changes that occurred during the 2020-2024 period shows a fairly consistent trend from year to year. In response to these emissions issues, the Indonesian government issued Presidential Regulation No. 98 of 2021 on the harmonization of carbon economic values to support the achievement of national targets in controlling GHG emissions (Alfarizy et al., 2024). Furthermore, the Financial Services Authority (OJK) reaffirmed its commitment to the implementation of sustainability aspects through Regulation No. 51 of 2017. This regulation encourages financial services institutions, issuers, and listed companies to integrate sustainable finance concepts into their business operations. Sustainable finance is understood as the financial services sector's efforts to achieve economic growth while maintaining a balance between economic, social, and environmental factors (Khuriah et al., 2025).

Given these circumstances, companies are encouraged to apply the triple bottom line concept. This business approach emphasizes a balanced relationship between economic, environmental, and social aspects. To maintain the trust of the public and stakeholders, companies must therefore, according to the triple bottom line principle, pay attention not only to profit but also to environmental and social dimensions (Aswangga & Widoretno, 2025). In addition to these factors, Firm Size is also frequently considered an influencing factor on Firm Value. Larger companies generally exhibit more stable operating conditions and better business development, which attracts investor interest and strengthens market confidence. Therefore, many investors tend to invest in large rather than smaller companies (Pohan et al., 2018). The basic materials sector was specifically chosen for this study due to its distinct classification as an environmentally sensitive and highly polluting industry. According to reports from the Institute for Essential Services Reform and the Ministry of Industry, this sector generated 238.1 million tons of greenhouse gases, accounting for 8% to 20% of Indonesia's total emissions from 2015 to 2022. Firm size as a moderating variable, as larger corporations face heightened public visibility and broader stakeholder scrutiny, which theoretically alters how the capital market values their environmental and financial commitments.

In previous research conducted by Setyawan & Ghozali (2025) It was found that profitability has a significant effect on Firm Value. This is in contrast to the findings of research conducted by Aprilia & Wardoyo (2024) where in this study it was found that profitability had no effect on Firm Value. Then, for the research conducted by Pangestu & Nawirah (2025) It was found that green accounting and carbon emission disclosure had no effect on Firm Value. Meanwhile, in the study by Febrianto et al (2025) it was found that green accounting has an effect on Firm Value and research from Maryanti & Zulfah (2025) It was found that carbon emission disclosure had a significant effect on Firm Value.

Title & Researcher	Variable	Result	Research Gap
Carbon Emission Disclosure, Corporate Social Responsibility, Green Accounting : Firm Value Moderated by Profitability (Pangestu & Nawirah, 2025)	Independent: Carbon Emission Disclosure, Corporate Social Responsibility, Green Accounting	While corporate social responsibility significantly drives firm value, carbon disclosures and green accounting exert no direct influence, nor does profitability serve to moderate the impact of these sustainability	In this study, profitability fails to act as a significant moderating variable, showing no empirical capacity to alter the relationship between the independent and dependent variables.

Title & Researcher	Variable	Result	Research Gap
	Dependent: Firm Value Moderation: Profitability	initiatives on corporate valuation.	
Pengaruh Green Accounting, Carbon Emission Disclosure, dan Profitabilitas terhadap Nilai Perusahaan (Fina et al., 2024)	Independent: Green Accounting, Carbon Emission Disclosure, Profitabilitas Dependent: Nilai Perusahaan	The findings indicate that profitability positively drives firm value, whereas green accounting and carbon emission disclosures exhibit no significant empirical impact.	Given the basic direct-effect model and its inconsistencies with prior literature, future research must explore these relationships across diverse contexts to achieve a more comprehensive understanding
Firm-Value Effects of Carbon Emissions and Carbon Disclosures Evidence from Korea (Lee, 2021)	Independent: Carbon Emission Disclosure Dependent: Firm Value	Voluntary carbon disclosures positively drive corporate valuation because markets perceive this transparency as a credible signal of sustainable practices and robust environmental risk mitigation..	This research predominantly focuses on carbon emissions, employing a basic analytical framework limited strictly to direct independent and dependent variables.

