

ESG Performance and Firm Value in the Indonesian Banking Sector: Empirical Evidence in the Context of the Green Economy

Sari Nur Inayati^{1*}, Surya Raharja¹

Universitas Diponegoro, Indonesia

*Corresponding Email: sarinurinayati@students.undip.ac.id

ABSTRACT

This study aims to examine the effect of Environmental, Social, and Governance (ESG) Performance on firm value and to investigate the impact of each ESG dimension, namely Environmental (ENV), Social (SOC), and Governance (GOV), on the firm value of Indonesian banking companies. The population consists of all banking firms operating in Indonesia during the 2019–2024 period. The sample was selected using a purposive sampling technique based on several criteria, including the consistent publication of annual and sustainability reports, the availability of complete ESG data, and sufficient financial information. Based on these criteria, 27 banking companies with 140 firm-year observations were obtained. This study employed a quantitative approach using panel data regression analysis. Model selection was conducted through the Chow Test, Hausman Test, and Lagrange Multiplier Test, which indicated that the Fixed Effect Model (FEM) was the most appropriate estimation method. The findings reveal that ESG Performance has a negative effect on firm value, suggesting that the Indonesian capital market has not fully incorporated the long-term benefits of ESG practices into banking firm valuations. Further analysis indicates that the Social Score (SOC) negatively affects firm value, while the Environmental Score (ENV) and Governance Score (GOV) have no significant effect. Robustness tests using logarithmic transformation of Tobin's Q, outlier exclusion, and robust standard errors confirm the consistency of the results. The study concludes that ESG implementation in the Indonesian banking sector currently serves more as a mechanism for enhancing legitimacy and long-term sustainability rather than generating immediate increases in market value.

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INTRODUCTION

Global economic development is increasingly oriented toward the concept of a green economy, which emphasizes a balance between economic growth, environmental sustainability, and social welfare. Within this framework, companies are expected not only to focus on achieving financial performance but also to pay attention to environmental, social, and corporate governance aspects, commonly referred to as Environmental, Social, and Governance (ESG). The implementation of ESG is regarded as an important instrument for achieving sustainable development, as it promotes more responsible business practices and supports the attainment of green economic objectives ([Rachmad, 2025](#)).

The growing attention to ESG is also reflected in the development of sustainable investment in global capital markets. The Global Sustainable Investment Alliance reported that the value of global sustainable investments reached USD 30.3 trillion, indicating that



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investors increasingly consider ESG factors in investment decision-making and firm evaluation processes ([GSIA, 2023](#)). This trend suggests that ESG performance has the potential to become an important determinant of firm value, as it reflects a company's ability to manage long-term risks while creating sustainable value.

From a green economy perspective, the banking sector plays a highly strategic role as a financial intermediary that allocates financial resources across various economic sectors. Banks not only function as providers of financing but also contribute to the transition toward a sustainable economy through green financing, environmental risk management, and the integration of ESG principles into their business activities. Consequently, ESG implementation in the banking industry has become increasingly important, as it reflects a firm's commitment to sustainability and may influence investors' perceptions regarding the company's future prospects.

Theoretically, the relationship between ESG and firm value can be explained through stakeholder theory. This theory posits that firms must consider the interests of all stakeholders in order to obtain legitimacy and long-term support. ESG implementation represents a form of corporate responsibility toward stakeholders and is therefore expected to enhance corporate reputation, strengthen investor confidence, and ultimately increase firm value. In addition, signaling theory suggests that ESG disclosure serves as a positive signal regarding firm quality, thereby reducing information asymmetry in capital markets.

Previous studies have demonstrated the significant role of ESG in supporting corporate sustainability. For instance, [Wu et al. \(2025\)](#) found that ESG performance positively influences corporate green innovation through improved access to financing and stronger stakeholder support. Similarly, Zheng et al. (2025) reported that the development of green finance enhances ESG performance and accelerates the achievement of sustainable development goals. These findings indicate that ESG contributes substantially to the transformation toward a green economy.

