



The Effect of Green Investment, Green Innovation, and Environmental Performance on Firm Value through Profitability as an Intervening Variable (LQ45 Category Mining Sector Companies Listed on the Indonesia Stock Exchange for the Period 2020-2024)

Ninka Dearani^{1*}, Mulyanto Nugroho², Nekky Rahmiyati³

Fakultas Ekonomi dan Bisnis, Universitas 17 Agustus 1945 Surabaya, Indonesia

Corresponding Author: Ninka Dearani ninkadearani@gmail.com

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ABSTRACT

This study aims to examine and analyze the influence of green investment, green innovation, and environmental performance on firm value, with profitability serving as a mediating variable. A quantitative research approach was employed, utilizing data from annual reports. The population of the study consisted of mining sub-sector companies within the LQ45 index listed on the Indonesia Stock Exchange, totaling 45 companies. The sample was selected using purposive sampling, resulting in 9 companies observed over a 4-year period. The analysis was conducted using the Structural Equation Modeling (SEM) approach, with the assistance of Partial Least Squares (PLS) and IBM SPSS 26 software. The results of this study indicate that: From the findings of this study, it can be concluded that green investment does not significantly influence profitability or firm value. Similarly, green innovation shows a significant impact on profitability, but not on firm value. Furthermore, environmental performance does not exhibit a significant relationship with either profitability or firm value. In addition, profitability itself does not significantly affect firm value. Indirectly, green investment, green innovation, and environmental performance also do not have a significant effect on firm value through profitability as a mediating variable.

INTRODUCTION

Amid growing concern for environmental issues, investors are increasingly considering environmental factors when making investment decisions. Climate change is one of the biggest environmental challenges, with long-term and global impacts (Aji, 2022). Environmental damage due to climate change is caused by various pollutants, both those that occur naturally and those resulting from human activities (Afiyah et al., 2023).

Based on BPS data, Indonesia's GDP in 2024 reached IDR 20,892.4 trillion, with the mining sector contributing 10.52% or IDR 2,198.08 trillion, making Indonesia the highest in Southeast Asia in terms of mining contribution. However, PT Timah (Persero) Tbk experienced a significant decline in performance in 2023 due to falling global tin prices and the rise of illegal mining, resulting in a net loss of IDR 449.69 billion, in contrast to a profit of IDR 1.04 trillion in 2022. The company was also involved in a mega-corruption case in the tin trade system with alleged state losses of up to IDR 271 trillion, which caused PT Timah Tbk to be removed from the LQ45 index in 2024.

Firm value reflects shareholders' perception of how successful a company is, and it is commonly linked to its stock price (Nasution, 2021). A company is considered to have high value when it demonstrates strong performance. Therefore, firm value serves as an important benchmark for shareholders to assess the overall worth and performance of a business.

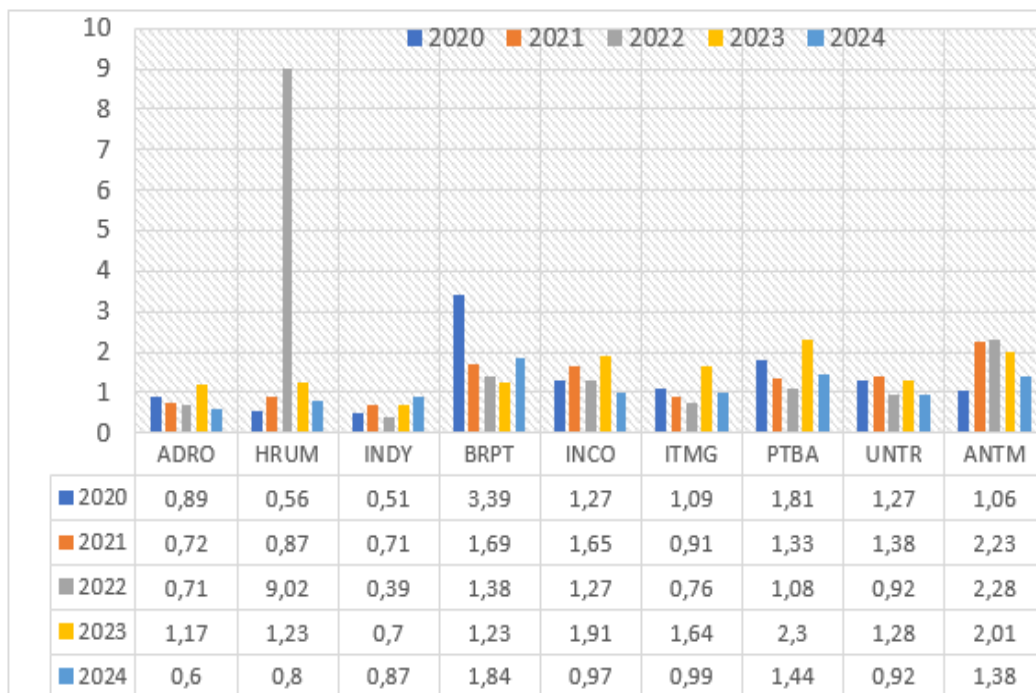


Figure 1. Price Book Value (PBV) of Mining Sector Companies on the Indonesia Stock Exchange 2020-2024

Source: data processed (www.idx.co.id)

Based on Figure 1, it is evident that mining companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2024 experienced fluctuating firm values, reflecting both increases and decreases throughout the period.

Green investment plays a crucial role in supporting the shift toward a sustainable economy by improving a company's public image, competitiveness, and overall value, especially with the backing of regulations aligned with the Sustainable Development Goals (SDGs) (Daromes & Kawilarang, 2020). Green innovation contributes to higher productivity, cost savings, and access to new markets by minimizing environmental impacts through advancements in products and processes (Dewi & Rahmianingsih, 2020; Wong in Mastarida, 2022). It also enhances firm value by drawing stakeholder support consistent with stakeholder theory and by increasing the attractiveness of the company to both markets and investors (Binti Shofiatul Janna et al., 2023).

Environmental performance, on the other hand, represents how well a company manages its environmental footprint through initiatives such as energy conservation, waste reduction, and environmentally focused policies (Surya et al., 2023); Hadiwibowo et al., 2023). Increased ESG regulatory pressures and rising public environmental awareness are pushing companies, especially in environmentally intensive industries like mining, to improve their environmental practices boosting their reputation, operational efficiency, and long-term viability (Rohana Sagala & Karlina Aprilia, 2023).

This study introduces a new perspective by constructing an integrated model that links green investment, green innovation, and environmental performance to firm value within the framework of corporate sustainability. This comprehensive model addresses a gap in existing research, particularly in sectors with significant ecological impacts, such as mining. Additionally, this research uniquely explores the mediating effect of profitability in the relationships between the three sustainability factors and firm value, offering a more nuanced understanding of how profitability can enhance or transmit the impact of green strategies on the value of the firm.

Besides the problem phenomena above, there is a research gap that has been carried out by previous researchers, namely:

Research by Ayu Wijayanti & Yoseph Agus Bagus Budi N. (2024) revealed that green investment has a positive and significant impact on firm value. In contrast, a study by Meylina Indriani (2025) found that green investment does not influence firm value. Similarly, findings from Elsa Monica & Deni Darmawati (2023) showed that green innovation partially has a significant effect on firm value, while research by Ayu Wijayanti & Yoseph Agus Bagus Budi N. (2024) reported that green innovation does not affect firm value. Aji (2022) concluded that environmental performance has no significant impact on firm value, whereas Surya et al. (2023) found a significant positive relationship between environmental performance and firm value. Regarding profitability as a mediating variable, Binti Shofiatul Janna et al. (2023) demonstrated that profitability positively influences firm value, acting as an intervening variable. On the other hand, Rahelliamelinda & Handoko (2024) discovered that profitability does not significantly mediate the relationship with firm value.

This research emerges from the growing need to comprehensively understand the key drivers that influence firm value in the context of sustainable development. In particular, the study emphasizes the strategic roles of green investment, green innovation, and environmental performance as essential dimensions of corporate sustainability. Recognizing that these factors do not operate in isolation, the study further explores how profitability functions as a mediating variable potentially strengthening or moderating the relationship between sustainability-oriented practices and firm value. By integrating these variables, the study aims to provide a more nuanced and holistic view of how environmentally responsible business strategies contribute to long-term corporate value, especially in high-impact sectors such as mining, where environmental concerns and stakeholder expectations are particularly high.

The title of this research was chosen because of the importance of understanding the factors that influence company value in the context of sustainability, particularly through green investment, green innovation, and environmental performance through profitability as an intervening variable.