Based on previous research, differences in results or inconsistencies between studies addressing similar topics are still found. This situation indicates a research gap that requires further analysis to gain a deeper understanding. Therefore, this study introduces a novel element by adding Firm Size as a moderating variable. This addition is expected to strengthen or weaken the relationship between the independent variables and the dependent variable used in this study. The study also used companies in the basic materials sector and extended the observation period to four years, from 2021 to 2024.

Stakeholder Theory

Stakeholder theory, according to Freeman (1984) explains that companies have close relationships with various stakeholders, both individuals and groups, who can influence or be influenced by the company's activities. These relationships are interconnected because the company and its stakeholders can influence each other. Under Stakeholder Theory, profitability serves as the

critical financial engine that empowers companies to satisfy diverse stakeholder demands, thereby continuously driving overall firm value.

Legitimacy Theory

Dowling (1975) legitimacy theory states that legitimacy plays a crucial role in explaining how organizations interact with their environment, while simultaneously acting as a bridge between the organizational and societal perspectives. Furthermore, legitimacy, together with prevailing social norms, defines the limits of permissible organizational action. Under the lens of Legitimacy Theory, high-polluting firms leverage both green accounting and voluntary carbon disclosures as strategic mechanisms to demonstrate eco-efficiency, mitigate public scrutiny, and safeguard their social license to operate.

The Effect of Profitability on Firm Value

Profitability is often used to assess a company's ability to generate profits from its business activities. Companies with high profitability are generally more attractive to investors, as they are considered profitable, which can increase the share price and the company's value (Wardoyo & Fauziah, 2024). This study measures profitability using the return on assets (ROA). This is a key figure that compares the company's profit to its total assets (Kholmi et al., 2020). As a key efficiency indicator, Return on Assets (ROA) reflects a firm's capacity to generate earnings from its total asset base, evaluating how effectively management converts resources into profit.

H1: Profitability has a effect on firm value

The Effect of *Green Accounting* on Firm Value

In general, green accounting is an approach that integrates operating and environmental costs into business decisions. Environmentally related transactions are recorded just like regular business transactions. The consistent application of green accounting can increase Firm Value and strengthen stakeholder trust (Febrianto et al., 2025). As a relevant alternative metric for green accounting, environmental costs encapsulate all current and projected expenditures incurred due to actual or potential ecological degradation driven by corporate operations.

H2: Green Accounting has a effect on firm value

The Effect of *Carbon Emission Disclosure* on Firm Value

Carbon emission disclosure is considered a strategy that companies can use to strengthen public trust and solidify their legitimacy in society. This type of transparency fosters greater confidence in financial decision-making processes, in contrast to the hidden costs resulting from undisclosed environmental damage. Companies with sound environmental management generally gain the trust of shareholders and consumers more easily. This can positively impact the company's image and overall performance. (Maryanti & Zulfah, 2025). To measure corporate carbon transparency, this study employs the Carbon Disclosure Project (CDP) index, which evaluates five key dimensions: Climate Change Risks and Opportunities (CC), Greenhouse Gas Emissions (GHG), Energy Consumption (EC), Greenhouse Gas Reduction and Costs (RC), and Carbon Emission Accountability (AEC).

H3: Carbon Emission Disclosure has a effect on firm value

The Effect of Profitability on Firm Value with Firm Size as Moderator

Firm Size influences Firm Value, as larger companies generally have better capital management and greater access to financing. This gives them the opportunity to increase profits and value. Therefore, investors tend to prefer larger companies, as they are considered more promising (Pohan et al., 2018). Additionally, the robust capital-raising power of large-cap companies allows management to effectively utilize fresh funds for long-term market value escalation.

