



GREEN ACCOUNTING AND ENVIRONMENTAL PERFORMANCE AS DETERMINANTS OF FIRM VALUE: THE MEDIATING ROLE OF PROFITABILITY IN INDONESIAN MINING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE (2020–2024)

Haninun^{*1}, Aulia Malik², Khairudin³
Universitas Bandar Lampung^{1,2,3}
Email: auliamalik00@gmail.com

ABSTRACT

This study investigates whether green accounting and environmental performance influence firm value, while examining profitability as an intervening variable among mining companies listed on the Indonesia Stock Exchange over the 2020–2024 period. A quantitative approach was employed using secondary data obtained from corporate annual reports, sustainability reports, and environmental performance disclosures. The research sample comprised 18 mining companies, resulting in 90 balanced panel observations. Green accounting was represented by a Global Reporting Initiative (GRI)-based disclosure index, environmental performance was assessed using the PROPER rating, profitability was measured by Return on Assets (ROA), and firm value was proxied by Tobin's Q. The empirical analysis utilized a Fixed Effect Model selected through the Chow and Hausman tests, while the mediating role of profitability was examined using the Sobel test. The findings indicate that green accounting does not have a statistically significant effect on either profitability or firm value. Similarly, environmental performance does not significantly influence profitability or firm value. Profitability also fails to demonstrate a significant effect on firm value in the primary model and does not serve as a mediator in the relationship between green accounting, environmental performance, and firm value. Nevertheless, robustness analyses using logarithmic transformation and winsorization reveal a positive and significant relationship between profitability and firm value, whereas the effects of green accounting and environmental performance, as well as the indirect effects through profitability, remain statistically insignificant. These findings suggest that environmental practices within the mining sector have not yet been sufficiently translated into market-based firm value, while profitability remains a fundamental determinant of firm value.

Keywords : *green accounting, environmental performance, PROPER, profitability, firm value.*

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh green accounting dan kinerja lingkungan terhadap nilai perusahaan dengan mempertimbangkan profitabilitas sebagai variabel mediasi pada perusahaan sektor pertambangan yang terdaftar di Bursa Efek Indonesia selama periode 2020–2024. Penelitian ini menggunakan pendekatan kuantitatif dengan memanfaatkan data sekunder yang bersumber dari laporan tahunan, laporan keberlanjutan, dan informasi kinerja lingkungan perusahaan. Sampel penelitian mencakup 18 perusahaan dengan total 90 observasi yang membentuk data panel seimbang. Pengukuran variabel dilakukan melalui indeks pengungkapan berbasis Global Reporting Initiative (GRI) untuk green accounting, peringkat PROPER untuk kinerja lingkungan, Return on Assets (ROA) untuk profitabilitas, serta Tobin's Q untuk nilai perusahaan. Analisis data menggunakan Fixed Effect Model yang ditentukan berdasarkan hasil uji Chow dan uji Hausman, sedangkan pengujian peran mediasi profitabilitas dilakukan dengan uji Sobel. Hasil penelitian menunjukkan bahwa green accounting tidak memberikan pengaruh yang signifikan terhadap profitabilitas maupun nilai perusahaan. Kinerja lingkungan juga tidak menunjukkan pengaruh yang signifikan terhadap profitabilitas dan nilai perusahaan. Selain itu, profitabilitas tidak berpengaruh signifikan terhadap nilai perusahaan pada model utama serta tidak mampu memediasi hubungan antara green accounting dan kinerja lingkungan dengan nilai perusahaan. Namun, hasil pengujian ketegaran melalui transformasi logaritma dan winsorizing menunjukkan adanya pengaruh positif dan signifikan profitabilitas terhadap nilai perusahaan, sedangkan pengaruh green accounting, kinerja lingkungan, dan efek mediasi profitabilitas tetap tidak signifikan. Temuan tersebut mengindikasikan bahwa praktik akuntansi dan kinerja lingkungan pada perusahaan pertambangan belum secara langsung tercermin dalam peningkatan nilai pasar perusahaan, sementara profitabilitas tetap menjadi salah satu faktor fundamental dalam pembentukan nilai perusahaan.

Kata Kunci : *green accounting, kinerja lingkungan, PROPER, profitabilitas, nilai perusahaan.*

INTRODUCTION

Sustainability and corporate environmental responsibility have become increasingly important issues in contemporary business practices. Corporate success is no longer assessed solely from the perspective of financial performance and profit generation, but also from the extent to which companies consider social and environmental consequences in their operations Bahari (2026), This shift is particularly relevant for industries whose activities have substantial environmental impacts, such as the mining sector. Mining companies face growing expectations from investors, regulators, local communities, and other stakeholders to demonstrate responsible environmental management and greater transparency in communicating their environmental practices (Putri et al., 2025).

Consequently, environmental responsibility has increasingly become an important component of corporate strategies for maintaining business sustainability and stakeholder trust (Amimah, 2025; Maurya & Vivek, 2025).