LITERATURE REVIEW

Corporate Finance

According to (Ross et al., 2015), corporate finance is fundamentally concerned with how business decisions affect the value of a company's stock. In other words, it explores the link between managerial financial decisions and their influence on shareholder wealth. This field of study focuses on evaluating key financial choices such as investment strategies, capital structure decisions, and dividend policies through the lens of value creation for the firm. Each decision is assessed not only in terms of operational efficiency but also for its long-term implications on firm valuation and investor returns. Essentially, corporate finance serves as a strategic framework that guides companies in optimizing financial resources to maximize value, ensure sustainable growth, and align the interests of management with those of shareholders.

Stakeholder Theory

Freeman (1998) define stakeholders as any group or individual who has the potential to affect or be affected by the attainment of a company's objectives. This broad definition highlights the dynamic and reciprocal relationship between a company and its various stakeholders, including not only shareholders but also employees, customers, suppliers, government bodies, and the surrounding community.

A similar perspective is echoed by (Rohana Sagala & Karlina Aprilia, 2023), who describe stakeholder theory as an approach that recognizes the importance of multiple parties whose interests and actions can significantly influence the company's operations and strategic direction. This theory underscores the notion that companies do not operate in isolation; rather, they are part of a broader social and economic ecosystem where various groups hold legitimate claims and expectations.

Green Investment

RM Puspitasari (2019:34) states that green investment is investment aimed at supporting activities focused on environmental conservation and sustainable natural resource management. Green investment is measured according to Chang et al. (2021).

$$\text{Green-firm investment} = \text{Total Investment} / \text{total assets}$$

Green Innovation

Edi Purnomo (2018:76) defines green innovation as the process of developing new products, services, or operational methods that are designed to minimize environmental harm while enhancing the efficient use of natural resources. This form of innovation emphasizes the integration of sustainability into business practices by prioritizing environmentally responsible technologies, such as clean energy solutions, eco-friendly materials, and effective waste reduction systems.

According to Xie et al. (2019), the measurement of green innovation can be observed through several indicators, including the development of environmentally friendly technologies, improvements in production efficiency that reduce resource consumption, innovations in waste management practices, and the reduction of pollution or emissions resulting from business activities.

In essence, green innovation is not merely about compliance with environmental standards, but also about creating competitive advantages through sustainable development. Companies that invest in green innovation are better positioned to meet stakeholder expectations, adapt to regulatory pressures, and contribute to long-term environmental sustainability while potentially reducing operational costs and enhancing corporate reputation. The indicators in its disclosure are as follows (Xie et al., 2019).

Table 1. Green Innovation Disclosure Items

| Indicator | Item |
|---------------------------------|---|
| Green Process Innovation | |
| GPROC 1 | Aiming to reduce the consumption of resources and energy and improve resource and energy efficiency. |
| GPROC 2 | Using recycled materials, recycling techniques, and environmental technologies. |
| GPROC 3 | Applying environmental campaign. |
| GPROC 4 | Using pollution-control equipment. |
| GPROC 5 | Adopting pollution-control projects and technologies. |
| Green Product Innovation | |
| GPROD 1 | Making changes to product designs in order to avoid polluting or toxic compounds within production processes. |
| GPROD 2 | Improving and designing environmentally-friendly packaging for existing and new products. |
| GPROD 3 | Making product design modifications aimed at improving energy efficiency during usage. |

Environmental Performance

Hadiyanto (2015:98) explains that environmental performance is an indicator that shows how well an organization manages its environmental aspects, including pollution control, energy efficiency, and natural resource conservation. According to the Minister of Environment Regulation Number 6 of 2013, company participation in the PROPER Program is classified into 5 PROPER performance levels as follows:

Table 2. PROPER Rating

| Arrangement Ranking | Ranking | Color | Expected Publication Effects | |
|----------------------------|----------------|--------------|-------------------------------------|----------------------|
| More than obedient | 5 | Gold | Reputation Incentives | Stakeholder Awards |
| | 4 | Green | | |
| Obedient | 3 | Blue | Reputational Disincentives | Stakeholder Pressure |
| | 2 | Red | | |
| Not yet obedient | 1 | Black | | |

Source: Regulation of the Minister of Environment Number 6 of 2013, <http://proper.menlh.go.id> (accessed in 2025)

Profitability

According to Kasmir, (2019:196), profitability refers to a financial ratio used to evaluate a company's capability in generating earnings over a specific period. It reflects how effectively the company utilizes its resources – such as assets, equity, or capital investment – to produce profits. In essence, profitability not only shows the company's ability to earn income but also serves as an indicator of management efficiency in overseeing operational and financial activities.

Kasmir, (2019:196) outlines several key indicators commonly used to calculate profitability, including Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Gross Profit Margin. These indicators help stakeholders understand the financial health of the company and determine whether its performance is sustainable in the long term.

$$\text{Return on Assets} = \frac{\text{Net Profit After Tax}}{\text{Total Asset}}$$

Company Values

According to Hery, (2016:5), firm value represents a particular state that a company has attained, reflecting the level of public trust earned over time through the company's ongoing operational activities since its establishment. Meanwhile, Brigham and Houston, (2016:145) explain that firm value can be assessed using specific indicators that help determine the market's perception of the company's worth.

$$\text{PBV} = \frac{\text{Share Price}}{\text{Book Value Per Share}}$$

METHODOLOGY

This study employs a quantitative research approach. The population consists of LQ45 companies listed on the Indonesia Stock Exchange during the period 2020–2024. The sampling technique applied is purposive sampling, focusing on 9 companies within the mining sector category. Data was collected using the documentation method through annual reports available on the IDX website. For data analysis, the researcher utilized SmartPLS (Partial Least Square) version 4.0 and SPSS 26. PLS is a multivariate statistical method designed to evaluate relationships between multiple dependent and independent variables. Its main objective is to predict the influence of variable X on variable Y and to clarify the theoretical link between them.

RESEARCH RESULT AND DISCUSSION

Descriptive Statistical Test Results

Table 3. Descriptive Statistical Test Results

| Descriptive Statistics | | | | | |
|---------------------------|----|---------|---------|--------|--------------------|
| | N | Minimum | Maximum | Mean | Standard Deviation |
| Green Investment | 45 | 0 | 1 | .40 | .279 |
| Green Innovation | 45 | 0 | 1 | .68 | .251 |
| Environmental Performance | 45 | 3 | 5 | 4.07 | .780 |
| Profitability | 45 | .00 | 45.43 | 9.6549 | 10.10708 |
| Company Values | 45 | .72 | 16.37 | 2.7102 | 3.36188 |
| Valid N (listwise) | 45 | | | | |

Source: data processed by researchers 2025

The table above shows the number of data (N) as many as 45 data, the data description carried out in the research presents descriptive information on variables, such as green investment, green innovation, environmental performance, profitability, and company value.

a. Green Investment

According to the descriptive statistics, the Green Investment variable has an average value of 0.40, suggesting that companies in the sample tend to engage in green investments at a relatively low level. The standard deviation of 0.279 shows a moderate variation in investment practices across companies. The minimum value of 0 indicates the absence of green investment in some companies, whereas the maximum value of 1 reflects a full allocation of resources to environmentally friendly investments by certain firms.

b. Green Innovation

The Green Innovation variable records a mean score of 0.68, reflecting that a majority of the sampled companies have adopted environmentally sustainable innovations. The standard deviation of 0.251 points to a relatively low and consistent variation in green innovation practices. A score of 0 represents companies that have not implemented any green innovation, while a maximum score of 1 shows companies that have fully integrated green innovation into their business processes.

c. Environmental Performance

Environmental Performance has an average value of 4.07, with scores ranging from 3 to 5. This suggests that most companies demonstrate good to excellent environmental responsibility. The standard deviation of 0.780 indicates a moderate spread in environmental performance across firms, highlighting differences in environmental management efforts among them.

d. Profitability

The average profitability is 9.65%, with a standard deviation of 10.11%, indicating a wide range of profitability outcomes across the companies. A minimum of 0.00% suggests that some companies are breaking even or incurring losses, whereas the maximum of 45.43% illustrates that some firms achieve very high profitability levels.

e. Firm Value

The average firm value, measured using the Price to Book Value (PBV), is 2.71 with a standard deviation of 3.36. This large deviation reflects significant variability in how the market perceives company performance and growth prospects. The lowest PBV is 0.72, while the highest reaches 16.37, showing stark contrasts in valuation among companies.

Outer Model Evaluation

The assessment of the outer model, or measurement model, serves to test the validity and reliability of the constructs used in the study. This evaluation typically includes five key analyses, which involve reviewing the following aspects:

a. Convergent Validity

Table 4. Covergent Validity Test

| Ratio | Indicator | Outer Loadings |
|---------------------------|-----------|----------------|
| Green Investment | GI | 0.834 |
| Green Innovation | GPROC | 0.907 |
| Environmental Performance | PROPER | 1,000 |
| Profitability | ROA | 1,000 |
| Company Values | PBV | 0.876 |

Source: Processing Output with smartPLS 4.0

Referring to the data presented in the table, all outer loading values exceed 0.70. This indicates that each indicator demonstrates a strong correlation with its associated construct. Therefore, it can be concluded that all indicators used in this study meet the criteria for indicator reliability. This suggests that the measurement model is robust in terms of convergent validity, as each item reliably represents the latent variable it is intended to measure. The consistency of high loading values reinforces the accuracy and dependability of the observed indicators, ensuring that the constructs are well-defined and suitable for further structural analysis.

b. Discriminant Validity

Table 5. Convergent Validity Test

| Ratio | Average Variance Extracted (AVE) |
|---------------------------|----------------------------------|
| Green Investment | 0.802 |
| Green Innovation | 1,000 |
| Environmental Performance | 0.876 |
| Profitability | 0.987 |
| Company Values | 0.856 |

Source: Processing Output with smartPLS 4.0

The data presented in the table indicate that the Average Variance Extracted (AVE) values for all constructs are greater than 0.50. This suggests that each construct explains more than half of the variance of its indicators, thereby confirming that the model has no issues related to convergent validity. In other words, the constructs in this study are able to adequately capture the underlying variables they are intended to measure. Furthermore, since the AVE values also meet the threshold for discriminant validity, it can be concluded that each construct is distinct and not overly correlated with other constructs in the model. These findings validate the measurement model and confirm that it meets the necessary criteria for use in subsequent structural model analysis and hypothesis testing.

c. Composite Reliability

Table 6. Composite Reliability Test

| Ratio | Composite Reliability |
|---------------------------|-----------------------|
| Green Investment | 0.880 |
| Green Innovation | 0.870 |
| Environmental Performance | 1,000 |
| Profitability | 0.967 |
| Company Values | 0.856 |

Source: Processing Output with smartPLS 4.0

The table above demonstrates that the composite reliability values for all constructs exceed the threshold of 0.70. This indicates that each construct in the measurement model exhibits a high level of internal consistency, meaning the indicators within each construct consistently measure the same underlying concept. As a result, the model satisfies the internal consistency reliability criteria, confirming that the constructs are reliable and suitable for further structural analysis. This reliability reinforces the robustness of the research instrument and enhances the credibility of the findings derived from the model.

d. *Cronbach's Alpha*

Table 7. Cronbach's Alpha Test

| | <i>Cronbach's Alpha</i> |
|---------------------------|-------------------------|
| Green Investment | 0.774 |
| Green Innovation | 1,000 |
| Environmental Performance | 1,000 |
| Profitability | 0.824 |
| Company Values | 1,000 |

Source: Processing Output with smartPLS 4.0

Data from the table shows that the Cronbach's alpha value for the SEM construct is above 0.7 so that it meets the Cronbach's alpha criteria and is acceptable.

Structural Model Evaluation (Inner Model)

Inner Model Testing refers to the process of developing a theory-based conceptual model to examine the relationships between independent and dependent variables as presented in the conceptual framework. This stage involves evaluating the structural model by following a series of steps designed to assess the strength and significance of the hypothesized paths between variables, thereby determining how well the theoretical model fits the observed data.

a. *R-Square (R²) Value*

Table 8. R-Square Value

| | R-square | R-square adjusted |
|----------------|----------|-------------------|
| Company Values | 0.107 | 0.018 |
| Profitability | 0.177 | 0.117 |

Source: Processing Output with smartPLS 4.0

1. Firm Value Variable: The R-Square (R²) value for the Firm Value variable stands at 0.107, with an Adjusted R-Square of 0.018. This implies that around 10.7% of the variance in Firm Value can be attributed to the independent variables included in the model. However, the Adjusted R-Square, which accounts for the number of predictors, shows a more modest explanatory capacity at 1.8%. These results suggest that the influence of the predictor variables on Firm Value is relatively limited.

2. Profitability Variable: The R-Square (R^2) value for Profitability is 0.177, while the Adjusted R-Square is 0.117. This means that approximately 17.7% of the variation in Profitability can be explained by the variables used in the model. When adjusted for the number of predictors, the model's explanatory strength drops to about 11.7%, indicating a low to moderate level of predictive capability for Profitability.

b. f^2 Effect Size

Table 9. f^2 Effect Size

| | f-square |
|--|----------|
| Green Innovation -> Corporate Values | 0.081 |
| Green Innovation -> Profitability | 0.097 |
| Green Investment -> Company Values | 0.003 |
| Green Investment -> Profitability | 0.033 |
| Environmental Performance -> Corporate Value | 0.004 |
| Environmental Performance -> Profitability | 0.049 |
| Profitability -> Company Value | 0.003 |

Source: Processing Output with smartPLS 4.0

1. The Influence of Green Innovation on Company Value: With an f-square value of 0.081, which is in the range $0.02 \leq f^2 < 0.15$ (because $0.02 \leq 0.081 < 0.15$), it can be interpreted that the Green Innovation predictor variable has a weak influence on the endogenous variable of Company Value.
2. The Impact of Green Innovation on Profitability: With an f-square value of 0.097, which is in the range $0.02 \leq f^2 < 0.15$ (because $0.02 \leq 0.097 < 0.15$), it can be interpreted that the Green Innovation predictor variable has a weak influence on the endogenous variable Profitability.
3. The Influence of Green Investment on Company Value: With an f-square value of 0.003, which is smaller than 0.02, it can be interpreted that the Green Investment predictor variable has a very small or negligible influence on the endogenous variable of Company Value (does not meet the criteria of weak, medium, or strong influence).
4. The Impact of Green Investment on Profitability: With an f-square value of 0.033, which is in the range $0.02 \leq f^2 < 0.15$ (because $0.02 \leq 0.033 < 0.15$), it can be interpreted that the Green Investment predictor variable has a weak influence on the endogenous variable Profitability.
5. The Influence of Environmental Performance on Company Value: With an f-square value of 0.004, which is smaller than 0.02, it can be interpreted that the predictor variable Environmental Performance has a very small or negligible influence on the endogenous variable of Company Value.
6. The Impact of Environmental Performance on Profitability: With an f-square value of 0.049, which is in the range $0.02 \leq f^2 < 0.15$ (because $0.02 \leq 0.049 < 0.15$), it can be interpreted that the predictor variable Environmental Performance has a weak influence on the endogenous variable Profitability.

7. The Influence of Profitability on Company Value: With an f-square value of 0.003, which is smaller than 0.02, it can be interpreted that the predictor variable Profitability has a very small or negligible influence on the endogenous variable Company Value.

c. Q-Square (Goodness of Fit Model)

Table 10. Q-Square (Goodness of Fit Model)

| | SSO | SSE | Q ² (=1-SSE/SSO) |
|----------------|--------|--------|-----------------------------|
| Company Values | 45,000 | 44,109 | 0.020 |
| Profitability | 45,000 | 39,765 | 0.116 |

Source: Processing Output with smartPLS 4.0

Referring to the results of the Q-Square test, the predictive relevance or goodness of fit of the structural model can be evaluated. The Q-Square value for the endogenous variable Firm Value is recorded at 0.020, while for the Profitability variable, it is 0.116. Since both values are greater than zero, this suggests that the structural model possesses predictive relevance for both endogenous variables. In other words, the model demonstrates an acceptable ability to predict the actual values of Firm Value and Profitability.

d. Hypothesis Testing Results (Path Coefficient Estimation)

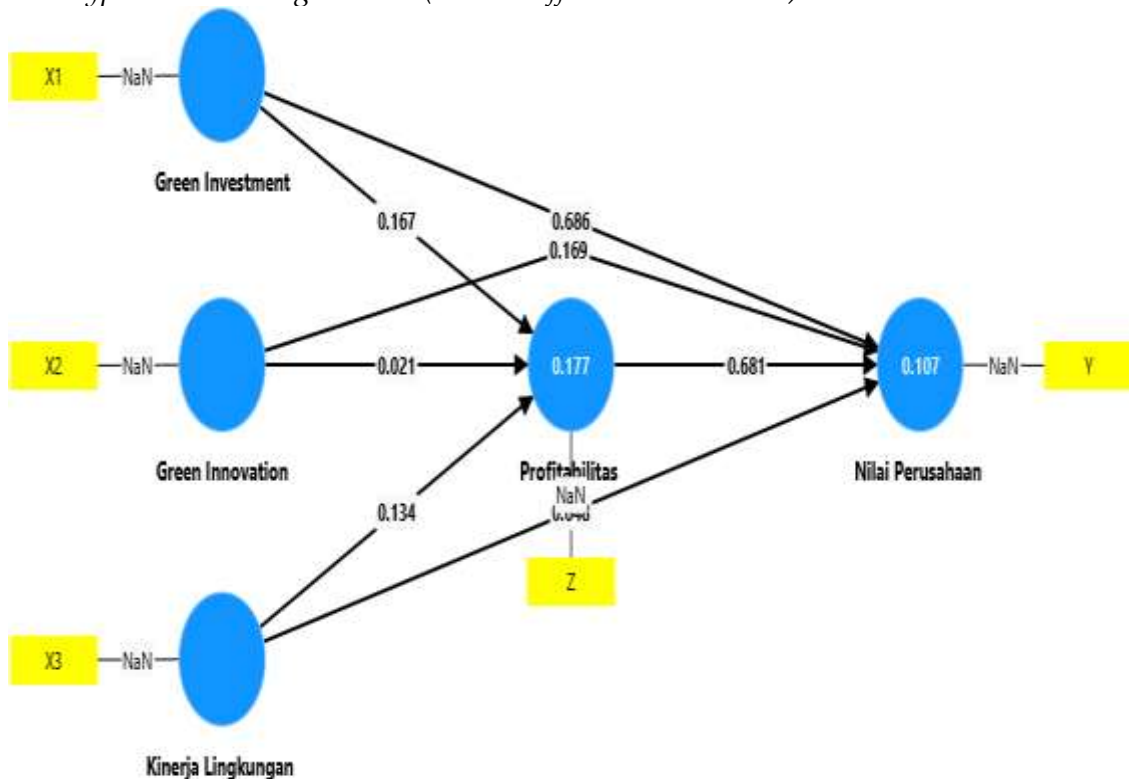


Figure 2. Bootstrapping Test Results

Table 11. Hypothesis Testing

| | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics (O/STDEV) | P values | Information |
|---|---------------------|-----------------|----------------------------|--------------------------|----------|-----------------|
| Green Investment -> Profitability | -0.170 | -0.169 | 0.123 | 1,383 | 0.167 | Not Significant |
| Green Investment -> Company Values | -0.051 | -0.045 | 0.126 | 0.404 | 0.686 | Not Significant |
| Green Innovation -> Profitability | -0.285 | -0.299 | 0.124 | 2,305 | 0.021 | Significant |
| Green Innovation -> Corporate Values | -0.285 | -0.265 | 0.207 | 1,375 | 0.169 | Not Significant |
| Environmental Performance -> Profitability | 0.207 | 0.214 | 0.138 | 1,499 | 0.134 | Not Significant |
| Environmental Performance -> Corporate Value | 0.060 | 0.054 | 0.131 | 0.457 | 0.648 | Not Significant |
| Profitability -> Company Value | 0.057 | 0.063 | 0.140 | 0.411 | 0.681 | Not Significant |
| Green Investment -> Profitability -> Company Value | -0.010 | -0.004 | 0.027 | 0.369 | 0.712 | Not Significant |
| Green Innovation -> Profitability -> Company Value | -0.016 | -0.013 | 0.047 | 0.346 | 0.730 | Not Significant |
| Environmental Performance -> Profitability -> Corporate Value | 0.012 | 0.021 | 0.046 | 0.260 | 0.795 | Not Significant |

Source: Processing Output with smartPLS 4.0

1. The Impact of Green Investment on Profitability: This hypothesis tests whether Green Investment affects Profitability. With an original parameter coefficient value of -0.170 and a t-statistic value of 1.383, which is smaller than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.167, which is greater than 0.05, it can be concluded that Green Investment does not have a significant effect on Profitability.
2. The Influence of Green Investment on Company Value: This hypothesis tests whether Green Investment influences Company Value. With an original parameter coefficient value of -0.051 and a t-statistic value of 0.404, which is smaller than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.686, which is greater than 0.05, it can be concluded that Green Investment does not significantly influence Company Value.
3. The Impact of Green Innovation on Profitability: This hypothesis tests whether Green Innovation has an effect on Profitability. With an original parameter coefficient value of -0.285 and a t-statistic value of 2.305, which is greater than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.021, which is less than 0.05, it can be concluded that Green Innovation has a significant negative effect on Profitability.
4. The Influence of Green Innovation on Company Value: This hypothesis tests whether Green Innovation influences Company Value. With an original parameter coefficient value of -0.285 and a t-statistic value of 1.375, which is smaller than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.169, which is greater than 0.05, it can be concluded that Green Innovation does not have a significant effect on Company Value.
5. The Impact of Environmental Performance on Profitability: This hypothesis tests whether Environmental Performance influences Profitability. With an original parameter coefficient value of 0.207 and a t-statistic value of 1.499, which is smaller than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.134, which is greater than 0.05, it can be concluded that Environmental Performance does not significantly influence Profitability.
6. The Influence of Environmental Performance on Company Value: This hypothesis tests whether Environmental Performance influences Firm Value. With an original parameter coefficient value of 0.060 and a t-statistic value of 0.457, which is smaller than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.648, which is greater than 0.05, it can be concluded that Environmental Performance does not significantly influence Firm Value.
7. The Influence of Profitability on Company Value: This hypothesis tests whether profitability affects firm value. With an original parameter coefficient of 0.057 and a t-statistic of 0.411, which is smaller than the t-table (1.96) at an alpha of 0.05, and a p-value of 0.681, which is greater than 0.05, it can be concluded that profitability does not significantly affect firm value.

The following are the results of testing the hypothesis of the indirect influence of X on Y through Z:

8. The Influence of Green Investment on Company Value through Profitability: This hypothesis tests whether Green Investment indirectly influences Firm Value through Profitability. With an original parameter coefficient of -0.010, a t-statistic of 0.369 (less than 1.96), and a p-value of 0.712 (greater than 0.05), it can be concluded that Green Investment does not have a significant indirect effect on Firm Value through Profitability.
9. The Influence of Green Innovation on Company Value through Profitability: This hypothesis tests whether Green Innovation has an indirect effect on Firm Value through Profitability. With an original parameter coefficient of -0.016, a t-statistic of 0.346 (less than 1.96), and a p-value of 0.730 (greater than 0.05), it can be concluded that Green Innovation does not have a significant indirect effect on Firm Value through Profitability.
10. The Influence of Environmental Performance on Company Value through Profitability: This hypothesis tests whether Environmental Performance indirectly influences Firm Value through Profitability. With an original parameter coefficient of 0.012, a t-statistic of 0.260 (less than 1.96), and a p-value of 0.795 (greater than 0.05), it can be concluded that Environmental Performance does not have a significant indirect effect on Firm Value through Profitability.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

From the findings of this study, it can be concluded that green investment does not significantly influence profitability or firm value. Similarly, green innovation shows a significant impact on profitability, but not on firm value. Furthermore, environmental performance does not exhibit a significant relationship with either profitability or firm value. In addition, profitability itself does not significantly affect firm value. Indirectly, green investment, green innovation, and environmental performance also do not have a significant effect on firm value through profitability as a mediating variable.

Recommendation

Based on the results of this study, there are several suggestions that can be used as consideration for further research in order to obtain more comprehensive and in-depth results.

1. For Companies and Business Practitioners
 - a. Integrating ESG into a company's core strategy, not just administrative compliance, can improve investor perception and long-term competitiveness.
 - b. Focus on cost efficiency in green innovation, so as not to burden profitability. Innovations that impact production processes and energy savings should be prioritized.
 - c. Improve internal sustainability literacy, especially among financial management and investor relations, so that ESG is not seen as a mere cost burden.
2. For Regulators and Market Authorities

- a. Provide fiscal incentives or financing preferences for companies that demonstrate strong ESG performance, such as lower interest rates for green investments.
- b. Establish a national green stock index to attract institutional investors focused on sustainable portfolios.
- c. Increase oversight of sustainability claims (greenwashing) to ensure the integrity of the information companies convey.

ADVANCED RESEARCH

From the research results that have been explained previously, there are suggestions for further research:

- a. This research is limited to one mining sector. To obtain more representative findings, future studies should expand the sample to include a wider range of industries (e.g., manufacturing, services, technology) and/or countries.
- b. Quantitative results showing insignificance require further exploration. Therefore, it is recommended to incorporate qualitative research methods, such as in-depth interviews. Interviews with company managers, investors, or market analysts can uncover the reasons behind these findings.
- c. The success of corporate green initiatives depends not only on internal support but also on external support. Further research is strongly recommended to examine how companies collaborate with various stakeholders, such as the government (through regulations and incentives), non-governmental organizations (NGOs), and local communities.

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