H4: Firm Size Moderates the Effect of Profitability on Firm Value with Firm Size Moderation

The Effect of Green Accounting on Firm Value with Firm Size as Moderator

Green accounting refers to the practice of disclosing environmental information in a company's financial statements, including the costs resulting from the environmental impacts of its production activities. Larger companies generally have greater financial and operational capacity to implement green accounting consistently and sustainably (Pratama & Mulyani, 2024). Firm size serves as an indicator of corporate stability, as larger companies leverage established brand recognition and robust networks to market their products more effortlessly than smaller industry peers.

H5: Firm Size Moderates the Effect of Green Accounting on Firm Value with Firm Size Moderation

The Effect of Carbon Emission Disclosure on Firm Value with Firm Size as Moderator

Firm Size indicates the scope of its business activities. The larger the company, the more diversified its activities and resources, and therefore the greater its potential impact on the environment (Kholmi et al., 2020). Based on stakeholder theory and legitimacy theory, large companies are generally more open in disclosing information to the public, as various interest groups demand transparency. Intense stakeholder pressure compels large firms to enhance transparency, leveraging their superior financial and operational resources to comprehensively monitor and disclose their carbon emissions.

H6: Firm Size Moderates the Effect of Carbon Emission Disclosure on Firm Value with Firm Size Moderation

2. Research Method

This study uses a quantitative method, namely a research approach in which data are collected using research instruments to analyze a specific population or sample (Prof. Dr. Sugiyono, 2013). The study population comprised 92 companies operating in the basic materials sector and listed on the Indonesian Stock Exchange (IDX). The sector was selected based on its contribution to CO₂ emissions. Targeted sampling was employed. To ensure sample relevance, companies are exclusively filtered based on their active PROPER participation and sustainability reporting, both of which serve as concrete evidence of corporate environmental responsibility.

Table 1. Sample Selection Based on Criteria

No	Criteria	Total
1	Companies in the basic materials sector that were successively listed on the Indonesian Stock Exchange (IDX) during the period 2021-2024.	92
2	Companies in the basic materials sector that participated in the PROPER program consecutively in the 2021-2024 period.	(60)
3	Companies in the basic materials sector that reported sustainability reports for the period 2021-2024.	(14)
4	Companies that show profits in their financial	(4)

No	Criteria	Total
	statements for the 2021-2024 period.	
Samples that on the criteria		14
Total		56

Source: Research data (2026)

Variable Formula

Variable	Formula	Reference
Firm Value	$Price\ to\ Book\ Value = \frac{Stock\ Market\ Price}{Stock\ Book\ Value} \times 100\%$	(Sidiki & Aritonang, 2025)
Profitability	$ROA = \frac{Net\ Value}{Total\ Assets}$	(Aprilia & Wardoyo, 2024)
Green Accounting	$Environmental\ Costs = \frac{\Sigma\ Environmental\ Costs}{Net\ Value}$	(Haryono & Hasanudin, 2025)
Carbon Emission Disclosure	$CED = \frac{Scores\ Obtained}{Total\ Maximum\ Score} \times 100\%$	(Bae et al., 2013)
Firm Size	$SIZE = Ln\ (Total\ Assets)$	(Suyanto & Nur Amiah, 2021)

Ordinary linear regression was prioritized over panel data regression to maintain a strict focus on examining inter-variable relationships, following the methodological precedents established by prior research. Several analytical steps were performed, including descriptive statistical analyses, testing of classical assumptions, moderated regression analysis (MRA), determination of the coefficient of determination (R^2), and hypothesis testing using t-tests. The moderated regression analysis model used in this study is as follows:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4(X_1*Z) + b_5(X_2*Z) + b_6(X_3*Z) + e$$

