

THE MODERATING ROLE OF FIRM SIZE IN THE EFFECT OF GREEN ACCOUNTING ON FINANCIAL PERFORMANCE

Yuke Mega Putri¹⁾, Anny Widiasmara²⁾, Aliffianti Safiria Ayu Ditta³⁾

¹Faculty of Economics and Business, Universitas PGRI Madiun

Email: yukemega27@gmail.com

²Faculty of Economics and Business, Universitas PGRI Madiun

Email: annywidiasmara@unipma.ac.id

³Faculty of Economics and Business, Universitas PGRI Madiun

Email: aliffiantiditta@unipma.ac.id

Abstrak

Penelitian ini bertujuan menganalisis pengaruh *green accounting* terhadap kinerja keuangan, serta menguji peran ukuran perusahaan sebagai variabel moderasi pada hubungan tersebut. objek penelitian mencakup perusahaan sektor energi yang tercatat di Bursa Efek Indonesia (BEI) selama periode 2020-2024. Penelitian menggunakan jenis penelitian kuantitatif dengan data sekunder yang diperoleh dari laporan tahunan. Data dianalisis menggunakan regresi linear berganda dan analisis regresi moderasi dengan bantuan perangkat lunak IBM SPSS Statistik 26. Sampel dalam penelitian ini adalah 58 perusahaan. Hasil penelitian menunjukkan bahwa *green accounting* berpengaruh positif signifikan terhadap kinerja keuangan, ukuran perusahaan mampu memoderasi *green accounting* terhadap kinerja keuangan.

Kata Kunci: *Green Accounting, Kinerja Keuangan, Ukuran Perusahaan*

Abstract

This study aims to determine the effect of green accounting on financial performance. It also aims to test firm size as a moderating variable in the effect of green accounting on financial performance. The study was conducted on companies in the energy sector listed on the Indonesia Stock Exchange (IDX) for the period 2020–2024. This study employed a quantitative research design using secondary data obtained from annual reports. Data analysis was performed using multiple linear regression and moderated regression analysis (MRA) with IBM SPSS 26 software. The sample consisted of 58 companies. The results indicate that green accounting has a significant positive effect on financial performance, and firm size moderates the effect of green accounting on financial performance.

Keywords: *Green Accounting, Financial Performance, Firm Size*

A. INTRODUCTION

1. Background

Amid increasingly competitive business conditions, financial performance provides an important basis for assessing a company's ability to sustain its operations and achieve its objectives. Information on financial performance is relevant to investors, creditors, management, and other stakeholders in assessing the effectiveness of corporate resource utilization and the ability to produce earnings (Shara et al., 2024; Suherman & Khairunnisa, 2024). These conditions are particularly relevant to energy companies listed on the Indonesia Stock Exchange, whose financial performance has fluctuated in response to various operational challenges. PT Medco Energi Internasional Tbk (MEDC) recorded a 60,5% decline in net profit in 2023. A similar decline occurred at PT Sumber Global Energy Tbk (SGER) whose profit decreased by 3,9% in 2024 amid higher operating and financial expenses (Bloomberg Technoz, 2023; Liputan6, 2025). This condition emphasizes the need to examine factors that may contribute to maintaining and improving financial performance among energy-sector companies.

The energy industry represents an important component of national economic development (Maulana et al., 2024). However, activities in this sector are accompanied by environmental risks, particularly because the exploitation of natural resources can contribute to land degradation as well as water and air pollution (Eryanti et al., 2026). One example is PT Bukit Asam Tbk (PTBA), which in 2021 faced an environmental pollution issue involving the Kiahaan River in Tanjung Enim, following reports from local communities and an investigation conducted by the Ministry of Environment and Forestry (KLHK). The incident resulted in an administrative sanction, which was subsequently revoked after the company complied with the required regulations (rmolsumsel, 2022). The incident illustrates the importance for energy companies to strengthen environmental management without compromising their financial performance.

Green accounting can facilitate the incorporation of environmental considerations into companies economic activities (Pertiwi et al., 2023). In this study, green accounting is measured using the PROPER rating as an indicator of corporate environmental management.

Effective management of environmental issues may generate several benefits for companies, including a stronger corporate image, greater stakeholder confidence, improved efficiency, and lower environmental risks, which may ultimately contribute to financial performance (Dura & Suharsono, 2022). However, empirical evidence from previous research has not produced consistent conclusion regarding this relationship, Suyatno et al. (2026) reported a positive relationship between green accounting and financial performance. In contrast Saenggo & Widoretno (2024) did not identify a statistically significant relationship between the two variables. The contrasting empirical evidence provides an opportunity for further investigation of how green accounting relates to corporate financial performance.