The mining industry has a distinctive relationship with environmental issues because its operational activities directly involve the exploitation of natural resources. Mining operations may contribute to deforestation, land degradation, water pollution, and changes in ecosystems, particularly when extraction activities are conducted intensively. The thesis data indicate that approximately 200,000 hectares of forest in Indonesia experienced forest-cover loss associated with mining activities during 2000–2019, while areas affected by mining activities under various permits and operational arrangements exceeded 500,000 hectares. This condition demonstrates that environmental management is not merely a regulatory obligation for mining companies but also represents a strategic issue related to their long-term sustainability and social acceptance (Greenpeace & Celios, 2024).

In response to increasing environmental pressures, companies have begun incorporating environmental considerations into their accounting practices and corporate reporting through the implementation of *green accounting*. This approach integrates environmental costs, benefits, and impacts into corporate accounting and decision-making processes. Environmental disclosure can also provide stakeholders with information regarding a company's transparency, accountability, and commitment to sustainable business practices. In addition to *green accounting*, environmental performance represents an important indicator of a company's ability to manage the ecological consequences arising from its operations. In Indonesia, corporate environmental performance is commonly assessed through the Program for Environmental Compliance Rating Assessment, known as PROPER, administered by the Ministry of Environment and Forestry (Brigham & Houston, 2019).

Zhang et al. (2021) and Nguyen (2022) From a theoretical perspective, greater environmental disclosure and stronger environmental performance may generate positive signals to investors regarding the quality and sustainability of corporate management. Signaling theory suggests that transparent disclosure of environmental information can reduce information asymmetry between companies and investors and subsequently influence market perceptions. Meanwhile, stakeholder theory emphasizes that corporate responsibilities extend beyond shareholders to include employees, communities, regulators, and the broader environment affected by business activities. Legitimacy theory further suggests that environmental management and disclosure can help companies

maintain social acceptance by demonstrating that their activities are consistent with prevailing social and environmental expectations. Therefore, environmental practices may potentially contribute not only to non-financial performance but also to the creation of long-term economic value. Nevertheless, the relationship between environmental practices and firm value remains inconclusive. Firm value reflects market perceptions concerning a company's current condition and future prospects and, in this study, is represented by Tobin's Q. An interesting phenomenon can be observed among mining companies listed on the Indonesia Stock Exchange, where the average Tobin's Q declined from 2.006 in 2020 to 1.185 in 2023, despite a general improvement in PROPER ratings and the intensity of environmental disclosure during the same period. This pattern suggests a potential disconnect between companies' environmental efforts and the market's valuation of those efforts. It consequently raises an important question as to whether green accounting practices and environmental performance are actually translated into higher firm value, particularly in the mining industry, which is highly exposed to environmental risks.

Rahmawati & Putri (2022) serta Sari & Utama (2023) Profitability may provide an important financial mechanism for explaining the relationship between environmental practices and firm value. Companies with effective environmental management may potentially achieve greater operational efficiency, reduce environmental-related risks and costs, and maintain more sustainable business operations. However, environmental initiatives may not immediately generate a favorable market response when their economic benefits are not reflected in the company's ability to generate profits. Accordingly, profitability is positioned as a mediating variable to examine whether green accounting and environmental performance influence firm value through improvements in financial performance. In this study, profitability is measured using Return on Assets (ROA), green accounting is represented by an environmental disclosure index based on the Global Reporting Initiative (GRI), environmental performance is measured using PROPER ratings, and firm value is assessed using Tobin's Q.

Previous empirical studies have produced inconsistent findings regarding the relationships among *green accounting*, environmental performance, profitability, and firm value. Several studies have reported that environmental disclosure and environmental performance positively contribute to firm value and financial performance. In contrast, other studies have found insignificant relationships or different effects under particular conditions. Previous studies in the Indonesian context have likewise produced mixed findings, including evidence that green accounting may influence firm value while profitability does

not necessarily strengthen such a relationship. These inconsistencies indicate the presence of an empirical research gap that warrants further investigation, particularly within the mining sector, whose operational characteristics and environmental exposure differ considerably from those of other industries.

The research gap is also evident in the relatively limited number of studies examining profitability as a mediating mechanism in the relationship between *green accounting*, environmental performance, and firm value. Existing research has predominantly focused on direct relationships among the variables, leaving the underlying mechanism through which environmental practices may contribute to market value insufficiently explained. This study addresses this gap by simultaneously examining the direct effects of green accounting and environmental performance on firm value and their indirect effects through profitability. The proposed framework positions green accounting and environmental performance as independent variables, profitability as the mediating variable, and firm value as the dependent variable.