3. Result and Discussion

Table 2. Descriptive Statistics Results

Descriptive Statistics					
	N	Minimum	Maksimum	Mean	Std. Deviation
Firm Value (Y)	56	0.2771	7.1311	1.317	1.296
Profitability (X1)	56	0.0089	0.2055	0.070	0.045
Green Accounting (X2)	56	0.0006	0.1424	0.032	0.033
Carbon Emission Disclosure (X3)	56	0.2278	0.8333	0.551	0.152

Descriptive Statistics					
	N	Minimum	Maksimum	Mean	Std. Deviation
Firm Size (Z)	56	27.6390	32.8800	30.192	1.434
Valid N	56				

Source: Research data (2026)

Based on Table 2 above, the data distribution of all research variables shows varying results. Variable Y has an average of 1.317 with a standard deviation of 1.296, reflecting a significant difference in Firm Value between samples. Variables X1 and X2 show low averages of 0.070740 and 0.032958, respectively, indicating that the level of profitability and implementation of green accounting in sample companies is still relatively low. Variable X3 has an average of 0.551587, which describes the level of carbon emission disclosure in the moderate category, while variable Z as a moderator has an average of 30.192648 with relatively small variations, indicating that the size of companies in this research sample tends to be large.

Normality Test

Table 3. Normality Test Results

N	Asymp. Sig (2-tailed)
56	0,200

Source: Research data (2026)

Ghozali (2021) Ghozali explained that data that do not meet the assumption of normal distribution can still be treated by transforming them using natural logarithms to approximate normality. As Table 3 shows, the Kolmogorov-Smirnov test yields a significance level of 0.200, which is above 0.05. Therefore, the data from this study can be considered normally distributed after the data transformation.

Multicollinearity Test

Table 4. Multicollinearity Test Results

No	Variable	Tolerance	VIF	
1	Profitability (X1)	0.784	1.276	There is no Multicollinearity
2	Green Accounting (X2)	0.783	1.277	There is no Multicollinearity
3	Carbon Emission Disclosure (X3)	0.779	1.284	There is no Multicollinearity
4	Firm Size (Z)	0.746	1.341	There is no Multicollinearity

Source: Research data (2026)

Based on the test results in Table 4, all variables have tolerance values above 0.10 and variance inflation factors (VIF) below 10. These results indicate that the research model does not have multicollinearity problems between the independent variables.

Heteroscedasticity Test

Table 5. Heteroscedasticity Test Results

No	Variable	Sig	Provisions	
1	Profitability (X1)	0.988	> 0.05	No Heteroscedasticity Occurs
2	Green Accounting (X2)	0.177		No Heteroscedasticity Occurs
3	Carbon Emission Disclosure (X3)	0.978		No Heteroscedasticity Occurs
4	Firm Size (Z)	0.890		No Heteroscedasticity Occurs

Source: Research data (2026)

According to Table 5, all variables in this study have a significance value above 0.05. Therefore, it can be concluded that the research model shows no signs of heteroscedasticity.

Autocorrelation Test

Table 6. Autocorrelation Test Results

Run Test	
	Unstandardized Residual
Test Value	-0.05456
Cases < Test Value	27
Cases >= Test Value	28
Total Cases	55
Number of Runs	29
Z	0.139
Asymp. Sig. (2-tailed)	0.890

Source: Research data (2026)

The initial results of the Durbin-Watson test showed a d-value of 1.418, which is smaller than dL (1.4201), indicating positive autocorrelation in the model. Therefore, as described Ghazali (2021) by a data transformation using the difference-1 method was performed. After the transformation, the Durbin-Watson value was 2.378, which was in the "no decision" range, so a run test was performed. The run test results yielded a significance level of 0.890, which is

greater than 0.05. Therefore, the regression model can be considered free of autocorrelation.