Firm size represents another factor that may affect the strength of this relationship. Compared with smaller firms, larger companies may encounter greater environmental scrutiny while also possessing more resources to implement environmental management practices (Wijaya et al., 2024; Wulandari & Akbar, 2025). Consequently, firm size may alter the strength of green accounting relationship with financial performance. Based on this research gap, the present study investigates green accounting in relation to financial performance and evaluates whether firm size alters the strength of that relationship among energy-sector companies listed on the Indonesia Stock Exchange from 2020-2024. This study is expected to contribute to the development of the literature on green accounting and financial performance and to provide considerations for companies and stakeholder in addressing both environmental and financial aspects.

2. Literature Review

Stakeholder theory

Freeman (1984) defines stakeholders as parties that can affect or be affected by an organization's activities and decisions. Stakeholder theory views corporate accountability as extending beyond shareholders to other parties affected by corporate activities, including society and the natural environment (Pranesti et al., 2022). In this study, stakeholder theory explains that companies need to address stakeholder demands through responsible environmental management. The implementation of green accounting can foster a positive

image and enhance a company credibility, thereby potentially supporting its financial performance (Rosaline & Wuryani, 2020).

Financial performance

Financial performance describes the extent to which a company is able to generate profits within a given period (Juniartin & Aji, 2025). It also provides information regarding the effectiveness of corporate resources in producing financial returns (Budiman & Margaretha, 2024). In this research, financial performance is proxied by return on assets (ROA), which indicates a company's ability to generate profits based on its assets (Syalsabilla et al., 2024).

Green Accounting

Green accounting refers to an accounting approach that incorporates environmental considerations into the processes of measurement, recognition, recording, summarization, presentation, and disclosure (Hapsari et al., 2024). From a stakeholder theory, green accounting may represent a company's response to stakeholder expectations concerning environmental responsibility (Chyntia et al., 2025). Green accounting can help companies better manage resources and environmental aspects, as well as enhance their image and stakeholder trust (Mawarni et al., 2024). Such outcomes may generate economic advantages that are reflected in the firm's financial performance. This is consistent with the findings of Aristantya et al. (2025), who found that green accounting has a positive effect on financial performance.

H₁: Green accounting has a positive effect on financial performance.

Firm Size

Companies with larger organizational scale generally attract greater public attention and may consequently face stronger pressure to demonstrate social and environmental responsibility (Digdowiseiso, 2023). Large firms generally possess greater resources and access to financial support (Saragih et al., 2021). Moreover, the greater level of stakeholder attention received by large firms may encourage them to strengthen their environmental management practices (Nur'aini et al., 2026). The availability of these advantages may allow larger firms to implement green accounting more extensively and potentially alter its effect on financial performance.

H₂: Firm size moderates the effect of green accounting on financial performance.

B. METHOD

The research applies a quantitative design to investigate the relationship between green accounting and financial performance, with firm size examined as a moderating factor. The study covers energy-sector companies whose securities were listed on the Indonesia Stock Exchange (IDX) throughout the 2020–2024 observation period. Sample determination followed a purposive procedure, with inclusion based on several criteria established in accordance with the objectives of the study: (1) companies that published annual reports consecutively throughout the study period; and (2) firms that maintained their IDX listing status throughout the 2020–2024 observation period. Following the established sampling criteria, 58 companies were included in the final sample of the study. The collected data were subsequently processed and examined using IBM SPSS Statistics version 26, employing multiple linear regression and Moderated Regression Analysis (MRA) as the main analytical techniques.

C. RESULTS AND DISCUSSIONS**Descriptive Statistics****Table 1. Descriptive Statistic**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Green Accounting	247	0,00	0,78	0,2498	0,32787
Financial Performance	247	-0,14	0,23	0,0421	0,07582
Firm Size	247	24,89	32,72	29,0683	1,65172
Valid N (listwise)	247				

Source: Data processed SPSS 26

Normality Test

Table 2. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		247
Normal Parameters ^{a,b}	Mean	0,0000000
	Std. Deviation	0,07181440
Most Extreme Differences	Absolute	0,049
	Positive	0,049
	Negative	-0,041
Test Statistic		0,049
Asymp. Sig. (2-tailed)		0,200 ^{c,d}

Source: Data processed SPSS 26

The Kolmogorov-Smirnov procedure produces an Asymp. Sig. (2-tailed) value of 0,200. Because this value exceeds the 5% significance threshold, the residuals satisfy the normality assumption required for the regression analysis.