However, empirical evidence regarding the relationship between ESG and firm value remains inconclusive. Some studies have found that ESG enhances firm value through improved corporate reputation and increased investor trust, whereas others argue that ESG implementation does not always generate immediate economic benefits because it requires substantial investment costs and its benefits are often realized only in the long term. These inconsistent findings reveal a research gap that warrants further investigation, particularly in the Indonesian banking industry, which is currently facing increasing demands to improve sustainability practices.

Moreover, most previous studies have primarily focused on the aggregate effect of ESG, while research examining the individual contributions of the Environmental (ENV), Social (SOC), and Governance (GOV) dimensions to firm value remains relatively limited. In fact, each ESG dimension possesses distinct characteristics and may have different implications for investor perceptions and corporate performance. Therefore, there is a need for research that not only examines the overall effect of ESG performance but also evaluates the impact of each ESG dimension on firm value.

Based on the existing phenomena, research gaps, and the crucial role of the banking industry in supporting the green economy, this study aims to analyze the effect of ESG performance on firm value and to examine the influence of each ESG dimension—Environmental (ENV), Social (SOC), and Governance (GOV)—on firm value in the Indonesian banking sector during the period 2019–2024. This study is expected to provide empirical contributions to the ESG and green economy literature, while also offering valuable insights for banking management, investors, and regulators in optimizing ESG implementation to create sustainable firm value.

Based on stakeholder theory, signaling theory, and previous empirical findings, the research hypotheses are formulated as follows:

H1: ESG Performance has a significant effect on firm value in the Indonesian banking sector.

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- H2: Environmental Performance (ENV) has a significant effect on firm value in the Indonesian banking sector.
H3: Social Performance (SOC) has a significant effect on firm value in the Indonesian banking sector.
H4: Governance Performance (GOV) has a significant effect on firm value in the Indonesian banking sector.

METHODS

This study employs a quantitative approach with an explanatory research design aimed at examining and explaining the effect of Environmental, Social, and Governance (ESG) Performance on firm value in the banking industry from a green economy perspective. A quantitative approach was selected because the study focuses on testing relationships among variables using numerical data analyzed through statistical techniques. The data utilized are secondary data obtained from annual reports, sustainability reports, and ESG databases published by ESG information providers.

The population of this study consists of all banking companies observed during the research period. The sample was determined using a purposive sampling technique, whereby samples were selected based on specific criteria to ensure alignment with the research objectives. The criteria included: (1) banking companies that consistently published annual reports and sustainability reports throughout the observation period; (2) companies with complete ESG Score data, including Environmental (ENV), Social (SOC), and Governance (GOV) scores; and (3) companies providing complete financial data required to calculate firm value. Based on these criteria, 27 banking companies were selected, resulting in a total of 140 firm-year observations during the 2019–2024 period.

This study employs panel data, which combine cross-sectional and time-series data. The use of panel data enables the study to obtain more comprehensive information by capturing variations across both firms and time periods. Furthermore, panel data improve estimation efficiency and reduce potential biases commonly associated with the separate use of cross-sectional or time-series data.

The dependent variable in this study is firm value, proxied by Tobin's Q ratio. This indicator was selected because it effectively reflects market perceptions regarding a company's overall prospects and performance. A higher Tobin's Q indicates a more favorable investor valuation of the firm. Meanwhile, the primary independent variable is ESG Performance, measured using the ESG Score. To provide a more comprehensive understanding of the influence of individual ESG components, this study also analyzes the three ESG dimensions separately, namely Environmental Score (ENV), Social Score (SOC), and Governance Score (GOV). The inclusion of these dimensions allows the identification of which ESG aspect exerts the greatest influence on changes in firm value.

Data analysis was conducted using panel data regression. Prior to model estimation, model selection tests were performed, including the Chow test, Hausman test, and Lagrange Multiplier test, to determine the most appropriate estimation model. Based on the test results, the Fixed Effect Model (FEM) was selected as the best model because it accommodates firm-specific characteristics that are unobservable but may influence the relationships among the research variables.

Hypothesis testing was carried out using two regression models. The first model examines the effect of ESG Performance on firm value, whereas the second model evaluates the effects of each ESG dimension ENV, SOC, and GOV—on firm value. The results are interpreted based on the regression coefficients to determine the direction of the relationships and the probability values (*p-values*) to assess the statistical significance of the independent variables' effects on the dependent variable.

To ensure the robustness of the findings, a series of robustness tests were conducted, including the application of logarithmic transformation to the Tobin's Q variable,

estimation after removing outliers, and the use of robust standard errors. These tests were intended to ensure that the estimation results were not affected by heteroskedasticity, non-normal data distributions, or extreme values. The consistency in the direction and significance of the coefficients across different model specifications indicates that the findings possess an adequate level of validity and reliability.

The empirical models employed in this study are specified as follows:

Model 1 (Effect of ESG Performance on Firm Value):

$$\text{TobinQ}_{it} = \alpha + \beta_1 \text{ESG}_{it} + \varepsilon_{it}$$

Model 2 (Effect of ESG Dimensions on Firm Value):

$$\text{TobinQ}_{it} = \alpha + \beta_1 \text{ENV}_{it} + \beta_2 \text{SOC}_{it} + \beta_3 \text{GOV}_{it} + \varepsilon_{it}$$

Through this methodological framework, the study is expected to provide empirical evidence regarding the effects of ESG Performance and its individual dimensions on firm value in the banking industry, thereby supporting the implementation of the green economy and sustainable development.

RESULTS AND DISCUSSION

This section presents the results of descriptive statistical analysis, panel data regression using the Fixed Effect Model (FEM), an examination of the effects of individual ESG dimensions on firm value, and robustness tests to ensure the consistency of the research findings.

Descriptive Statistics

Descriptive statistics are employed to provide an overview of the characteristics of the research data, including the mean, standard deviation, minimum value, and maximum value of each variable used in the study. The results of the descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	SD	Min	Max
Tobin's Q	1.59	2.64	0.87	21.85
ESG	50.94	8.26	31.66	66.48
ENV	26.43	13.47	0.00	65.27
SOC	39.75	10.67	19.98	58.31
GOV	86.51	7.92	68.57	97.50

Source : Processing data (2026)

Based on Table 1, firm value, proxied by Tobin's Q, has an average value of 1.59, with a minimum value of 0.87 and a maximum value of 21.85. The average Tobin's Q exceeding one indicates that, in general, banking firms included in the sample possess market values that are higher than their book values. However, the relatively high standard deviation of 2.64 suggests substantial variation in firm value across companies.

The ESG Performance variable has an average score of 50.94 with a standard deviation of 8.26. This finding indicates that the level of ESG implementation in the Indonesian banking sector can be categorized as moderate, with relatively moderate variation among firms. Among the three ESG dimensions, Governance Score exhibits the highest average value at 86.51, followed by Social Score (39.75) and Environmental Score (26.43). These findings suggest that banking companies tend to perform better in governance practices than in environmental and social aspects.

The Effect of ESG Performance on Firm Value

The main hypothesis was tested using panel data regression with the Fixed Effect Model (FEM) approach. The selection of the FEM was based on model selection tests indicating that this model was the most appropriate for accommodating firm-specific characteristics that are unobservable but potentially influence the relationships among the

research variables.

The regression results examining the effect of ESG Performance on firm value are presented in Table 2.

Table 2. Fixed Effect Model (FEM) Regression Results

Variable	Coefficient	t-statistic	p-value
ESG	-0.0811	-1.816	0.072
Source : Processing data (2026)			
Statistic		Value	
R ²		0.030	
F-statistic		3.298	

Based on Table 2, ESG Performance has a coefficient of -0.0811 with a probability value of 0.072. This result indicates that ESG Performance negatively affects firm value at the 10 percent significance level. Thus, a one-unit increase in the ESG score tends to reduce firm value, measured by Tobin's Q, by approximately 0.0811 points.

These findings suggest that the capital market has not yet fully appreciated ESG implementation within the Indonesian banking sector. Although ESG is theoretically expected to enhance corporate reputation, reduce risk, and strengthen investor confidence, in the short term, ESG implementation may be perceived as an additional cost that potentially suppresses corporate profitability. Consequently, investors may still place greater emphasis on short-term financial performance rather than on the long-term benefits associated with ESG practices. The coefficient of determination (R²) of 0.030 indicates that ESG Performance explains approximately 3.0 percent of the variation in firm value. Although this contribution is relatively small, the result suggests that ESG remains one of the factors influencing market perceptions of banking firms.