Moderated Regression Analysis

Table 7. Moderated Regression Analysis Test Results

Coefficients						
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	-0.062	0.045		-1.376	0.175
	DiffX1	0.152	0.083	0.279	1.824	0.075
	DiffX2	0.297	0.057	0.739	5.193	0.001
	DiffX3	-0.306	0.175	-0.247	-1.748	0.087
	DiffZ	0.158	0.073	0.336	2.164	0.036
	DiffX1Z	0.046	0.101	0.069	0.455	0.651
	DiffX2Z	0.041	0.047	0.113	0.872	0.388
	DiffX3Z	0.186	0.130	0.168	1.426	0.160

Source: Research data (2026)

Based on Table 8, the variable “diff” originates from the data transformation process in the autocorrelation test. the regression model equation used in this study can be formulated as follows:

$$Y = -0.062 + 0.152X_1 + 0.297X_2 - 0.306X_3 + 0.158(Z) + 0.046(X_1*Z) + 0.041(X_2*Z) + 0.186(X_3*Z) + e$$

Coefficient of Determination Test (R²)

Table 8. Results of the Determination Coefficient Test (R²)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	0.633	0.400	0.311	0.31593

Source: Research data (2026)

The table above yields a coefficient of determination (R²) of 0.311, or 31.1%. This means that profitability, environmental accounting, carbon emission disclosure, and Firm Size, as moderating variables, can explain 40% of the variance in Firm Value. The remaining 68.9% is influenced by factors not addressed in this study. This moderate percentage suggests that investors in high-pollution sectors heavily weigh other external determinants, such as corporate governance structures, macroeconomic conditions, and structural financial leverage, which warrant further exploration in future research.

***t*-Test**

Based on the results of Table 7, the regression analysis model shows that:

Profitability Has No Effect on Firm Value

Based on the test results, profitability, as measured by Return on Assets (ROA), had no impact on the company's value. Therefore, the hypothesis that profitability influences Firm Value is rejected. These results suggest that a company's profitability does not necessarily influence investor valuation. Investors likely consider other factors when assessing a company's future prospects, such as the economic climate, market sentiment, capital structure, and dividend policy. From a stakeholder theory perspective, these results show that investor expectations do not depend solely on a company's profitability. Investors tend to value companies more holistically, so ROA alone is insufficient to influence market perceptions of Firm Value. High profitability fails to enhance firm value if social accountability is neglected. Structural dynamics in Indonesia heavily influenced how investors valued basic material firms. With the government enforcing downstreaming policies and preparing for a carbon tax (UU No. 7 Tahun 2021), heavy industries face immense future compliance costs. Because adapting to these green regulations requires massive capital spending, high current earnings failed to drive market appreciation as investors prioritized long-term environmental risks. This finding is consistent with the research of Larasati & Gantino (2024), and Aprilia & Wardoyo (2024) who also found no impact of profitability on Firm Value.

Green Accounting Has a Effect on Firm Value

Based on the test results, it was demonstrated that environmental accounting, measured by environmental costs, influences Firm Value. The research hypothesis is thus confirmed. The results indicate that companies investing in environmental management, such as waste management and energy efficiency, experience a positive market response. Environmental costs are viewed not only as operating expenses but also as a long-term investment that can enhance the company's reputation and competitiveness. The findings of this study align with legitimacy theory, which states that companies must conduct their activities in accordance with prevailing societal values and norms to ensure their economic sustainability. Incorporating environmental issues into corporate reporting signals ethical operations, which gains social approval and ultimately drives a significant increase in firm value. By adopting green accounting, heavy-

industry firms simultaneously boost their market valuation through lowered financial risks, optimize operational eco-efficiency to minimize waste costs, and strategically safeguard their social license against upcoming carbon regulations. This is consistent with the research findings of Febrianto et al (2025) who also demonstrated an impact of environmental accounting on Firm Value.