This study offers several contributions to the existing literature. First, it incorporates profitability as a mediating mechanism connecting green accounting and environmental performance with firm value rather than examining only direct relationships. Second, environmental performance is measured using PROPER ratings based on official environmental assessment records, providing a more objective representation of corporate environmental performance. Third, the study employs robustness analyses to examine whether the main findings remain consistent under alternative treatments of extreme observations in firm value. Fourth, the analysis focuses specifically on mining companies listed on the Indonesia Stock Exchange over the 2020–2024 period, representing a period characterized by post-pandemic economic adjustments and increasing attention to Environmental, Social, and Governance (ESG) considerations.

Based on this background, this study aims to investigate the effects of green accounting and environmental performance on firm value, with profitability serving as a mediating variable, among mining companies listed on the Indonesia Stock Exchange during 2020–2024. Specifically, the study examines whether green accounting and environmental performance affect profitability, whether both environmental variables influence firm value, whether profitability contributes to firm value, and whether profitability mediates the relationships between environmental practices and firm value. The findings are expected to enrich the literature on environmental accounting and corporate value creation while providing practical insights for companies, investors, and regulators regarding the economic implications of environmental management and disclosure practices.

Literatur Review

Green Accounting

Green accounting refers to an accounting approach that incorporates environmental considerations into corporate accounting and reporting processes. Unlike conventional accounting, which primarily focuses on financial information, this approach also considers environmental costs, impacts, and responsibilities arising from business activities. The implementation of green accounting enables companies to communicate their environmental responsibilities more transparently to stakeholders and provides additional information for evaluating corporate sustainability practices. Environmental disclosure can therefore improve the quality of information available to external stakeholders and support more informed decision-making (Wahyuni et al., 2019; Qian et al., 2018; Fridatien et al., 2026).

In this study, green accounting is measured using an environmental disclosure index based on the Global Reporting Initiative (GRI) Standards. GRI-based disclosure measurement is widely applied to assess the extent to which companies communicate their environmental activities, impacts, and responsibilities to stakeholders (Shaka & Hasyir, 2024; Wiguna et al., 2026). From the perspective of signaling theory, environmental disclosure may provide information regarding management's commitment to environmental responsibility and risk management. Meanwhile, from the legitimacy perspective, environmental disclosure can represent a corporate effort to maintain social acceptance and demonstrate conformity with stakeholder expectations. Recent evidence from environmentally sensitive industries also suggests that environmental practices may function not only as value-creation mechanisms but also as instruments for maintaining corporate legitimacy (Sugitan & Kapojos, 2026).

Environmental Performance

Environmental performance reflects a company's ability to manage the environmental impacts arising from its operational activities. It encompasses the extent to which firms fulfill their environmental responsibilities through pollution control, waste management, efficient resource utilization, and compliance with environmental regulations. This aspect is particularly relevant in the mining industry because mining activities can generate substantial environmental and social impacts, including waste and ecosystem degradation (Gairola et al., 2025).

In this study, environmental performance is measured using the Corporate Performance Rating Program in Environmental Management (PROPER), an environmental performance evaluation program administered by the Indonesian Ministry of Environment and Forestry. PROPER assesses corporate environmental management based on compliance with environmental requirements and efforts

that go beyond regulatory compliance, including pollution control, hazardous waste management, and land-damage prevention (Ministry of Environment and Forestry of the Republic of Indonesia, 2021). A favorable environmental performance can also provide stakeholders with additional information regarding corporate environmental management and has been examined in previous Indonesian research as a factor potentially relevant to market valuation (Sarumpaet et al., 2017).

Profitability

Profitability represents a company's ability to generate earnings through the effective utilization of its available resources and assets. It is commonly used to assess management's effectiveness in utilizing corporate resources to generate economic returns. A higher level of profitability generally indicates greater managerial efficiency in converting company assets into earnings. In this study, profitability is measured using Return on Assets (ROA), which reflects the company's ability to generate profit from the assets under its control. ROA is considered an appropriate measure because it indicates how effectively management utilizes total assets to generate earnings (Kasmir, 2019; Hery, 2020).

Profitability is positioned in this research not only as an indicator of financial performance but also as a mediating variable linking corporate environmental practices to firm value. Theoretically, the implementation of green accounting and improved environmental performance may enhance operational efficiency, reduce environmental risks, and minimize unexpected environmental costs, which may subsequently support profitability (Anggreni et al., 2025). Furthermore, signaling theory suggests that strong financial performance can provide positive information to investors regarding management effectiveness and the company's future prospects. Accordingly, profitability may serve as an intermediary mechanism through which environmental practices generate economic benefits that are ultimately reflected in market-based firm value.

Firm Value

Firm value reflects the market's assessment of a company's financial condition, performance, and future prospects. It represents investors' expectations regarding the company's ability to generate sustainable economic benefits and create long-term value. A higher firm value generally indicates stronger market confidence in the company's performance and growth potential. Therefore, firm value is not solely determined by historical financial performance but also reflects market expectations concerning future profitability, business prospects, and corporate risk (Connelly et al., 2019; Megananda & Prastiwi, 2022).

