INTERNATIONAL JOURNAL OF SOCIAL AND MANAGEMENT STUDIES (IJOSMAS)

Volume: 6 No. 3 https://www.ijosmas.org e-ISSN: 2775-0809

# The Influence of ESG, Green Finance, and Efficiency on Company Value Through Financial Performance at KBMI 3 and KBMI 4 Banks

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***Abstract -*** *This study aims to analyze the influence of three main factors—Environmental, Social, and Governance (ESG), green finance, and operational efficiency—on firm value, with financial performance as a mediating variable. The objects of this study were KBMI 3 and 4 banks listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The research method used was a quantitative approach with secondary data, where the data were analyzed using path analysis and the Sobel test to test the mediation effect. The results of this study reveal several important findings. Directly, ESG has a negative and significant influence on firm value, but a positive influence on financial performance. Meanwhile, operational efficiency and green finance do not have a significant direct influence on firm value. However, both have a positive influence on financial performance. Specifically, this study found that financial performance is proven to positively mediate the influence of green finance and operational efficiency on firm value. However, financial performance is unable to mediate the influence of ESG on firm value. These findings contribute significantly to the literature by confirming that financial performance plays a crucial role in linking a company's efficiency and sustainability strategies with increased firm value..*

***Kata kunci:*** *ESG, green finance, efisiensi operasional, kinerja keuangan, nilai perusahaan.*

## I. INTRODUCTION

According to stakeholder theory, companies must not only consider investors but also all relevant stakeholders, including employes, customers, society, and the environment. In this context, Environmental, Social, and Governance (ESG) is one of the specific outcomes of that responsibility. According to experts, ESG emphasizes transparency and a company's commitment to sustainability, which contributes to positive reviews and an improved reputation among consumers. In other words, when a business demonstrates a commitment to sound business practices, it can increase investor confidence and encourage them to make payments. As a result, there was an increase in stock demand, which subsequently contributed to the company's value. According to research by Vivianita Vivianita et al., (2023) and Bashatweh et al., (2023), ESG has a positive impact on company value, particularly in the Islamic banking sector. Conversely, research by Amaliah & Candra, (2024) indicates that ESG has no significant impact on business value in the non-cyclical consumer sector, and the impact of ESG can vary depending on the industry. Based on the research above, the hypothesis formulated in this study is:
*H1: ESG has a positive impact on the financial performance of KBMI Banks 3 and 4.*

Green finance is a type of financial management that focuses on environmental sustainability factors such as renewable energy, sustainable transportation, and environmental conservation. According to stakeholder theory, businesses must consider the importance of the environment in every financial decision. In this case, green finance is a type of partnership related to sustainability initiatives where financial institutions participate in the implementation of environmental projects. According to academics like Ningsi et al., (2024), green finance drives investment in renewable energy, transportation, and waste, ultimately improving a company's position in addressing environmental risks. Logically, green finance increases a company's attractiveness to investors who have a preference for sustainability and can influence company value growth thru better reputation and more efficient risk management. Research by Ifadhoh & Yuliana, (2024) and Yulianti et al., (2024) supports this claim, showing that green finance has a positive impact on business value in the consumer and non-cyclical infrastructure sectors. Based on the research above, the hypothesis proposed in this study is:

*H2: Green finance has a positive impact on the value of Indonesian banking.*

Operational efficiency measures how well a company uses all its resources to generate sales or revenue. A company's efficiency level can be determined by its ability to generate optimal profits using all available assets (Novianty et al., 2022). As operational efficiency increases, the company's effectiveness in conducting its transactions also improves, indicating that available assets are used as efficiently as possible to generate profit. According to experts like, efficiency can be measured by a company's ability to maximize profit thru available resources. Logically, an efficient business demonstrates operational effectiveness, which can increase investor confidence in management and long-term profit potential. According to research by Wati & Hwihanus, (2023), operational efficiency has a positive impact on firm value. Based on the research above, the hypothesis formulated in this study is:
*H3: Operational efficiency has a positive impact on the value of the Indonesian banking industry.*

The success of a company can be attributed to its ability to provide a sense of security to investors. Companies that are actively investing will provide positive feedback to investors. This can lead to an increase in stock prices and a decrease in company value. Thus, investors can assess the company's performance to increase its value, including evaluating and reducing the risks arising from environmental issues (Wijayanti & Dondoan, 2022). According to experts like Wahyuni, (2024), ESG can enhance a company's reputation, contribute to stronger stakeholder relationships, and ultimately improve financial performance. Logically, a company with a good reputation is more accessible, attracts talent, and implements strategic plans more easily. This is demonstrated in the research by Hutabarat, (2024), which states that financial performance has a strong and positive impact on company value, as well as the research by Wahyuni (2024), which also highlights the positive and significant impact of financial performance on company value for companies listed on the Indonesian Stock Exchange (IDX) ESG Leaders Index for the period 2020–2023. Based on this research, the hypothesis proposed in this study is:
*H4: Financial performance has a positive impact on the value of Indonesian banks.*

The term ESG (Environmental, Social, and Governance) refers to a company's efforts to improve performance and compliance with social and environmental standards. ESG has the potential to enhance a company's reputation and image among key stakeholders, which will indirectly improve the company's financial performance. According to Stakeholder Theory, businesses must consider stakeholder perspectives to ensure they have legitimacy and relationships. According to Wahyuni (2024), ESG has a positive and significant impact on the financial performance of companies listed on the ESG Leaders BEI index. According to the theory of stakeholder interests, banks and financial institutions play an important role in driving global cooperation. According to Kusumaningati, (2024), green finance can improve a company's financial position in relation to external factors, particularly those related to environmental risks. Logically, businesses can improve their efficiency and financial stability by reducing their risk thru green financing. Research by Ningsi et al., (2024), Goeliling et al., (2023), and Liu & Wu, (2023) supports this claim by stating that green finance has a positive impact on financial work productivity. However, other studies such as Zhang & Zhang, (2023) and Yeow & Ng, (2021) show contradictory results, indicating a need for further research. Based on the research above, the hypothesis proposed in this study is:
*H5: ESG has a positive impact on the performance of bank employes in Indonesia.*

According to Kusumaningati, (2024), green finance development enables banks to respond to global issues in a timely manner while strengthening financial stability. Green finance can help reduce environmental risks that can affect the economy, enabling businesses to reduce external costs or penalties resulting from non-compliance with environmental regulations. According to research by Ningsi et al., (2024), green finance can strengthen bank stability in relation to global economic conditions, especially during times of economic uncertainty such as pandemics. This is due to the fact that investment in green projects is consistently more stable and sustainable than conventional projects, which have higher long-term risks. According to Novianty et al., (2022), efficiency has a long-term negative impact on profitability and reduces effectiveness in generating profits from available resources. In other words, as the company's operational efficiency increases, so does its ability to improve its profitability. According to research by Setyawan and (Setyawan & Muljono, 2020), operational efficiency has a significant negative impact on financial productivity and can increase profitability. Some studies by Goeliling et al., (2023) and (Liu & Wu, 2023) show that green finance has a significant positive impact on financial performance. However, some studies show that the data is negative or insignificant (Zhang & Zhang, 2023). Based on the research above, the hypothesis formulated in this study is:

*H6: Green finance has a positive impact on the performance of bank employes in Indonesia.*

According to Novianty et al. (2022), operational efficiency is crucial for improving financial productivity as it will negatively impact profitability over time. As the bank's operational efficiency increases, the amount of profit that can be earned from its assets also increases. According to research by Setyawan & Muljono, (2020), operational efficiency has a negative and significant impact on financial work productivity. For example, when operational efficiency decreases (costs increase), the financial performance of the bank in question improves. Additionally, operational efficiency measures the bank's ability to respond to market fluctuations and payment demands without considering service quality. During an economic recession, efficient banks have a stronger advantage in maintaining financial stability. Additionally, efficiency can create more funds for innovation, digital investment, and business expansion, ultimately improving financial efficiency. Based on the research above, the hypothesis proposed in this study is:
*H7: Operational efficiency has a positive impact on bank employes' job performance in Indonesia.*

Theoretically, the relationship between ESG and business value is based on stakeholder theory, which states that a company's response to social and environmental issues will affect its credibility and customer trust. According to Wahyuni, (2024), ESG has a positive impact on financial productivity, and financial productivity has a positive impact on company value. This indicates that financial performance can be a mediating variable because businesses that prioritize environmental sustainability, social responsibility, and stable governance have lower operational risks, higher investor appeal, and stronger employe bonds, all of which can increase corporate value. From a theoretical perspective, this relationship is also supported by Signal Theory, which states that ESG practices benefit the market broadly and business professionals. According to Wahyudi's (2024) research, financial performance can mediate the relationship between ESG and firm value. This study supports the empirical findings that ESG has a long-term impact on corporate value and a short-term impact on financial operations. One of the main causes of declining financial performance as a mediator between ESG and firm value is the increasing number of companies listed on the Indonesia Stock Exchange (IDX) that are experiencing losses. This highlights the need for improved business profitability, particularly in terms of financial performance, to achieve the best results. Based on the above research, the hypothesis formulated in this study is:
*H8: Financial performance mediates the influence of ESG on the company value of KBMI Banks 3 and 4.*

Businesses that implement green policies can reduce operational costs more effectively and attract environmental investors. The improved financial performance then negatively impacted the growth of firm value because the market rewards companies with strong profits. According to Stakeholder Theory, businesses that consider the social and environmental perspectives of those who depend on them will be rewarded with credibility and trust, which can translate into better financial performance and higher valuations. According to research by Lichtenberger et al., (2022), green finance can improve financial productivity. According to research by Salsabila & Widiatmoko, (2022), financial performance can mediate the impact of green finance on company value. The existence of green finance helps businesses develop a good perception of the organization among the general public. Green finance allows businesses to increase investor options by improving financial productivity, which ultimately lowers business value. However, according to research conducted in Yumna, (2025), financial operations cannot mitigate the impact of green finance on firm value because they can highlight previously unrecognized risks and create negative perceptions among stakeholders. Based on this research, the hypothesis proposed in this study is:
*H9: Financial performance mediates the influence of green finance on the firm value of KBMI Banks 3 and 4.*

Operational efficiency measures a company's ability to manage its operating expenses compared to its operating revenue. According to Novianty et al. (2022), operational efficiency has a significant impact on increasing profitability because it improves operational efficiency (resulting in high cost efficiency) and allows businesses to maximize their daily resources. However, this profitability is not clearly reflected in the growth of company value, especially if financial performance indicators that measure profit achievement are high and trusted by the market. According to Signal Theory, efficiency and profitability are positive indicators for the market, meaning that the business is operating efficiently and is capable of generating substantial profits. This improves investor and market perception, which is then reflected in the company's valuation. According to research conducted by Syahrir et al., (2019), financial performance can mediate the impact of operational efficiency on business value. However, according to Asriyani & Based on Mawardi's research (2018), ROA is unable to mitigate the impact of BOPO on PBV. The bank's efficiency in conducting its operations, as indicated by the BOPO ratio, can impact the bank's profitability, but this does not negatively affect the company's value because the bank can

monitor the efficiency level of its business. Based on the research above, the hypothesis formulated in this study is:

*H10: Financial performance mediates the influence of operational efficiency on the company value of KBMI Banks* 3 and 4.

Based on theoretical and empirical research, this study presents a conceptual framework that links ESG variables, Green Finance, and Operational Efficiency to business success thru Financial Performance. This relationship is based on the ideas of signal theory and stakeholder theory. The proposed research model is shown in Figure 1.

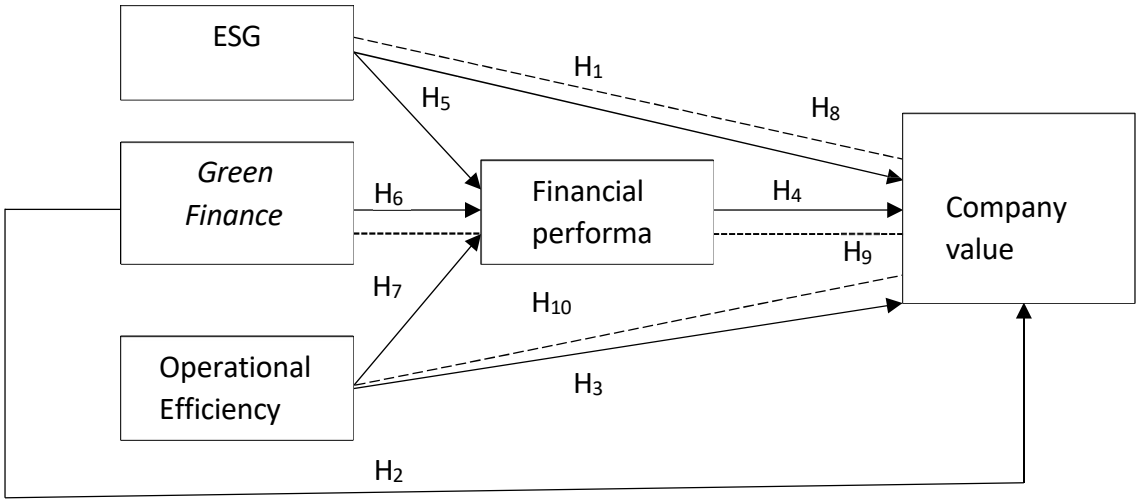


**Figure 1.** Research Model

## II. METHOD

This study uses an explanatory design for qualitative research with a quantitative approach, aiming to understand the relationships between variables (Ghozali, 2021). The quantitative approach was chosen because it allows for numerical data analysis to test hypotheses and consider validity and reliability (Sujarweni, 2020). The research population consists of all banking companies listed on the Indonesia Stock Exchange (IDX) in the KBMI 3 and KBMI 4 categories. For example, there are approximately 13 banks that use the purposive sampling method, which is the selection of samples based on specific criteria, and utilize long-term financial data from 2020 to 2024. The secondary data used were obtained thru the documentation method from the companies' financial statements on the IDX. The data analysis method used is quantitative data analysis. Before hypothesis testing, a classical assumption test was conducted, including a multicollinearity test (with a Pearson correlation coefficient < 0.8) and a heteroskedasticity test (with a Prob. Obs*R-Square value > 0.05) (Sugiyono, 2020). This research uses a panel regression model that combines time series data and cross-sectional data. The best estimation model (Common Effect, Fixed Effect, or Random Effect) was selected using the Chow Test, Hausman Test, and Lagrange Multiplier (LM) Test. The hypotheses were tested using Path Analysis to examine the mediation effect, which was tested for significance using the Sobel Test (Ghozali, 2021). In addition, the F-test is used to evaluate the goodness of fit of the model, the Coefficient of Determination test (R2) is used to evaluate the performance of the model, and the t-test is used to evaluate the influence of independent variables on the dependent variable, where the hypothesis is accepted if the probability is less than 0.05. This model also uses the Predictive Relevance (Q2) metric, where a value ≥ 0.15 indicates good predictive relevance (Hair et al., 2017).

## III. RESULT AND DISCUSSION

### *A. Result*

Variables used in the study. This study examined the NP variable of companies with a minimum of -0.368744 and a maximum of 0.679549, an average of 0.034159, and a standard deviation of 0.298373, indicating

the highest level of data variability. With a minimum of 0.000000 and a maximum of 1.000000, an average of 0.523077, and a standard deviation of 0.503354, the ESG variable shows a high level of data variability. With a minimum of -2.708270 and a maximum of -0.008662, an average of -0.972054, and a standard deviation of 0.575766, the green financial variable shows high data variability. The operational efficiency variable has a minimum value of -0.379864 and a maximum of -0.030118, with an average of -0.144872 and a standard deviation of 0.073008, which also indicates high data variability. Finally, the financial performance variable has a minimum value of -2.437775 and a maximum value of -1.421972, with an average of -1.865613 and a standard deviation of 0.249261, indicating a high level of data variability.

**Table 1.** Descriptive Statistics

| | NP | ESG | GF | EO | PR |
|---|---|---|---|---|---|
| Mean | 0.034159 | 0.523077 | -0.972054 | -0.144872 | -1.865613 |
| Median | -0.050478 | 1.000000 | -0.955310 | -0.142190 | -1.867103 |
| Maximum | 0.679549 | 1.000000 | -0.008662 | -0.030118 | -1.421972 |
| Minimum | -0.368744 | 0.000000 | -2.708270 | -0.379864 | -2.437775 |
| Std. Dev. | 0.298373 | 0.503354 | 0.575766 | 0.073008 | 0.249261 |
| Skewness | 0.679402 | -0.092406 | -1.072455 | -1.082204 | -0.311350 |
| Kurtosis | 2.372540 | 1.008539 | 4.033432 | 4.576522 | 2.402534 |
| Jarque-Bera | 6.066809 | 10.83353 | 15.35252 | 19.41898 | 2.016951 |
| Probability | 0.048151 | 0.004441 | 0.000464 | 0.000061 | 0.364775 |
| Sum | 2.220359 | 34.00000 | -63.18350 | -9.416682 | -121.2649 |
| Sum Sq. Dev. | 5.697682 | 16.21538 | 21.21640 | 0.341130 | 3.976388 |
| Observations | 65 | 65 | 65 | 65 | 65 |

*Source: Financial reports, processed data*

The completed analysis includes several comprehensive steps to ensure that the panel data regression model used meets the necessary assumptions before conclusions are drawn. All media impact evaluations are included in this study. The results of the panel data regression analysis will be used to test the research hypothesis if all model testing steps have been completed to ensure that the regression model used minimizes the BLUE (Best Linear Unbiased Estimator) statistic.

**Table 2** Results of the Multicollinearity Test for Model 1

| | NP | ESG | GF | EO | PR |
|---|---|---|---|---|---|
| NP | 1.000000 | -0.067512 | 0.145996 | -0.568389 | 0.567378 |
| ESG | -0.067512 | 1.000000 | 0.232658 | -0.233655 | 0.380811 |
| GF | 0.145996 | 0.232658 | 1.000000 | -0.366352 | 0.550665 |
| EO | -0.568389 | -0.233655 | -0.366352 | 1.000000 | -0.752164 |
| PR | 0.567378 | 0.380811 | 0.550665 | -0.752164 | 1.000000 |

*Source: Financial reports, processed data*

**Table 3** Results of the Multicollinearity Test for Model 2

| | PR | ESG | GF | EO |
|---|---|---|---|---|
| PR | 1.000000 | 0.380811 | 0.550665 | -0.752164 |
| ESG | 0.380811 | 1.000000 | 0.232658 | -0.233655 |

| | | | | |
|---|---|---|---|---|
| GF | 0.550665 | 0.232658 | 1.000000 | -0.366352 |
| EO | -0.752164 | -0.233655 | -0.366352 | 1.000000 |

*Source: Financial reports, processed data*

Based on the test results presented in Tables 2 and 3, all correlation coefficients between variables in both models have values less than 0.8. Thus, it can be concluded that the research data is free from multicollinearity problems.

**Table 4** Heteroscedasticity Test Model 1

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

| | | | |
|---|---|---|---|
| F-statistic | 0.393698 | Prob. F(4,60) | 0.8124 |
| Obs*R-squared | 1.662393 | Prob. Chi-Square(4) | 0.7975 |
| Scaled explained SS | 1.760278 | Prob. Chi-Square(4) | 0.7797 |

*Source: Financial reports, processed data*

**Table 5** Heteroscedasticity Test Model 2

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

| | | | |
|---|---|---|---|
| F-statistic | 1.716002 | Prob. F(3,61) | 0.1731 |
| Obs*R-squared | 5.058661 | Prob. Chi-Square(3) | 0.1676 |
| Scaled explained SS | 5.227092 | Prob. Chi-Square(3) | 0.1559 |

*Source: Financial reports, processed data*

Based on Table 4 and Table 5, the Prob. Obs*R-Squared value obtained for Model 1 is 0.7975 > 0.05 and for Model 2 is 0.1676 > 0.05. Thus, the assumption of heteroscedasticity has been fulfilled in both regression models.

**Table 6** Chow Test Results for Model 1

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 26.806004 | (12,48) | 0.0000 |
| Cross-section Chi-square | 132.691991 | 12 | 0.0000 |

*Source: Financial reports, processed data*

**Table 7** Chow Test Results for Model 8

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 5.405441 | (12,49) | 0.0000 |
| Cross-section Chi-square | 54.807728 | 12 | 0.0000 |

*Source: Financial reports, processed data*

Based on Table 6, the Cross-section F and Cross-section Chi-Square probability values in Model 1 are 0.0000 < 0.05, indicating that FEM is the most appropriate model.

**Table 8** Hausman Test Results for Model 1

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 16.131475 | 4 | 0.0028 |

*Source: Financial reports, processed data*

**Table 9** Hausman Test Results for Model 2

*Correlated Random Effects - Hausman Test*
*Equation: Untitled*
*Test cross-section random effects*

| *Test Summary* | *Chi-Sq. Statistic* | *Chi-Sq. d.f.* | *Prob.* |
|---|---|---|---|
| *Cross-section random* | *3.162731* | *3* | *0.3672* |

*Source: Financial reports, processed data*

Based on Table 8, the Cross-section random probability value in Model 1 is 0.0028 < 0.05, so FEM is the most appropriate model.

**Table 10** Results of the Langrange Multiplier Test for Model 2

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

| | Test Hypothesis Cross-section | Time | Both |
|---|---|---|---|
| Breusch-Pagan | 24.97638 | 1.948672 | 26.92506 |

| | | | |
|---|---|---|---|
| | (0.0000) | (0.1627) | (0.0000) |
| Honda | 4.997638<br>(0.0000) | -1.395949<br>(0.9186) | 2.546779<br>(0.0054) |
| King-Wu | 4.997638<br>(0.0000) | -1.395949<br>(0.9186) | 1.289892<br>(0.0985) |
| Standardized Honda | 5.802212<br>(0.0000) | -1.100928<br>(0.8645) | 0.006737<br>(0.4973) |
| Standardized King-Wu | 5.802212<br>(0.0000) | -1.100928<br>(0.8645) | -1.145863<br>(0.8741) |
| Gourieroux, et al. | -- | -- | 24.97638<br>(0.0000) |

*Source: Financial reports, processed data*

Based on Table 10, the Breusch-Pagan probability value for Cross-section in Model 2 is 0.0000 < 0.05, so REM is the most appropriate model.

**Table 11** Panel Data Regression Test Results Model 1

Dependent Variable: NP
Method: Least Squares
Date: 08/07/25 Time: 21:37
Sample: 1 65
Included observations: 65

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 1.210583 | 0.422505 | 2.865249 | 0.0057 |
| ESG | -0.183548 | 0.059786 | -3.070069 | 0.0032 |
| GF | -0.109061 | 0.057900 | -1.883619 | 0.0645 |
| EO | -1.084355 | 0.580323 | -1.868536 | 0.0666 |
| ROA | 0.720149 | 0.196678 | 3.661571 | 0.0005 |

| | | | |
|---|---|---|---|
| R-squared | 0.482331 | Mean dependent var | 0.034159 |
| Adjusted R-squared | 0.447820 | S.D. dependent var | 0.298373 |
| S.E. of regression | 0.221717 | Akaike info criterion | -0.101024 |
| Sum squared resid | 2.949513 | Schwarz criterion | 0.066237 |
| Log likelihood | 8.283279 | Hannan-Quinn criter. | -0.035029 |
| F-statistic | 13.97605 | Durbin-Watson stat | 0.877776 |
| Prob(F-statistic) | 0.000000 | | |

*Source: Financial reports, processed data*

**Table 12** Panel Data Regression Test Results Model 2

Dependent Variable: PR
Method: Panel EGLS (Cross-section random effects)
Date: 08/07/25 Time: 20:36
Sample: 2020 2024
Periods included: 5
Cross-sections included: 13
Total panel (balanced) observations: 65
Swamy and Arora estimator of component variances

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -2.093954 | 0.074732 | -28.01964 | 0.0000 |
| ESG | 0.068761 | 0.029976 | 2.293864 | 0.0253 |
| GF | 0.102802 | 0.037636 | 2.731494 | 0.0082 |
| EO | -2.017660 | 0.323473 | -6.237492 | 0.0000 |
| | Effects Specification | | | |
| | | | S.D. | Rho |
| Cross-section random | | | 0.101129 | 0.4782 |
| Idiosyncratic random | | | 0.105645 | 0.5218 |
| | Weighted Statistics | | | |
| R-squared | 0.627625 | Mean dependent var | | -0.789658 |
| Adjusted R-squared | 0.609311 | S.D. dependent var | | 0.169243 |
| S.E. of regression | 0.105786 | Sum squared resid | | 0.682629 |
| F-statistic | 34.27110 | Durbin-Watson stat | | 0.989193 |
| Prob(F-statistic) | 0.000000 | | | |
| | Unweighted Statistics | | | |
| R-squared | 0.674864 | Mean dependent var | | -1.865613 |
| Sum squared resid | 1.292866 | Durbin-Watson stat | | 0.522290 |

*Source: Financial reports, processed data*

Based on Table 11, the R2 value for the company value (NP) variable is 0.482331, which means that the ESG, green finance, operational efficiency, and financial performance variables can explain 48.23% of NP, while the rest is explained by other factors outside the model. For Table 12, the R2 value for the financial performance (PR) variable is 0.627625, which means that the ESG, green finance, and operational efficiency variables can explain 62.76% of PR. This indicates that the strength of influence in this relationship model is relatively strong.

**Table 13** Summary of Direct Influence Test Results

| **Independent Variable** | **Dependent Variable** | **Coefficient Direction** | **t-Test Result** | **Sig.** | **Hypothesis** |
|---|---|---|---|---|---|
| ESG | Company Value | Negative | Influential | Significant | Rejected |
| *Green Finance* | | Negative | Not Influential | Not Significant | Rejected |
| Operational Efficiency | | Negative | Not Influential | Not Significant | Rejected |
| Financial Performance | | Positive | Influential | Significant | Accepted |
| ESG | Financial Performance | Positive | Influential | Significant | Accepted |
| *Green Finance* | | Operational Efficiency | Influential | Significant | Accepted |
| Operational Efficiency | | Operational Efficiency | Influential | Significant | Rejected |

*Source: Financial reports, processed data*

**Table 14** Summary of Indirect Effect (Mediation) Test Results

| **Independent Variable** | **Mediation Variable** | **Dependent Variable** | **Sobel Test Results** | **Hypothesis** |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| ESG | Financial Performance | Company Value | Cannot mediate | Rejected |
| *Green Finance* | | | Can mediate | Accepted |
| Operational Efficiency | | | Can mediate | Accepted |

*Source: Financial reports, processed data*

Based on the results of the Sobel test, the financial performance variable (PR) was proven to be able to mediate the influence of green finance and operational efficiency on company value (NP), but was unable to mediate the influence of ESG on company value.

### *B. Discussion*

Based on the analysis of this research, it is concluded that the influence of independent variables on business performance and financial performance is quite diverse and complex. The first hypothesis states that there is a positive impact of ESG on firm value as a result of a significant but unfavorable relationship. This indicates that an increase in ESG scores can enhance company value, aligning with the Agency Theory's argument that ESG is a cost or signal not positively perceived by the market (Signal Theory). Conversely the hypothesis is that ESG has a significant and positive impact on financial operations, consistent with legitimacy theory, which states that ESG can increase trust and profitability. Finally the third and second hypotheses, which stated that green finance and operational efficiency have a positive impact on firm value were rejected because they did not have a significant impact. This indicates that investors have not fully understood the benefits of green finance (Ningsi et al., 2024) and that efficiency does not always correlate with profit (Wangarry et al., 2023 : Wiadnyani & Artini, 2023). However the hypothesis that green finance has a significant positive impact on financial operations is supported by the argument that green projects can increase profitability (Yulianti et al., 2024). Conversely the hypothesis was rejected because operational efficiency had a significant negative impact on financial work productivity, indicating that efficiency only focuses on cost without considering increased productivity (Signal Theory). Based on the fourth hypothesis financial performance itself had a significant and positive impact on company value (Wahyuni, 2024; Wijayanti & Dondoan, 2022), which supports Signal Theory stating that high profitability is good for investors. In the context of media, the research findings indicate that financial performance is unable to mitigate this impact on the influence of ESG on firm value (ninth hypothesis rejected). According to research by Erlangga et al. (2021) and Safa & Pangestu, (2025), this suggests that the impact of ESG on firm value is not very significant based on profitability. Additionally, financial performance successfully mitigated the impact of green finance and operational efficiency on firm value (ninth and tenth hypotheses accepted). This indicates that green finance and operational efficiency do not automatically increase firm value; rather increased financial productivity is necessary for a positive impact on market valuation (Novianty et al., 2022; Wijayanti & Dondoan, 2022).

## IV. CONCLUSION

Based on the research results analyzing the influence of ESG, green finance, and operational efficiency on firm value with financial performance as a mediating variable in banking companies listed on the Indonesia Stock Exchange for the period 2020-2024, several conclusions can be drawn. Directly ESG was found to have a negative influence on firm value, which aligns with the findings of Safa & Pangestu, (2025) and Amaliah & Candra, (2024), indicating that sustainability initiatives are not yet fully valued by the market and are often seen as an additional cost burden. Meanwhile, neither green finance (Ningsi et al., 2024) nor operational efficiency (Wangarry et al., 2023; Wiadnyani & Artini, 2023) have a significant impact on firm value. This indicates that investors have not fully appreciated the long-term contribution of green financing and cost efficiency unless it is reflected in concrete profit increases. However, financial performance has been proven to have a positive and significant influence on company value (Wahyuni, 2024), confirming its role as a key indicator that investors consider when assessing a company's prospects. On the other hand, ESG and green finance (Yu et al., 2023) have a positive and significant impact on financial performance, indicating that both practices provide effective internal benefits in improving profitability. Conversely operational efficiency has a negative impact on financial performance, which was also found by Wangarry et al. (2023) and Wiadnyani & Artini (2023), indicating that high operational costs suppress profitability. In the context of mediation, financial performance is unable to mediate the influence of ESG on firm value (Erlangga et al., 2021), suggesting that the positive effect of ESG on profitability does not always lead to an increase in firm value. However financial performance has been proven to be able to mediate the influence of green finance (Yu et al., 2023) and operational efficiency ( Wijayanti &

Dondoan, 2022) on firm value, which means that the positive contribution of these two variables will only be realized in the form of increased firm value if they successfully improve financial performance first.

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