Carbon Emission Disclosure Has No Effect on Firm Value

The test results show that the disclosure of carbon emissions has no impact on Firm Value, thus rejecting the research hypothesis. This suggests that the extent of CO₂ emissions disclosure did not influence investors' valuation of the company. This is likely because investors still pay relatively little attention to carbon emissions information, and the market therefore did not react significantly to the disclosure. Legitimacy theory suggests that carbon disclosures used solely for image maintenance and social approval fail to visibly enhance corporate value when they lack tangible, real-world execution. The lack of impact from carbon disclosures stems from their voluntary nature in Indonesia, which leads to fragmented and low-quality reporting that lacks quantitative comparability. Furthermore, without independent audits, investors in the basic materials sector remain highly skeptical of greenwashing, viewing these reports as mere public relations rather than genuine climate action. Ultimately, this structural limitation is compounded by the relatively low ESG literacy among domestic investors, who still prioritize short-term financial returns over unverified long-term environmental metrics. This is consistent with the research findings of Pangestu & Nawirah (2025), and Fina et al (2024) who also found no impact of carbon emissions disclosure on Firm Value.

Firm Size Is Not Able to Moderate the Relationship Between Profitability and Firm Value

The test results show that firm size cannot moderate the influence of profitability on firm value, thus rejecting the research hypothesis. These results suggest that firm size does not affect the relationship between profitability and firm value. The influence of profitability on firm value therefore tends to remain constant. From a stakeholder theory perspective, these results suggest that investors value a firm's ability to generate profits more highly than its size. Small firms with high efficiency and return on assets (ROA) can attract investors just as well as large firms with comparable profitability. Both massive and smaller firms in this high-profile industry face identical capital intensities and are equally

exposed to volatile global commodity cycles. Consequently, modern investors no longer use firm size as a safety buffer. Instead, they focus entirely on the substantive quality and sustainability of the earnings. If profitability is driven merely by temporary commodity booms, the market will discount the firm's valuation regardless of its corporate scale. This aligns with the findings of the study by Chandra & Hastuti (2022) who also found no moderating influence of firm size on the relationship between profitability and firm value.

Firm Size Is Not Able to Moderate the Relationship Between Green Accounting and Firm Value

Based on the test results, Firm Size did not moderate the impact of environmental accounting on Firm Value, and therefore the research hypothesis was rejected. Although environmental accounting proved to have a significant effect on Firm Value, this effect did not differ between large and small companies. This suggests that implementing environmental accounting can benefit all companies, regardless of their size. The results of this study are consistent with legitimacy theory, which posits that companies of any size can gain social legitimacy by demonstrating a genuine commitment to environmental protection. Environmental responsibility has now become a universal baseline for survival, particularly in high-pollution sectors like basic materials. Today, both small and large firms are equally scrutinized by regulators and supply chains. As a result, the market values the operational eco-efficiency generated by green accounting identically across all organizational sizes, neutralizing any size-based valuation advantage. This aligns with the research findings of Amanda & Triwanti (2026) who also found that Firm Size does not moderate the relationship between environmental accounting and Firm Value.

Firm Size Is Not Able to Moderate the Relationship Between Carbon Emission Disclosure and Firm Value

The test results show that Firm Size did not moderate the impact of CO₂ emissions disclosure on Firm Value, thus rejecting the research hypothesis. The results suggest that the impact of carbon emissions disclosure on Firm Value is relatively equal for large and small companies. However, large companies have greater expertise in managing and communicating CO₂ emissions information to the public. From the perspective of stakeholder and legitimacy theory, the results demonstrate that pressure related to CO₂ emissions affects all companies, regardless of size. Investors, regulators, and the public continue to pay equal attention to a company's carbon footprint management. The voluntary nature of

carbon reporting in Indonesia and the pervasive risk of greenwashing, market participants are highly skeptical. They critically assess the transparency, verifiability, and quantitative metrics of the disclosures. Therefore, a massive corporation publishing a low-quality, boilerplate carbon report will not secure a better market appreciation than a smaller firm. Information quality ultimately outweighs corporate size in determining investor perception. The results also show that the market does not favor large or small companies in the context of CO₂ emissions disclosure.

