

The Role of Profitability in Moderating the Influence of ESG on Company Value

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ABSTRACT

According to Bloomberg ESG Disclosure (2024), ESG-based investments have reached \$35 trillion globally, with Indonesia showing a 45% increase in ESG disclosure among listed companies in 2023. This research analyzes the moderating role of profitability in the relationship between Environmental, Social, and Governance (ESG) performance and firm value in high-risk companies listed on the Indonesia Stock Exchange (IDX) during 2022–2023. Using a quantitative approach and purposive sampling, data were collected from 202 high-risk companies in mining, energy, and chemical sectors. Panel data regression analysis with a fixed effects model was applied, based on Chow and Hausman tests. Findings show that ESG performance alone does not significantly affect firm value. However, when profitability, measured by Return on Assets (ROA), is introduced as a moderator, ESG exhibits a significant negative effect on firm value, while profitability has a significant positive effect. Notably, the interaction between ESG and profitability is significantly negative, indicating profitability weakens, rather than strengthens, ESG's impact on firm value. This suggests investors perceive ESG efforts in highly profitable, high-risk Indonesian companies as inefficient resource allocation. This research advances signaling theory by showing that ESG implementation is not always viewed positively by investors, particularly in profitable, high-risk firms. The findings have important implications for corporate managers aiming to implement ESG efficiently and for regulators designing policies to encourage ESG adoption in high-risk sectors.

KEYWORDS ESG Performance, Firm Value, Profitability, High-Risk Companies, Signaling Theory



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INTRODUCTION

Recent data from S&P Global (2024) indicates that ESG-based assets under management have grown by 34% globally, while the Indonesian Financial Services Authority (OJK) reported that 67% of listed companies now publish sustainability reports, compared to 23% in 2019. This dramatic increase underscores the growing importance of ESG factors in investment decisions. The dynamics of the contemporary capital market have undergone a significant transformation with increasing attention to Environmental, Social, and Governance (ESG) aspects as a parameter of sustainable corporate performance (Barko et al., 2022; Brogi et al., 2022; Fuadah et al., 2022; Koroleva et al., 2020; Nguyen & Ngo, 2022; Zhao et al., 2023). This paradigm emerged in response to increasingly complex stakeholder demands, where a company's value is no longer solely measured from a financial perspective, but also from its ability to manage environmental, social, and governance risks in good governance.

This phenomenon is becoming increasingly relevant, especially in high-risk industrial sectors that have a significant impact on the environment and society, such as mining, energy, and heavy manufacturing. In the context of high-risk companies, ESG implementation is becoming increasingly crucial given the high potential negative impact that can be caused on the environment and society. Research conducted by (Firmansyah et al., 2023) revealed that companies in high-risk sectors that have a good ESG score tend to have higher market valuations and lower systematic risks. However, there is a significant research gap on how profitability plays a role in moderating the relationship between ESG implementation and corporate value, particularly in the context of high-risk industries.

This highlights the need for contextual analysis related to the influence of profitability in moderating ESG on company value. Previous research has shown mixed results regarding the relationship between ESG implementation and company values. While studies by (Hendro, 2023) found a positive relationship between ESG performance and corporate value in companies in the energy sector, research conducted by (Chen et al., 2023) demonstrates varying results depending on the company's profitability level. This inconsistency indicates a research gap where the role of profitability as a moderator has not been adequately explored, particularly in high-risk industries. The synthesis of existing literature reveals that while some studies support a positive ESG-firm value relationship, others find inconsistent results, highlighting the critical need to examine profitability's moderating role in high-risk industrial contexts. The relationship between ESG implementation and company values. (Hendro, 2023) found a positive relationship between ESG performance and corporate value in companies in the energy sector, while a research conducted by (Chen et al., 2023) show results that vary depending on the level of profitability of the company.

Based on Signal Theory, companies use ESG disclosures to reduce information asymmetry with stakeholders, demonstrating a commitment to sustainability. However, the relevance of this theory is often tested in the context of certain sectors, especially high-risk industries. For example, in research conducted by (Durlista & Wahyudi, 2023) said that companies with high profitability in the sector use ESG to improve market confidence. However, the phenomenon of the inconsistency of the effects of ESG on corporate value in various industries indicates the need for an in-depth analysis of the role of profitability as a moderator.

The theoretical arguments developed in this research are strengthened by the findings (Antonius, 2023) which identifies that companies with high profitability have greater capacity to implement ESG initiatives effectively, which in turn contributes positively to the company's value. However, these relationships are not always linear and can be influenced by a variety of contextual factors, including industry characteristics and macroeconomic conditions. This research aims to comprehensively analyze the role of profitability in moderating the influence of ESG implementation on company value, especially in high-risk industrial sectors. Specifically, this research will examine how profitability levels can strengthen or weaken the relationship between ESG practices and company values, considering the unique characteristics of high-risk industry sectors. Based on theoretical and empirical studies that have been conducted, this research proposes the hypothesis that profitability has a positive moderation role in the relationship between ESG implementation and corporate value in high-risk industrial sectors. Without further analysis of the role of profitability, the relationship

between ESG and firm value is potentially biased and cannot be used as a basis for strategic policy in high-risk industries.

This research aims to fill the identified gap by providing empirical evidence on how profitability moderates the ESG-firm value relationship in Indonesian high-risk companies. The benefits of this research include providing strategic guidance for corporate management in optimizing ESG resource allocation, offering insights for investors in high-risk sectors, and contributing to policy formulation for regulators seeking to promote sustainable practices.

The original contribution of this research lies in its focus on the role of profitability moderation in the specific context of high-risk industries, which have unique characteristics and challenges in ESG implementation. The significance of this research is even more relevant given the increasing regulatory pressures and public expectations of high-risk companies to adopt more sustainable business practices. The results of this research are expected to provide practical implications for corporate management in optimizing the allocation of resources for ESG initiatives, as well as theoretical implications for the development of literature in the field of sustainable finance and strategic management.

METHOD

This research uses a quantitative approach with a population covering all high-risk companies listed on the Indonesia Stock Exchange (IDX) during 2022-2023. The year 2022-2023 was chosen because it is the post-COVID-19 pandemic period, where high-risk companies such as those in the mining, energy, and chemical sectors face major challenges in maintaining a balance between efforts to maintain profitability and commitment to sustainability. The research sample was determined using the purposive sampling method with the following criteria: companies that are consistently listed on the IDX during the research period, publish complete financial statements and sustainability reports, the results of which are collected from a sample of 202 companies.

Intervariable interactions were analyzed using multiple linear regression analysis, with panel data processed through EViews version 12 software to ensure the identification of relationship patterns with a high degree of accuracy. The regression model used includes the company's value as a dependent variable, ESG performance as an independent variable, and profitability as a moderation variable to provide a comprehensive analysis.

$$Y = \alpha + \beta_0 + \beta_1 \text{ESG} + \beta_2 P + \beta_3 (\text{ESG} \times P) + e$$

Where:

Y = Company value

b₀ = Constant

b₁, b₂, b₃ = Regression Coefficient

ESG = Environmental, social, and governance performance

P = Profitability

E = Error

All data used in this research are secondary data obtained from the bloomberg database of Diponegoro University. The dependent variable in this research is the company's value, which is measured using Tobin's Q because this metric is able to reflect the company's market value compared to its book value. The independent variable is **the ESG score**, consisting of three main components: Environmental (E), Social (S), and Governance (G), with weights

determined based on industry standards. Meanwhile, the moderation variable is profitability, which is measured using Return on Assets (ROA) to describe a company's efficiency in generating profits from its assets.

Table 1. Operational Definition and Measurement of Research Variables

Variable	Proxy	Operational Definition
Company Values	Tobin's Q	(Equity Market Value + Debt Book Value) / Total Asset Book Value
ESG	ESG Score	Composite of Environmental, Social, and Governance scores
Profitability	Return on Assets (ROA)	Net Profit / Total Assets

Source: created by the author

RESULTS AND DISCUSSION

This research analyzes the influence of Environmental, Social, and Governance (ESG) on the value of companies with profitability as a moderation variable in high-risk companies listed on the Indonesia Stock Exchange (IDX) for the 2022-2023 period. Data analysis was carried out by descriptive statistical methods and panel data regression. Descriptive statistics show that Tobin's average Q value is 0.938 with a standard deviation of 0.742, a maximum value of 3.853 and a minimum of 0. The ESG score has an average of 46,609 with a standard deviation of 13,727, a maximum value of 75,690 and a minimum of 17,300. Profitability measured by ROA has an average of 0.079 with a standard deviation of 0.109, a maximum value of 0.557 and a minimum of -0.101. This high variability of data shows the diversity of company characteristics in the research sample.

Table 2. Descriptive Statistics

	TOBINQ	ESG	LENGTH
Mean	0.938947	46.60931	0.079474
Median	0.709881	47.50000	0.047000
Maximum	3.853616	75.69000	0.557300
Minimum	0.000000	17.30000	-0.101100
Std. Dev.	0.742617	13.72734	0.109885
Skewness	1.932802	0.117367	2.099177
Kurtosis	6.891480	2.311955	8.852533
Jarque-Bera	124.1068	2.224128	218.3213
Probability	0.000000	0.328879	0.000000
Sum	92.95579	4707.540	8.026900
Sum Sq. Dev.	54.04499	18843.99	1.207463
Observations	101	101	101

The determination of the best panel data regression model was carried out through three tests, namely the Chow Test, the Hausman Test, and the Lagrange Multiplier Test. The results of the Chow Test showed a probability value of $0.000 < 0.05$, indicating that the Fixed Effect model was more accurate than the Common Effect. The Hausman test yields a probability value of $0.028 < 0.05$, supporting the use of the Fixed Effect model over Random Effect. Although the results of the Lagrange Multiplier Test showed a probability value of $0.001 < 0.05$ in favor

of the Random Effect model compared to the Common Effect, based on the set of tests, the Fixed Effect model was established as the best model for panel data analysis in this research. Classical assumption testing is performed to ensure the feasibility of regression models. The results of the normality test with Jarque-Bera showed a probability value of $0.101 > 0.05$, indicating that the residual data was normally distributed. The multicollinearity test showed VIF values for all independent variables < 10 , indicating the absence of multicollinearity problems. The heteroscedasticity test with the Glejser method yielded a probability value of $0.376 > 0.05$, confirming the absence of heteroscedasticity in the model. The autocorrelation test with the Durbin-Watson statistic showed a value of 1.945 that was between dU and 4-dU, indicating the absence of autocorrelation in the residual data.

The results of the panel data regression analysis without moderation produced the equation:

$$\text{TOBINQ} = 2.688 - 0.036 \text{ ESG} + 7.262 \text{ ROA}$$

These results show that ESG has a negative influence on company value, while profitability (ROA) has a positive effect. However, the results of the t-test showed that ESG had no significant effect on company value ($p\text{-value} = 0.245 > 0.05$), while ROA had a positive and significant effect ($p\text{-value} = 0.034 < 0.05$).

Table 3. Panel Data Regression Results Without Moderation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.688827	1.511803	1.778556	0.0783
ESG	-0.036004	0.030796	-1.169111	0.2451
LENGTH	7.262595	3.381968	2.147446	0.0341

The results of the panel data regression analysis with moderation produced the equation:

$$\text{TOBINQ} = 2,454 - 1,315 \text{ ESG} + 2,106 \text{ LONG} - 1,109 \text{ ESG*LONG}$$

These results show that ESG has a negative and significant influence on company value ($p\text{-value} = 0.037 < 0.05$), ROA has a positive and significant effect ($p\text{-value} = 0.010 < 0.05$), and ESG*ROA interaction has a negative and significant effect ($p\text{-value} = 0.021 < 0.05$).

Table 4. Panel Data Regression Results with Moderation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.454602	1.034160	2.373522	0.0219
ESG	-1.315551	0.613085	-2.145790	0.0372
LENGTH	2.106364	0.790335	2.665154	0.0106
ESG*ROA	-1.109236	0.466445	-2.378063	0.0216

Simultaneous tests (F tests) on the model without moderation showed a probability value of $0.058 > 0.05$, indicating that the independent variables simultaneously had no significant effect on the company's value. However, in the model with moderation, the probability value is $0.011 < 0.05$, indicating that the independent variable simultaneously has a significant effect on the company's value. The coefficient of determination (R^2) in the non-moderation model is 0.531, meaning that 53.1% of the variation in the company's value can be explained by ESG and ROA, while the remaining 46.9% is explained by other variables outside the model. In the model with moderation, the determination coefficient increased to 0.617,

meaning that 61.7% of the variation in the company's value could be explained by ESG, ROA, and ESG*ROA interactions, while the remaining 38.3% could be explained by other variables outside the model. Based on the results of the hypothesis testing, it can be concluded that:

- a. H1 rejected: ESG has no significant effect on the company's value (in a model without moderation).
- b. ESG has a significant negative effect on company value (in a moderation model).
- c. ROA has a significant positive effect on the company's value (in both models).
- d. H2 accepted: Profitability is able to moderate the influence of ESG on company value.

The results of the research show that ESG does not have a significant effect on the value of companies in high-risk companies listed on the IDX for the 2022-2023 period. This is not in line with the research hypothesis that ESG has a positive effect on company value. These findings indicate that investors in Indonesia have not fully considered ESG aspects in their investment decisions, especially in high-risk companies. This is in line with research (Gilbert, 2021b) which found that ESG contributes significantly negatively to the value of companies in property and real estate companies in Indonesia. However, when profitability is included as a moderation variable, ESG becomes a significant negative effect on the company's value. This shows that the implementation of ESG in high-risk companies in Indonesia can actually reduce the value of the company. These findings contradict the results of the research (Aydoğmuş et al., 2022) who found that the combined ESG score had a positive and significant relationship with the company's value. This difference in results may be due to the unique characteristics of high-risk companies in Indonesia, where ESG implementation is considered an additional cost that reduces the company's operational efficiency.

Profitability (ROA) was found to have a positive and significant effect on the company's value. This is in line with signal theory which states that high profitability gives investors a positive signal about the company's prospects, thereby increasing the company's value. These findings are consistent with previous research that shows that profitability is an important factor in determining a company's value. The most interesting finding of this research is the effect of profitability moderation on the relationship between ESG and corporate value. A negative and significant ESG*ROA interaction coefficient indicates that profitability weakens the relationship between ESG and company value. This means that in companies with high profitability, the negative influence of ESG on company value is getting stronger. These findings contradict the research hypothesis that profitability reinforces the positive influence of ESG on company value.

This phenomenon can be explained through the perspective of signal theory in the context of high-risk companies in Indonesia. High-risk companies with high profitability may be considered by investors to have successfully managed environmental, social, and governance risks without the need for additional investment in formal ESG initiatives. As a result, when these companies allocate resources to ESG implementation, investors may perceive them as inefficient allocations and potentially reduce their return on investment. The research also found that models with moderation had a higher coefficient of determination (R^2) than models without moderation (61.7% vs. 53.1%). This confirms that profitability does have a moderating role in the relationship between ESG and corporate value, although not as expected in the research hypothesis.

These findings provide important implications for the management of high-risk companies in Indonesia. First, ESG implementation needs to be done carefully and pay attention to cost efficiency, especially for companies with high profitability. Second, companies need to communicate the long-term benefits of ESG initiatives to investors to address negative perceptions about the cost of ESG implementation. Third, regulators and policymakers need to consider specific incentives to encourage ESG implementation in high-risk companies, given their potential negative impact on corporate value in the short term. The results of this research add to the literature on ESG and corporate value by providing empirical evidence on the role of profitability moderation in the context of high-risk companies in Indonesia. In contrast to previous studies that tended to find the positive influence of ESG on company values, this research shows that industry-specific contexts and company characteristics can influence these relationships.

The research also broadens the understanding of signal theory in the context of ESG, by showing that ESG implementation is not always considered a positive signal by investors, especially in high-risk companies with high profitability. These findings suggest that the application of signal theory needs to consider the specific context and unique characteristics of each industry sector. Research (Xaviera & Rahman, 2023) and (Gilbert, 2021a) show mixed results on the role of profitability moderation in the relationship between ESG and corporate values. The research adds new empirical evidence confirming the role of profitability moderation, but in a different direction than expected. This demonstrates the complexity of the relationship between ESG, profitability, and corporate value, as well as the importance of contextual analysis in ESG-related research.

CONCLUSION

This research examines the moderating role of profitability on the influence of Environmental, Social, and Governance (ESG) performance on company value in high-risk firms listed on the Indonesia Stock Exchange during 2022–2023. The findings reveal that ESG alone does not significantly affect firm value, but when profitability—measured by ROA—is included as a moderator, ESG negatively impacts firm value, while profitability itself positively affects it. Contrary to expectations, profitability weakens rather than strengthens the positive effect of ESG, suggesting that investor's view ESG efforts in highly profitable, high-risk companies as inefficient resource allocation. These results highlight the need for corporate managers to implement ESG practices efficiently and clearly communicate their long-term benefits, while regulators should design tailored incentives to promote ESG adoption in high-risk sectors. This study also extends signaling theory by demonstrating that ESG implementation is not always perceived positively by investors, particularly in profitable high-risk firms. Future research could explore how different types of ESG activities or stakeholder perceptions influence this relationship across various industries and emerging markets.

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