The Effects of ESG Dimensions on Firm Value

To obtain a deeper understanding of the influence of each ESG dimension on firm value, this study separately examines the effects of Environmental Score (ENV), Social Score (SOC), and Governance Score (GOV). The results are presented in Table 3.

Table 3. Effects of ESG Dimensions on Firm Value

Variable	Coefficient	p-value
ENV	0.019	0.637
SOC	-0.086	0.073
GOV	-0.019	0.775

Source : Processing data (2026)

Furthermore, the regression coefficients for each ESG dimension are visualized in Figure 1 to provide a clearer illustration of the direction and magnitude of their effects on firm value.

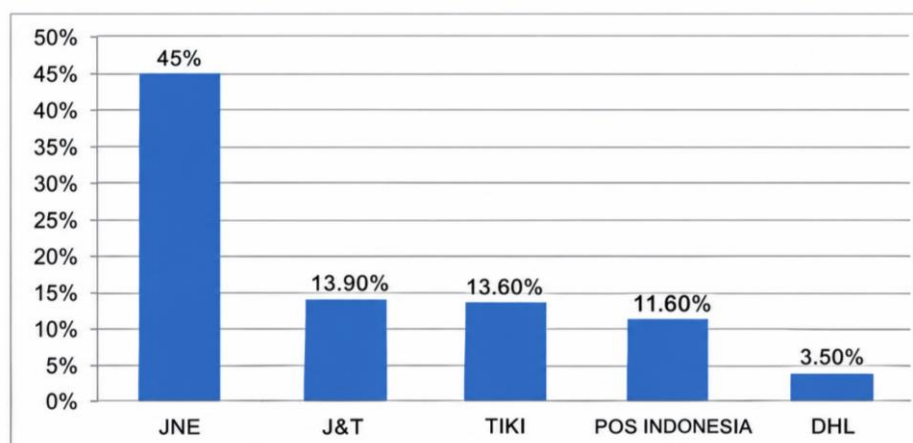


Figure 1. Effects of ESG Dimensions on Firm Value

Source: Processed research data (2026).

Figure 1 shows that the social dimension (Social Score) has the largest negative coefficient among all ESG dimensions. In contrast, the environmental dimension (Environmental Score) exhibits a positive relationship, although it is not statistically significant. Meanwhile, the governance dimension (Governance Score) has a negative effect with a relatively small magnitude. These findings indicate that the overall negative relationship between ESG and firm value is primarily driven by the social dimension. The results imply that the market still perceives social investments as costs that have not yet generated direct economic benefits in the short run.

Robustness Test

To ensure that the research findings are not driven by specific data characteristics, several robustness tests were conducted using alternative model specifications. These tests included logarithmic transformation of the Tobin's Q variable, exclusion of outlier observations, and the use of robust standard errors.

The results of the robustness tests are presented in Table 4.

Table 4. Robustness Test Results

Model	ESG Coefficient	p-value
Baseline FEM	-0.0811	0.072
Log Tobin's Q	-0.0137	0.022
Without Outliers	-0.0107	0.085
Robust SE	-0.0811	> 0.10

Source : Processing data (2026)

Based on Table 4, all alternative models consistently produce negative coefficients. In the logarithmic Tobin's Q model, ESG has a coefficient of -0.0137 and is statistically significant at the 5 percent level. After excluding outlier observations, the relationship remains negative with a coefficient of -0.0107. Similar findings are observed when robust standard errors are applied, where the relationship remains negative although the level of significance decreases.

The consistency in coefficient direction across all alternative models indicates that the research findings are robust and are not influenced by data distribution issues, extreme values, or heteroskedasticity. Therefore, it can be concluded that ESG Performance tends to have a negative effect on firm value in the Indonesian banking sector during the observation period.

Table 5. Summary of Hypothesis Testing

Hypothesis	Hypothesis Statement	Result
H1	ESG Performance affects firm value	Supported (negative effect, $p = 0.072$ at $\alpha = 10\%$)
H2	Environmental Score affects firm value	Not supported ($p = 0.637$)
H3	Social Score affects firm value	Supported (negative effect, $p = 0.073$ at $\alpha = 10\%$)
H4	Governance Score affects firm value	Not supported ($p = 0.775$)

Source: Processed research data (2026).

DISCUSSION

The findings of this study indicate that ESG Performance negatively affects the firm value of banking companies in Indonesia. This finding contradicts the primary prediction of Stakeholder Theory, which posits that companies capable of meeting stakeholder expectations through sustainability practices will gain reputation, legitimacy, and support that ultimately enhance firm value ([Freeman, 1984](#)). Empirically, the results of this study are more consistent with the findings of [Sari and Valdiansyah \(2025\)](#), [Truong \(2025\)](#), [Marpaung et al. \(2025\)](#), [Yori and Rahmawati \(2025\)](#), and [Harijan \(2025\)](#), who reported that ESG negatively influences firm value or Tobin's Q. The consistency of these findings suggests that, within the context of developing countries, including Indonesia and the Southeast Asian region, capital markets still perceive ESG implementation as an additional cost that has not yet generated observable economic benefits. Investments in sustainability reporting, environmental management, corporate governance, and social programs require substantial implementation costs, which may suppress short-term profitability. This condition explains why investors continue to place greater emphasis on traditional financial indicators than on ESG performance when evaluating banking firms. These findings further indicate that the benefits proposed by Stakeholder Theory have not yet been fully realized in the form of increased market value within the Indonesian banking industry.

From the perspective of Signaling Theory, ESG is expected to function as a positive signal that reduces information asymmetry and enhances investor confidence regarding a firm's long-term prospects ([Spence, 1973](#)). However, the findings reveal that ESG signals provided by banking companies have not yet been positively interpreted by the market. This result differs from the findings of [Zheng et al. \(2025\)](#), [Huang et al. \(2025\)](#), [Moolkham \(2025\)](#), [Yadav \(2025\)](#), [Habib et al. \(2025\)](#), [Khotimah and Maryani \(2025\)](#), and [Alomair and Metwally \(2025\)](#), who found that ESG enhances firm value because it is perceived as a signal of managerial quality, risk management capability, and business sustainability. These discrepancies suggest that the effectiveness of ESG signaling is highly dependent on market characteristics and the maturity level of the ESG ecosystem in each country. In developed countries, investors have integrated ESG information into firm valuation processes, leading ESG to be regarded as a strategic asset. In contrast, in emerging markets such as Indonesia, ESG implementation may still be in a transitional stage, and its economic benefits have not yet been fully recognized by investors. This argument is reinforced by [Marpaung et al. \(2025\)](#), who found that ESG disclosure negatively affects Tobin's Q when not supported by adequate credit risk governance. In other words, the market evaluates not only the existence of ESG disclosure but also the credibility and effectiveness of ESG implementation itself. When ESG is perceived merely as regulatory compliance or symbolic adherence, the signal received by investors becomes weak and fails to enhance firm value.

The analysis of individual ESG dimensions demonstrates that the negative relationship between ESG and firm value is primarily driven by the social dimension (Social Score). In the Indonesian banking sector, social-related activities commonly include financial literacy and inclusion programs, scholarships and educational assistance,

community health and nutrition programs, disaster relief, women's empowerment, and capacity-building programs for micro, small, and medium enterprises (MSMEs). For example, BRI's sustainability initiatives include education and health assistance, scholarships, community nutrition and stunting prevention, disaster response, women's empowerment, and MSME capacity-building programs. Although such programs can generate important social and reputational benefits, their implementation requires financial resources for program funding, training, facilities, community assistance, and other operational activities. When these expenditures are recognized as current-period social responsibility costs, they can increase operating or other expenses and consequently reduce short-term earnings, particularly when the economic benefits of such investments have not yet materialized. Thus, from a short-term market perspective, higher social engagement may be interpreted as an additional cost rather than an immediate source of financial returns. This mechanism provides a plausible explanation for the negative and statistically significant coefficient of the Social Score observed in this study, while the longer-term benefits of these initiatives may emerge through improved stakeholder relationships, customer loyalty, reputation, and social legitimacy. Whereas the environmental (Environmental Score) and governance (Governance Score) dimensions do not significantly affect firm value. These findings indicate that the market does not respond uniformly to all ESG components. The negative coefficient associated with the social dimension suggests that investments in employee welfare, human resource development, community programs, and corporate social responsibility activities are still perceived as costs whose economic benefits are difficult to measure in the short term. This finding differs from [Xiao et al. \(2025\)](#), who demonstrated that ESG enhances green innovation through improved corporate reputation, and from [Habib et al. \(2025\)](#), who found that ESG and green finance create competitive advantages. Conversely, the present findings are more consistent with [Yori and Rahmawati \(2025\)](#), who reported a negative effect of ESG on firm value in Indonesia. Meanwhile, the positive but statistically insignificant coefficient for the environmental dimension suggests that the market has begun to appreciate environmental initiatives, although their impact remains insufficient to increase corporate valuation. This finding is consistent with [Gidage, Gyamfi, and Asongu \(2025\)](#), who found that environmental reporting in the BRICS banking sector reduced Tobin's Q despite improving profitability indicators. Therefore, environmental benefits appear to be more readily reflected in operational performance than in market valuation. On the other hand, the insignificant effect of the governance dimension may be attributable to the relatively high average governance score among the sampled firms, indicating that good governance practices have become a minimum industry standard in the banking sector and are no longer perceived as a distinguishing factor by investors.

The robustness tests, which consistently demonstrate a negative coefficient across all model specifications, further strengthen the validity of the study's findings. From the perspective of Legitimacy Theory, these results suggest that ESG implementation in the Indonesian banking sector currently functions more as an instrument for obtaining social legitimacy than as a mechanism for creating short-term market value (Dowling & Pfeffer, 1975). Banking firms remain motivated to implement ESG practices due to regulatory pressures, societal expectations, and sustainable development agendas, even though the market has not yet fully rewarded these efforts economically. These findings are supported by [Hutauruk and Wahyuni \(2026\)](#), [Gidage and Bhide \(2025\)](#), and [Bani-Khaled, Azevedo, and Oliveira \(2025\)](#), who emphasized the important role of ESG in fostering corporate sustainability and legitimacy. Nevertheless, [Brighi et al. \(2025\)](#) and [Dou et al. \(2025\)](#) provide a more critical perspective, arguing that the benefits of ESG often become evident only when firms face risks, ESG controversies, or reputational pressures. Firms with high ESG quality have been shown to be more capable of maintaining firm value during periods of controversy or environmental uncertainty. Therefore, the findings of this study do not necessarily imply that ESG fails to create firm value; rather, they indicate that the benefits

of ESG in the Indonesian banking sector remain latent and have not yet been fully internalized by the market. In other words, the Indonesian banking industry appears to be in a transitional phase toward a green economy, where ESG has successfully generated social legitimacy and strengthened corporate sustainability, while capital markets still require additional time to convert these benefits into tangible increases in firm value. These findings also support the arguments advanced by [Zheng et al. \(2025\)](#) and [Marpaung et al. \(2025\)](#) that the relationship between ESG and firm value is not always linear but is influenced by the quality of ESG implementation, risk governance, environmental uncertainty, and country-specific institutional characteristics.

CONCLUSION

This study aims to analyze the effect of ESG Performance and its individual dimensions, namely Environmental (ENV), Social (SOC), and Governance (GOV), on the firm value of banking companies in Indonesia during the 2019–2024 period. The findings reveal that ESG Performance has a negative effect on firm value; therefore, H1 is supported with a negative relationship. Furthermore, Environmental Score (ENV) does not significantly affect firm value, leading to the rejection of H2. Social Score (SOC) negatively affects firm value; thus, H3 is supported with a negative relationship and is identified as the dimension that contributes most substantially to the negative relationship between ESG and firm value. Meanwhile, Governance Score (GOV) does not significantly affect firm value, resulting in the rejection of H4. The consistent results obtained from the robustness tests further strengthen the conclusion that the Indonesian capital market has not yet fully internalized the benefits of ESG into the valuation of banking firms. These findings suggest that ESG implementation in the Indonesian banking sector currently plays a greater role in fostering legitimacy and long-term sustainability rather than generating immediate increases in market value.

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