4. Conclusion

Out of the six hypotheses tested, only environmental costs significantly impact firm value, while both profitability and carbon emission disclosures show no direct effect. Moreover, firm size fails to act as a significant moderator across any of these established relationships. Firms in the basic materials sector should proactively deploy green accounting to optimize eco-efficiency and hedge against regulatory threats, rather than treating it as an administrative routine. Furthermore, eliminating market skepticism requires industry-regulator collaboration to enforce sustainability reports grounded in strictly verified, quantitative carbon metrics. Empirically, this research demonstrates that green accounting functions as a strategic value-driver rather than a mere compliance expense, significantly boosting firm value by enhancing eco-efficiency and investor confidence. However, a primary limitation is the restricted sample size of 14 companies, which stems from the basic materials sector's widespread lack of consistent sustainability reporting and active PROPER participation.

5. References

- Alfarizy, V., Ulfa, S. M., Liyadi, S. S., & Farahiya, Z. (2024). Mekanisme Hukum : Perdagangan Karbon Melalui Bursa Karbon di Indonesia. *UNES LAW REVIEW*, 6(2), 7354–7365. <https://doi.org/https://doi.org/10.31933/unesrev.v6i2>
- Amanda, S. P., & Triwarti, H. (2026). Pengaruh Green Accounting dan Corporate Social Responsibility Terhadap Nilai Perusahaan Dengan Ukuran Perusahaan Sebagai Variabel Moderasi. *Journal of Artificial Intelligence and Digital Business (RIGGS)*, 5(1), 4098–4105.
- Aswangga, F. B., & Widoretno, A. A. (2025). Penerapan Green Accounting , Profitabilitas , dan Good Corporate Governance Terhadap Nilai Perusahaan (Studi Kasus Perusahaan Sektor Food and Beverage yang Terdaftar di Bursa Efek Indonesia Tahun 2021-. 6(1), 61–76. <https://doi.org/10.30595/ratio.v6i1.23922>

- Bae, B., Doowon, C., Jim, L., Choi, B. B., Lee, D., & Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review*, 25(1), 58–79. <https://doi.org/10.1108/01140581311318968>
- Chandra, I., & Hastuti, R. T. (2022). Pengaruh Kepemilikan Manajerial dan Profitabilitas Terhadap Nilai Perusahaan dan Ukuran Perusahaan Sebagai Variabel Moderasi. *Jurnal Multiparadigma Akuntans*, 4(1), 198–207.
- Dowling, J. (1975). ORGANIZATIONAL LEGITIMACY: Social Values and Organizational Behavior between the Organizations seek to establish congruence. *Pacific Sociological Association*, 18(1), 122–136.
- Febrianto, H. G., Pambudi, J. E., Sunaryo, D., Fitriana, A. I., & Dehavilan, S. (2025). Tax Avoidance and Green Accounting in Increasing Firm Value and CSR Practices in Indonesia. *Jurnal Reviu Akuntansi Dan Keuangan*, 15(01), 33–50. <https://doi.org/10.22219/jrak.v15i1.34304>
- Fina, Maulidia, R., & Mustika, I. G. (2024). Pengaruh Green Accounting , Carbon Emission Disclosure , dan Profitabilitas terhadap Nilai Perusahaan. *JURNAL AKUNTANSI DAN KEUANGAN (JAK)*, 12(2), 239–249. <https://doi.org/https://doi.org/10.29103/jak.v12i2.17377> ARTICLE
- Freeman, R. E. (1984). *Strategic Management*.
- Ghozali, I. (2021). *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 26* (10th ed.). Badan Penerbit Universitas Diponegoro.
- Haryono, D. M., & Hasanudin, M. (2025). Pengaruh Green Accounting , Kinerja Corporate Social Responsibility Terhadap Nilai Perusahaan. *Reviu Akuntansi Dan Bisnis Indonesia*, 9(3), 468–483. <https://doi.org/10.18196/rabin.v9i3.25809>
- Kholmi, M., Dewi, A. K. S., & Syam, D. (2020). Environmental Performance, Company Size, Profitability, And Carbon Emission Disclosure Masiyah. *Jurnal Reviu Akuntansi Dan Keuangan*, 10(2), 349–358. <https://doi.org/10.22219/jrak.v10i2.11811>
- Khuriah, N., Oka, D., & Hermawan, A. A. (2025). Evaluasi Penerapan Keuangan Berkelanjutan Berdasarkan POJK Nomor 51 / POJK . 03 / 2017 (Studi Kasus pada Bank Sumsel Babel). *Owner: Riset & Jurnal Akuntansi*, 9, 623–639.
- Larasati, D., & Gantino, R. (2024). Pengaruh Corporate Governance , Leverage , dan Profitabilitas Terhadap Nilai Perusahaan. *Owner: Riset & Jurnal Akuntansi*, 8(4), 4263–4277. <https://doi.org/https://doi.org/10.33395/owner.v8i4.2255> Pengaruh
- Lee, J. (2021). Firm-Value Effects of Carbon Emissions and Carbon Disclosures — Evidence from Korea. *International Journal of Environmental Research and Public Health*, 18, 1–16. <https://doi.org/https://doi.org/10.3390/ijerph182212166> Academic
- Maryanti, E., & Zulfah, N. A. (2025). Carbon Emission Disclosure, Intellectual Capital, Capital Structure on Financial Performance and Firm Value. *Jurnal Reviu Akuntansi Dan Keuangan*, 15(02), 415–439. <https://doi.org/10.22219/jrak.v15i2.33698>