Recent studies examining environmental disclosure and firm value in Indonesia have also used Tobin's Q to represent market-based firm value, demonstrating its relevance in assessing how investors respond to corporate

environmental and financial information (Megananda & Prastiwi, 2022; Anggreni et al., 2025). Thus, Tobin's Q enables firm value to be evaluated from both the perspective of corporate assets and the market's assessment of future economic prospects. Recent empirical evidence in Indonesian companies indicates that the relationship between environmental practices and firm value may vary depending on industry characteristics, measurement approaches, and the role of financial performance (Anggreni et al., 2025; Lestasi & Baihaqi, 2026). Accordingly, firm value may be influenced not only by financial performance but also by how effectively companies communicate and implement their environmental responsibility.

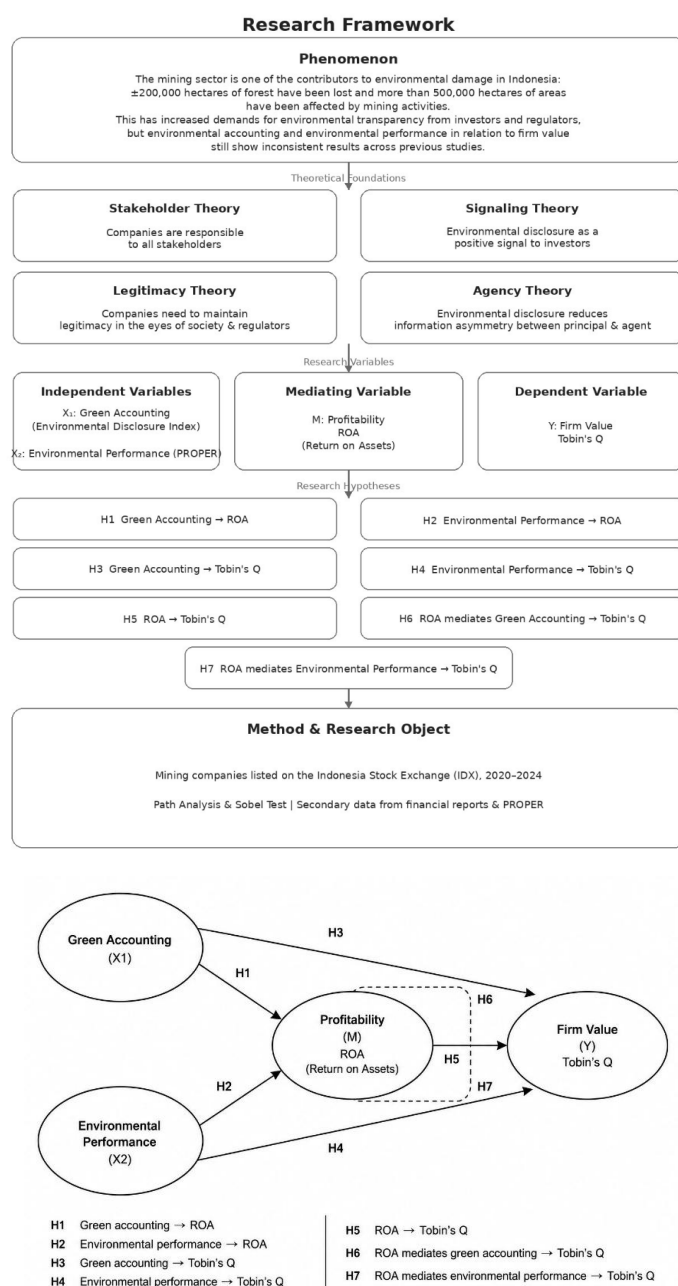


Figure 2. Framework

RESEARCH METHODOLOGY

This study employs a quantitative approach with an explanatory research design to examine the relationships among green accounting, environmental performance, profitability, and firm value. The research focuses on mining companies listed on the Indonesia Stock Exchange (IDX) during 2020–2024. Green accounting is measured using an environmental disclosure index based on 36 items from the GRI 300 series, applying a binary scoring method in which disclosed items receive a score of one and undisclosed items receive zero. Environmental performance is assessed using the PROPER rating issued by the Ministry of Environment and Forestry, converted into a numerical scale from 1 to 5, while the highest rating is used when a company has multiple operating units. Profitability is represented by Return on Assets (ROA), calculated from net income relative to total assets, whereas firm value is measured using Tobin's Q. Firm size is incorporated as a control variable and proxied by the natural logarithm of total assets.

Table 1. Operationalization of Variables

Variable	Type	Indicator	Measurement	Data source
Green accounting (X1)	Independent	Environmental disclosure index (36 GRI items)	Number of environmental items disclosed divided by 36 items; ratio scale (0–1)	Annual reports and sustainability reports
Environmental Performance (X2)	Independent	KLHK PROPER rating (highest rating among operating units)	Gold = 5; Green = 4; Blue = 3; Red = 2; Black = 1; ordinal scale (1–5)	Decrees of the Minister of Environment (SK 460/2020; SK 1307/2021; SK 1299; SK 129/2025)
Profitability (Z)	Mediating	<i>Return on Assets</i>	ROA = Net income / Total assets; ratio scale	Financial statements (IDX)
Firm Value (Y)	Dependent	Tobin's Q	Tobin's Q = MVE / Total assets; MVE = number of outstanding	Financial statements and market data (IDX)

Variable	Type	Indicator	Measurement	Data source
			shares $\times$ year-end closing price; ratio scale	
Firm Size (C)	Control	Ln Total Aset	Natural logarithm of total assets; ratio scale	Laporan keuangan (BEI)

Source: Processed data, 2026

The population consists of 35 mining companies listed on the IDX throughout the 2020–2024 observation period. Samples were selected using purposive sampling based on predetermined criteria, including continuous listing during the research period, availability of complete annual and financial reports, availability of data for all research variables including national PROPER ratings, and the absence of delisting. The selection process resulted in 18 companies, producing 90 firm-year observations and forming a balanced panel dataset. Secondary data were collected through documentation of annual reports, financial statements, sustainability reports, PROPER ratings, and market information obtained from the IDX, company websites, and official environmental publications.

Data analysis was conducted using EViews and began with descriptive statistical analysis, followed by diagnostic testing covering normality, multicollinearity, heteroscedasticity, and autocorrelation. Panel regression was subsequently employed through two models: the first assesses the effects of green accounting and environmental performance on profitability, while the second examines their effects on firm value with profitability included as a mediating variable and firm size as a control variable. The appropriate panel specification was determined using the Chow and Hausman tests, resulting in the Fixed Effect Model (FEM) as the selected estimation method. Hypotheses were evaluated using the t-test, F-test, and adjusted R-squared, while the mediating effect was examined through path analysis and the Sobel test. A robustness analysis was additionally conducted using natural logarithmic transformation and winsorization of Tobin's Q to assess the stability of the findings in the presence of extreme observations.

RESULTS AND DISCUSSION

The Effect of Green Accounting on Firm Value

The empirical results indicate that green accounting does not have a significant effect on firm value; therefore, H3 is not supported. Although the

regression coefficient indicates a positive direction consistent with the theoretical expectation, the magnitude of the relationship is not statistically strong enough to reach the required significance level. This finding suggests that the extent of environmental disclosure has not yet become a primary factor considered by investors when evaluating mining companies in the Indonesian capital market. From the perspective of signaling theory, environmental information should serve as a signal of the quality of corporate management. However, the effectiveness of such signals depends largely on the credibility and relevance of the information disclosed. Sustainability disclosures that remain predominantly narrative and are not fully supported by independent verification may make it difficult for investors to distinguish information that reflects actual environmental practices from disclosures that are primarily symbolic or ceremonial.

From the perspective of legitimacy theory, environmental disclosure can also be interpreted as part of a company's efforts to maintain social acceptance and establish constructive relationships with regulators and communities surrounding its operational areas. The benefits generated by such activities do not necessarily translate into immediate financial outcomes because many of their advantages are realized over a longer period. Therefore, within the five-year observation period, greater environmental disclosure may not have been immediately reflected in stock prices or overall firm value. This condition may explain why green accounting has not demonstrated a statistically significant relationship with firm value.

The Effect of Environmental Performance on Firm Value

Environmental performance, as measured by PROPER ratings, does not have a significant effect on firm value; consequently, H4 is rejected. One possible explanation concerns the characteristics of the *fixed effect model* employed in the analysis. This estimation approach primarily captures changes occurring within the same company over time rather than differences in environmental performance across companies. In the research sample, seven out of eighteen companies maintained relatively stable PROPER ratings throughout the five-year observation period. The limited within-firm variation consequently reduces the ability of the model to identify changes in environmental performance and may weaken the statistical relationship between environmental performance and firm value.

In addition to the limited variation in the data, the dominance of companies receiving a Blue PROPER rating may reduce the informational value of environmental performance for investors. When most companies are concentrated within the same rating category, differences in environmental performance become less useful for distinguishing the relative prospects of individual firms. This condition is particularly relevant because the 2020–2024 period was

characterized by substantial fluctuations in commodity prices, especially coal. The economic pressures associated with the pandemic in 2020, the sharp increase in commodity prices during 2021–2022, and subsequent price corrections made commodity prices and production volumes more dominant factors in shaping market expectations. Consequently, the contribution of environmental performance to firm value may have been relatively obscured.

The Effect of Green Accounting on Profitability

The findings demonstrate that green accounting does not have a significant effect on profitability, leading to the rejection of H1. The implementation of environmental accounting practices may require substantial expenditures, including costs associated with waste management, land reclamation, environmental certification, and the preparation of sustainability reports. Such expenditures may place pressure on short-term earnings, while their economic benefits, including greater resource efficiency, reduced environmental risks, and enhanced corporate reputation, generally require a longer period to materialize. The difference between the timing of costs and the realization of benefits may therefore explain why the net effect of green accounting on profitability is not statistically significant during the observation period.

The findings further indicate that greater environmental disclosure is not necessarily motivated by the objective of generating short-term financial returns. Companies may expand their environmental disclosures to comply with regulations, strengthen their reputation, and respond to the expectations of various stakeholders. From a stakeholder theory perspective, these activities represent efforts to accommodate the interests of groups affected by or involved in corporate operations. Accordingly, the benefits of green accounting may be more apparent in terms of reputation, legitimacy, and risk management than in immediate improvements in profitability.

The Effect of Environmental Performance on Profitability

Environmental performance does not have a statistically significant effect on profitability, and therefore H2 is not supported. Although the estimated coefficient exhibits a negative direction, the relationship does not reach statistical significance. Conceptually, this negative direction may reflect the additional costs associated with achieving higher environmental standards. Companies seeking superior PROPER ratings may need to allocate greater resources to environmental management, including waste treatment facilities, land reclamation, resource efficiency initiatives, and community empowerment programs. In the short term, these additional expenditures may reduce the return generated from the company's assets before the associated economic benefits are realized.

At the same time, the profitability of mining companies during the observation period was strongly influenced by commodity market conditions and

production capacity. The average ROA increased from 0.057 in 2020 to 0.253 in 2022 before declining to 0.125 in 2024, indicating substantial changes in profitability alongside developments in the mining industry. This pattern suggests that commodity prices and production volumes played a more prominent role in determining corporate earnings than variations in environmental performance. Consequently, the contribution of environmental performance to profitability remained relatively limited and was insufficient to produce a statistically significant relationship

The Effect of Profitability on Firm Value

In the main model, profitability does not have a significant effect on firm value, resulting in the rejection of H5. Nevertheless, this finding should be interpreted alongside the robustness analysis conducted in the study. When Tobin's Q was transformed into its natural logarithmic form, profitability exhibited a positive and significant effect on firm value, with a probability value of 0.0004. This difference indicates that the distributional characteristics of firm value may affect the ability of the regression model to identify the relationship between profitability and firm value.

The absence of significance in the main specification may be associated with the highly skewed distribution of Tobin's Q caused by extreme values among several companies. Such observations can increase residual variation and reduce the precision of coefficient estimates. Following the logarithmic transformation, the relationship between profitability and firm value became more apparent and was consistent with the theoretical argument that a firm's ability to generate earnings represents fundamental information considered by investors. The robustness results therefore suggest that profitability is fundamentally associated with firm value, but this relationship was less visible in the initial specification because of the characteristics of the data distribution.

The Mediating Role of Profitability

The Sobel test indicates that profitability does not mediate the relationship between green accounting and firm value or between environmental performance and firm value. Accordingly, H6 and H7 are not supported. The absence of a mediating effect can be explained by the preceding findings, particularly the lack of significant effects of green accounting and environmental performance on profitability. A mediation mechanism requires a meaningful relationship between the independent variable and the mediator, followed by an effect of the mediator on the dependent variable. When the initial pathway is statistically insignificant, the indirect pathway is consequently insufficient to establish a significant mediating effect.

The findings remain consistent when alternative model specifications are applied. Although the logarithmic transformation produces a positive and

significant relationship between profitability and firm value, with a probability value of 0.0004, the effects of green accounting and environmental performance on profitability remain statistically insignificant. Consequently, the indirect pathways through profitability do not satisfy the conditions required to establish a mediation effect. Overall, these findings indicate that environmental practices have not yet generated a value-creation mechanism through increased profitability among Indonesian mining companies during the study period. The economic benefits associated with environmental practices may require a longer time horizon before becoming clearly reflected in financial performance and market-based firm value.

CONCLUSION

1. Green accounting does not significantly affect firm value, indicating that environmental disclosure has not become a decisive consideration for investors in evaluating mining companies.
2. Environmental performance, measured by PROPER ratings, does not significantly affect firm value. Limited variation across periods and the concentration of firms in the Blue category reduce its ability to differentiate companies.
3. Green accounting does not significantly affect profitability, as the costs of environmental accounting tend to offset its short-term efficiency benefits.
4. Environmental performance does not significantly affect profitability, as mining companies' earnings are more strongly influenced by commodity price cycles during the study period.
5. Profitability does not significantly affect firm value in the main model, resulting in the formal rejection of H5. However, robustness tests indicate that extreme values caused this result; after applying logarithmic transformation (prob. 0.0004) and winsorization (prob. 0.0013), profitability has a positive and significant effect on firm value.
6. Profitability does not mediate the effect of green accounting on firm value.
7. Profitability does not mediate the effect of environmental performance on firm value.

IMPLICATION

1. Theoretical Implications

The findings provide a balanced view of signaling and legitimacy theories in the Indonesian capital market. Environmental disclosure and performance do not significantly increase firm value and appear to function more as mechanisms for maintaining social legitimacy. Meanwhile, the positive effect of profitability on firm value supports fundamental valuation theory. The use of a *fixed effect model* also indicates that previously

reported environmental effects may partly reflect firm-specific heterogeneity rather than causal relationships.

2. Practical Implications

For mining companies, environmental disclosure should go beyond compliance by providing measurable information, consistent reporting, and independent assurance to improve credibility. Investors should not rely solely on PROPER ratings or environmental disclosure but also consider fundamental factors such as profitability, asset structure, and commodity price sensitivity. Regulators should strengthen the differentiation of PROPER ratings and improve public access to environmental performance information.

DAFTAR PUSTAKA

- Anggreni, S. M., Sisdiyani, E. A., & Badera, I. D. N. (2025). Enhancing firm value through green accounting and environmental performance: The mediating effect of profitability. *Jurnal Dinamika Akuntansi*, 17(1).
- Atan, R., Alam, M. M., Said, J., & Zamri, M. (2018). The impacts of environmental, social, and governance factors on firm performance: Panel study of Malaysian companies. *Management of Environmental Quality*, 29(2), 182–194.
- Aulia, A., Siahaan, M., & Siregar, J. K. (2025). Green accounting and environmental performance on financial performance: Strategic insights from the mining industry in Indonesia. *Asian Journal of Environmental Research*, 2(1), 16–28.
- Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, 22(S2), S119–S127.
- Benson, N. C., Asuquo, A. I., Inyang, E. O., & Adesola, F. A. (2021). Effect of green accounting on financial performance of oil and gas companies in Nigeria. *Journal of University of Shanghai for Science and Technology*, 23(12), 166–190.
- Brigham, E. F., & Houston, J. F. (2019). *Fundamentals of financial management* (15th ed.). Cengage Learning.
- Broadstock, D. C., Chan, K., Cheng, L. T. W., & Wang, X. (2021). The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Research Letters*, 38, 101716.
- Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality*, 30(1), 98–115.
- Deegan, C. (2019). Legitimacy theory: Despite its enduring popularity and contribution, time is right for a necessary makeover. *Accounting, Auditing & Accountability Journal*, 32(8), 2307–2329.

- Deswanto, R. B., & Siregar, S. V. (2018). The associations between environmental disclosures with financial performance, environmental performance, and firm value. *Social Responsibility Journal*, 14(1), 180–193.
- Dewi, N. N. S., & Rustiarini, N. W. (2024). Sustainability reporting and firm value: Systematic literature review. *Analisis*, 14(2), 218–232.
- Dmytriiev, S. D., Freeman, R. E., & Hörisch, J. (2021). The relationship between stakeholder theory and corporate social responsibility: Differences, similarities, and implications for social issues in management. *Journal of Management Studies*, 58(6), 1441–1470.
- 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.
- Duque-Grisales, E., & Aguilera-Caracuel, J. (2021). Environmental, social and governance (ESG) scores and financial performance of multilatinas: Moderating effects of geographic international diversification and financial slack. *Journal of Business Ethics*, 168(2), 315–334.
- Fan, L., Yang, K., & Liu, L. (2020). New media environment, environmental information disclosure and firm valuation: Evidence from high-polluting enterprises in China. *Journal of Cleaner Production*, 277, 123253.
- Faridzan, M. N., & Fitra, H. (2025). Pengaruh sustainability reporting terhadap nilai perusahaan dengan kinerja keuangan sebagai variabel mediasi: Studi empiris pada perusahaan pertambangan yang terdaftar di Bursa Efek Indonesia tahun 2021–2024. *Jurnal Eksplorasi Akuntansi*, 7(4), 1809–1826.
- Fatemi, A., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, 38, 45–64.
- Fridatien, E., Puspita, A. S., & Ammar, M. (2026). Environmental accounting and corporate disclosure: Global research trends and conceptual clusters. *Jurnal Presipitasi*, 23(1), 219–232.
- Gairola, S. U., Khanduri, A. K., & Bhuvaneswari, V. (2025). *Sustainable mining: Reducing waste and enhancing resource efficiency*. *Discover Civil Engineering*, 2, 75.
- Garcia, A. S., Mendes-Da-Silva, W., & Orsato, R. J. (2017). Sensitive industries produce better ESG performance: Evidence from emerging markets. *Journal of Cleaner Production*, 150, 135–147.
- Gulluscio, C. (2023). Legitimacy theory. In *Encyclopedia of Sustainable Management* (pp. 2209–2215). Springer International Publishing.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Haninun, Lindrianasari, & Denziana, A. (2018). The effect of environmental performance and disclosure on financial performance. *International Journal of Trade and Global Markets*, 11(1–2), 138–148.

- Khan, S., & Gupta, S. (2024). The interplay of sustainability, corporate green accounting and firm financial performance: A meta-analytical investigation. *Sustainability Accounting, Management and Policy Journal*, 15(5), 1038–1066.
- Lako, A. (2018). *Akuntansi hijau: Isu, teori, dan aplikasi*. Salemba Empat.
- Lestari, N. D., Wahyuni, N., & Meldona, M. (2024). The impact of ESG performance on firm value with moderation of corporate sustainable growth rate: Study on JII indexed companies for the 2021–2023 period. *Jurnal Ilmiah Ekonomi Islam*, 10(3), 3109–3118.
- Lestasi, D., & Baihaqi, B. (2026). Greenhouse gas disclosure, environmental performance, and firm value: Evidence from Indonesian mining firms. *CURRENT: Jurnal Kajian Akuntansi dan Bisnis Terkini*, 7(1), 15–32.
- Maria, E., & Elisabeth, Y. (2022). Analisis penerapan green accounting dan kinerja lingkungan terhadap harga saham melalui profitabilitas perusahaan. *Dinamika Ekonomi: Jurnal Ekonomi dan Bisnis*, 15(2), 375–392.
- Megananda, G. S., & Prastiwi, A. (2022). The role of profitability in the relationship between environmental disclosure and firm value. *AKUMULASI: Indonesian Journal of Applied Accounting and Finance*.
- Ministry of Environment and Forestry of the Republic of Indonesia. (2021). *Program Penilaian Peringkat Kinerja Perusahaan dalam Pengelolaan Lingkungan Hidup (PROPER)*. Permen LHK No. 1 Tahun 2021.
- Mohiuddin, A. K. (2026). *Global deforestation in focus: Uncovering the scale and forces behind deforestation*.
- Nakyeyune, G. K., Bananuka, J., Tumwebaze, Z., & Kezaabu, S. (2023). Knowledge management practices and sustainability reporting: The mediating role of intellectual capital. *Journal of Money and Business*, 3(1), 1–24.
- Nguyen, D. T., Hoang, T. G., & Tran, H. G. (2022). Help or hurt? The impact of ESG on firm performance in S&P 500 non-financial firms. *Australasian Accounting, Business and Finance Journal*, 16(2).
- Pratiwi, N., & Rahayu, Y. (2018). Pengaruh penerapan green accounting terhadap pertumbuhan harga saham dengan profitabilitas sebagai variabel moderating. *Jurnal Ilmu dan Riset Akuntansi (JIRA)*, 7(8).
- Qian, W., Burritt, R., & Monroe, G. (2018). Environmental management accounting in local government: A case of waste management. *Accounting, Auditing & Accountability Journal*, 31(1), 93–128.
- Riyadh, H. A., Al-Shmam, M. A., Huang, H. H., Gunawan, B., & Alfaiza, S. A. (2020). The analysis of green accounting cost impact on corporations financial performance. *International Journal of Energy Economics and Policy*, 10(6), 421–426.

- Sari, N., & Astari, T. A. (2023). Green accounting implementation on the improvement of company financial performance. *International Journal of Business, Humanities, Education and Social Sciences (IJBHES)*, 5(1), 1-7.
- Sarumpaet, S., Nelwan, M. L., & Dewi, D. N. (2017). The value relevance of environmental performance: Evidence from Indonesia. *Social Responsibility Journal*, 13(4), 817-827.
- Shaka, K. A., & Hasyir, D. A. (2024). Pengaruh pengungkapan green accounting pada sustainability report terhadap respon investor. *Jurnal Riset Akuntansi*, 3(2).
- Sugitan, I. G., & Kapojos, P. M. (2026). Do environmental practices create value or legitimacy? Evidence from green accounting and environmental performance in Indonesia's energy sector. *Riset Akuntansi dan Manajemen Pragmatis*, 4(1), 11-21.
- Tabachnick, B. G., & Fidell, L. S. (2019). *Using multivariate statistics* (7th ed.). Pearson.
- Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, 8(2), 169-178.
- Wahyuni, S., Meutia, I., & Syamsurijal. (2019). The effect of green accounting implementation on improving the environmental performance of mining and energy companies in Indonesia. *Binus Business Review*, 10(2).
- Whelan, T., Atz, U., Van Holt, T., & Clark, C. (2021). *ESG and financial performance: Uncovering the relationship by aggregating evidence from 1,000 plus studies published between 2015-2020*. NYU Stern Center for Sustainable Business.
- Wiguna, N. P., Sriwidharmanely, & Usman, B. (2026). Green accounting and firm value: The moderating role of external assurance in Indonesia. *Jurnal Akuntansi dan Auditing Indonesia*, 30(1).
- Winardi, E. A., & Putri, M. R. (2024). The abundance of marine plastic debris in Indonesia's ocean. *IOP Conference Series: Earth and Environmental Science*, 1350(1), 012014.
- World Bank. (2023). *Marine plastic debris in Indonesia*. World Bank.
- Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2019). Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, 28(2), 286-300.