Multicollinearity Test

Table 3. Multicollinearity Test

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Green Accounting	0,598	1,672
	Ukuran Perusahaan	0,598	1,672

Source: Data processed SPSS 26

The collinearity diagnostics produce a tolerance statistic of 0.598 and a VIF of 1.672 for both green accounting and firm size. These statistics remain within the commonly accepted limits, as the tolerance exceeds 0.10 and the VIF is below 10. Accordingly, the explanatory variables do not indicate problematic collinearity.

Heteroscedasticity Test

Table 4. Heteroscedasticity Test

		Coefficients ^a				
Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
		Std. Error				
		B	Error	Beta		
1	(Constant)	0,172	0,062		2,776	0,006
	Green Accounting	0,019	0,011	0,141	1,714	0,088
	Ukuran Perusahaan	-0,004	0,002	-0,155	-1,888	0,060

Source: Data processed SPSS 26

The significance probabilities obtained from the heteroscedasticity assessment are 0.088 for green accounting and 0.060 for firm size. Both values exceed 0.05. Therefore, the estimated model does not provide statistical evidence of heteroscedasticity.

Autocorrelation Test

Table 5. Autocorrelation Test

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,321 ^a	0,103	0,096	0,07211	1,905

Source: Data processed SPSS 26

The regression model yields a Durbin-Watson statistic of 1.905. This figure lies within the interval bounded by dU (1.807085) and 4-dU (2.192915). Since the statistic satisfies the condition $dU < DW < 4-dU$, the residuals are considered free from autocorrelation.

F-test (Goodness of fit)

Table 6. F-test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0,126	1	0,126	23,866	0,000 ^b
	Residual	1,289	245	0,005		
	Total	1,414	246			

a. Dependent Variable: Kinerja Keuangan

b. Predictors: (Constant), Green Accounting

Source: Data processed SPSS 26

The significance value is $0,000 < 0,05$, which means that the regression model used in this study is considered to be a good fit.

T-test (Partial)

Table 7. T-test (Partial)

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0,025	0,006		4,295	0,000
	Green Accounting	0,069	0,014	0,298	4,885	0,000

a. Dependent Variable: Kinerja Keuangan

Source: Data processed SPSS 26

The coefficient estimate for green accounting is 0.069, accompanied by a significance probability of 0.000. The positive coefficient indicates that an increase in green accounting is associated with higher financial performance. Because the probability is below 0.05, the proposed effect is statistically significant; thus, the evidence supports H1.

Moderated Regression Analysis (MRA)

Table 8. Moderated Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0,405	0,134		-3,018	0,003
	GA.UP	-0,026	0,010	-3,385	-2,603	0,010

a. Dependent Variable: Kinerja Keuangan

Source: Data processed SPSS 26

The interaction term between green accounting and firm size (GA.UP) has a significance value of $0,010 < 0,05$ with a B coefficient of -0,026. Thus, it can be concluded that firm size moderated the effect of green accounting on financial performance and H2 is accepted.

Test of the Coefficient of Determination (R^2)

Table 9. Test of the Coefficient of Determinantion

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,357 ^a	0,127	0,116	0,07127

Source: Data processed SPSS 26

The model obtains an adjusted R^2 of 0.116. In substantive terms, the predictors included in the moderated regression model account for 11.6% of the variation in financial performance. The remaining 88.4% represents variation associated with factors that are not incorporated into the present model.

DISCUSSIONS

The Effect of Green Accounting on Financial Performance

The empirical results demonstrate a positive and statistically significant relationship between green accounting and financial performance, providing support for H₁. These findings indicate that the better a company implements green accounting, the better its financial performance will be. The finding is compatible with stakeholder theory, which emphasizes corporate efforts to respond to stakeholder interests and expectations, including those concerning environmental issues. Effective environmental management may strengthen corporate reputation and stakeholder trust while promoting more efficient resource utilization, which can contribute to better financial performance. These present finding also corresponds with Aristantya et al. (2025), who reported a significant positive association between green accounting and financial performance.

Firm Size Moderated the Effect of Green Accounting on Financial Performance

The results indicate a significant moderating role of firm size, with the interaction coefficient showing a negative direction, consequently H₂ is supported. The negative interaction term indicates that the relationship between green accounting and financial performance weakens at higher levels of firm size. Under the stakeholder perspective, large firms are likely to experience greater visibility and stronger demands from their stakeholder. These conditions encourage companies to engage in more extensive environmental management, which may require greater resources and cost to implement. The additional expenditure associated with such initiatives may, particularly in the short term, limit the economic gains obtained from green accounting and weaken its contribution to financial performance.

D. CONCLUSIONS

The empirical findings establish that green accounting positively and significantly affects the financial performance of energy sector companies observed in this study. These results suggest that more extensive green accounting practices are associated with stronger financial performance. The analysis further demonstrates that firm size significantly alters the relationship between green accounting and financial performance, with a negative moderating

direction. The interaction results suggest that the positive effect associated with green accounting becomes less pronounced as firm size increases. This suggests that larger firms face greater demands and scrutiny from stakeholders, meaning that environmental management may require more resources and incur higher costs, thereby reducing the economic benefits realized in the short term.

E. SUGGESTIONS

Subsequent studies may extend the observation period and research coverage to obtain a more comprehensive view of the relationship examined. In addition, future studies may consider using proxies or other variables related to environmental management, as well as different measures of financial performance, to obtain more diverse and indepth results.

REFERENCES

- Aristantya, S., Sairun, A., Simanjuntak, M. S., & Lubis, I. T. (2025). MSME Financial Performance : The Role of Green Accounting, Green Intellectual Capital, and Fintech in the Sustainability of MSMEs. *IJEDR: International Journal of Economics Development Research*, 6(6), 3722–3735.
- Bloomberg Technoz, B. T. (2023). *Usai Amman, Giliran Laba Medco yang Susut 60% Jadi Rp1,7 T*. Bloomberg Technoz. <https://www.bloombergentechnoz.com/detail-news/16939/usai-amman-giliran-laba-medco-yang-susut-60-jadi-rp1-7-t>
- Budiman, & Margaretha, F. (2024). Decoding Financial Performance: The Role of Leverage and Market Risk in Indonesia's LQ45. *Jurnal Akuntansi Dan Keuangan*, 26(2), 118–130. <https://doi.org/10.9744/jak.26.2.118-130>
- Chyntia, E., Maisyarah, S., Maharani, R., & PG, E. G. (2025). Green Accounting and Financial Performance: Evidence From Basic Materials Manufacturing Companies. *Profit : Jurnal Kajian Ekonomi Dan Perbankan Syariah*, 9(2), 506–522. <https://doi.org/10.33650/profit.v9i2.12654>
- Digdowniseiso, K. (2023). The Relationships between Current Ratio, Firm Age, Good Corporate Governance, and Corporate Social Responsibility: The Moderating Effects of Firm Size. *Shirkah: Journal of Economics and Business*, 8(3), 252–267. <https://doi.org/10.22515/shirkah.v8i3.629>
- Dura, J., & Suharsono, R. S. (2022). Application Green Accounting To Sustainable Development Improve Financial Performance Study In Green Industry. *Jurnal Akuntansi*, 26(2), 192–212. <https://doi.org/10.24912/ja.v26i2.893>
- Eryanti, Y., Sulistyaningsih, E., Mar'ati, F. S., & Ervina, N. (2026). Pengaruh Sustainability Report , Green Accounting , dan Green Strategy terhadap Kinerja Keuangan. *EKOMA :*

Jurnal Ekonomi, Manajemen, Akuntansi, 5(3), 3632–3639.

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139192675>.

Hapsari, D. W., Febiana, R., & Ustadi, M. N. (2024). Green Accounting, Leverage, and Cash Holding: Key Factors in Determining Firm Value. *Jurnal Ilmiah Akuntansi*, 9(2), 763–781. <https://doi.org/10.23887/jia.v9i2.84568>

Juniartin, I. T., & Aji, S. S. B. (2025). The Impact of Corporate Social Responsibility Reporting and Environmental Expenditures on Financial Performance. *Jurnal Akuntansi Bisnis*, 18(1), 90–109. <https://doi.org/10.30813/jab.v18i1.7867>

Liputan6. (2025). *Sumber Global Energy Catat Penurunan Laba di 2024*. Liputan6. https://www.liputan6.com/saham/read/5985571/sumber-global-energy-catat-penurunan-laba-di-2024#google_vignette

Maulana, I. A., Budiarto, B., & Ariani, M. (2024). Analisis Energi Terbarukan terhadap Pertumbuhan Ekonomi serta Dampaknya pada Penyerapan Tenaga Kerja di Indonesia Periode Tahun 2012-2022. *Jurnal Ekonomi Efektif*, 6(2), 389–399.

Mawarni, A. L. T., Kurniawati, E. M., & Widjajanto, A. (2024). Unlocking Firm Value through Green Accounting: Insights from the Energy Industry. *Journal of Islamic Finance and Accounting*, 7(2), 129–141. <https://doi.org/10.22515/jifa.v7i2.10087>

Nur'aini, A. E., Pramono, H., Santoso, S. B., & Hapsari, I. (2026). Determinan Pengungkapan Sustainability Report dengan Ukuran Perusahaan sebagai Variabel Moderasi. *Jurnal Akuntansi Dan Keuangan Kontemporer*, 9(1), 62–78.

Pertiwi, D. M., Handajani, L., & Astuti, W. (2023). The Influence of Green Accounting on Company Sustainability Through Environmental Performance in The Consumer Goods Sector. *Jurnal Akuntansi Dan Perpajakan*, 9(2), 324–340.

Pranesti, A., Larasati, K. S., & Widiyanti, A. (2022). Kinerja Keterlanjutan dan Nilai Perusahaan: Sebuah Kajian Teoritis. *Jurnal Ilmiah Universitas Batanghari Jambi*, 22(3), 1624–1631. <https://doi.org/10.33087/jiubj.v22i3.2622>

rmolsumsel. (2022). *Selain Proper Merah Untuk Anak Usahanya, PTBA Ternyata Pernah Disanksi Menteri LHK Atas Pencemaran Lingkungan*. Rmolsumsel. https://www.rmolsumsel.id/selain-proper-merah-untuk-anak-usahanya-ptba-ternyata-pernah-disanksi-menteri-lhk-atas-pencemaran-lingkungan?utm_source=chatgpt.com#google_vignette

Rosaline, V. D., & Wuryani, E. (2020). Pengaruh Penerapan Green Accounting dan Environmental Performance terhadap Economic Performance. *Jurnal Riset Akuntansi Dan Keuangan*, 7(3), 569–578.

Saenggo, A. T. P., & Widoretno, A. A. (2024). Exploring the Impacts of Green Accounting,

- Sustainability Report Disclosure, and Environmental Investment on Financial Performance. *Jurnal Akuntansi, Audit Dan Sistem Informasi Akuntansi*, 8(2), 420–432. <https://doi.org/10.36555/jasa.v8i2.2552>
- Saragih, A. H., Raya, M. N., & Hendrawan, A. (2021). The Moderating Role of Firm Size on the Association between Managerial Ability and Tax Avoidance. *Jurnal ASET (Akuntansi Riset)*, 13(1), 39–49. <https://doi.org/10.17509/jaset.v13i1.30783>
- Shara, Y., Kholis, A., & Ikhsan, A. (2024). Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Pada Bank Syariah Di Malaysia Tahun 2019-2022. *Owner : Riset & Jurnal Akuntansi*, 8(2), 1722–1731. <https://doi.org/10.33395/owner.v8i2.2281>
- Suherman, A. T. H., & Khairunnisa, K. (2024). Pengaruh Employee Stock Ownership Program (ESOP), Ukuran Perusahaan, dan Struktur Modal Terhadap Kinerja Keuangan Perusahaan Pada Perusahaan Non Keuangan Yang Terdaftar di Bursa Efek Indonesia Tahun 2017-2022. *Owner : Riset & Jurnal Akuntansi*, 8(1), 563–572. <https://doi.org/10.33395/owner.v8i1.1900>
- Suyatno, M. I. Y., Asthor, Praptitorini, M. D., & Kusumawardani, A. (2026). The Role of Green Accounting in Enhancing Sustainability Practices in MSMEs in Semarang , Indonesia : Financial Performance Analysis Using the PLS-SEM Approach. *Owner : Riset & Jurnal Akuntansi*, 10(2), 1718–1729. <https://doi.org/https://doi.org/10.33395/owner.v10i2.3193>
- Syalsabilla, A. F., Asiza, S., & Naseer, M. S. (2024). Evaluation Indonesian Financial Performance of Islamic Commercial Bank using Gaussian Mixture Model with Intervention Analysis. *IKONOMIKA: Jurnal Ekonomi Dan Bisnis Islam*, 9(1), 79–96.
- Wijaya, L. I., Sugiarto, L. S., & Sutejo, B. S. (2024). Social Responsibility and Firm Value: The Moderating Role of Firm Size. *Jurnal Manajemen Maranatha*, 23(2), 175–184. <https://doi.org/10.28932/jmm.v23i2.8596>
- Wulandari, L. A., & Akbar, T. (2025). Green Accounting, Company Size, Leverage on Financial Performance: Moderation Role of CSR. *Jurnal ASET (Akuntansi Riset)*, 17(2), 275–288.