- Pangestu, A. D., & Nawirah. (2025). Carbon Emission Disclosure , Corporate Social Responsibility , Green Accounting : Firm Value Moderated by Profitability. *Owner: Riset & Jurnal Akuntansi*, 9(April), 1175–1186. <https://doi.org/https://doi.org/10.33395/owner.v9i2.2653> Carbon
- Pohan, H. T., Noor, I. N., & Bhakti, Y. F. (2018). Pengaruh Profitabilitas dan Pengungkapan Corporate Social Responsibility Terhadap Nilai Perusahaan Dengan Ukuran Perusahaan Sebagai Variabel Moderasi. *Jurnal Akuntansi Trisakti*, 5(1), 41–52. <http://dx.doi.org/10.25105/jat.v5i1.4850>
- Pratama, Y. N., & Mulyani, S. D. (2024). PENGARUH AKUNTANSI HIJAU, KINERJA LINGKUNGAN DAN LIKUIDITAS TERHADAP PROFITABILITAS DENGAN UKURAN PERUSAHAAN SEBAGAI VARIABEL MODERASI. *Jurnal Ekonomi Trisakti*, 4(1), 595–604. <http://dx.doi.org/10.25105/jet.v4i1.19197>
- Prof. Dr. Sugiyono. (2013). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*.
- Setyawan, C. D., & Ghozali, I. (2025). Pengaruh Profitabilitas terhadap Nilai Perusahaan dengan Corporate Social Responsibility sebagai Variabel Mediasi. *Owner: Riset & Jurnal Akuntansi*, 9(April), 779–788. <https://doi.org/https://doi.org/10.33395/owner.v9i2.2655> Pengaruh
- Sidiki, J. I. P., & Aritonang, R. D. P. (2025). Pengaruh Kebijakan Dividen , Struktur Modal , Ukuran Perusahaan dan Profitabilitas Terhadap Nilai Perusahaan Julio Indra Pratama Sidiki *, Reikman D P Aritonang. *Jurnal Akuntansi Dan Governance*, 6(1), 1–22. <https://doi.org/10.24853/jago.6.1.1-22> SITASI: