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## The Effect of ESG Engagement on Firm Value with ESG Disparity as a Moderating Variable

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### Abstract

**Purpose** – This study examines the impact of ESG engagement on firm value and evaluates whether ESG disparity moderates the relationship between ESG engagement and firm value among non-financial firms in Indonesia over the period 2021–2024.

**Design/methodology/approach** – The sample was selected using purposive sampling, resulting in 71 non-financial firms. Panel data regression models were estimated using EViews 13. The analysis relies on secondary data obtained from corporate annual reports and Refinitiv Eikon.

**Findings** – The empirical results reveal that ESG engagement does not exert a significant effect on firm value. Furthermore, ESG disparity fails to demonstrate a negative moderating effect, indicating that it does not weaken the relationship between ESG engagement and firm value.

**Originality/value** – This study contributes to the emerging ESG literature in developing economies by incorporating ESG disparity as a moderating variable, thereby offering novel insights into the heterogeneity of ESG practices within the Indonesian context.

**Research limitations/implications** – The relatively short observation period and the exclusive focus on the non-financial sector may limit the generalizability of the findings. Moreover, the study does not employ alternative measurement specifications to assess model robustness, suggesting avenues for future research.

**Keywords:** Firm value, ESG engagement, ESG disparity, and non-financial firms.

**Article Type:** Research paper



## Introduction

Sustainability issues have become a major concern in the modern global economy, along with the increasing impacts of climate change, environmental degradation, and socio-economic inequality. Companies are now required not only to pursue short-term financial profits, but also to act as agents of sustainable development ([Li et al., 2021](#); [Porter & Kramer, 2011](#)). The strengthening of international commitments through the Paris Agreement and the 2030 Sustainable Development Goals (SDGs) confirms that sustainability is a shared responsibility of states, markets, and the corporate sector ([Dosinta et al., 2024](#); [Eccles et al., 2014](#)).

Within the concept of sustainability, Environmental, Social, and Governance (ESG) has emerged as a standard for assessing corporate sustainability commitments. Introduced in 2004, ESG has now become a global reference for companies and investors in evaluating risks, opportunities, and sustainability impacts ([Friede et al., 2015](#); [IFC, 2021](#); [Li et al., 2021](#)). The rapid growth of sustainable investment, with global ESG-based assets exceeding USD 30 trillion ([GSIA, 2022](#)), has driven broader ESG integration into corporate strategies and investment decision-making. In Indonesia, increasing investor interest in sustainable practices is reflected in the development of SDG-related bonds and a PwC Indonesia report ([2023](#)), which indicates that ESG metrics are becoming increasingly important in risk management and value creation.

However, the expansion of ESG implementation has also generated new challenges, particularly the phenomenon of greenwashing, where companies present a sustainability image that does not reflect their actual practices ([Fuente & Velasco, 2024](#)). Investor skepticism regarding the reliability of ESG information is further reinforced by the PwC Global survey ([2021](#)), as well as actions taken by international authorities such as the SEC, which imposed sanctions for ESG mislabeling ([SEC, 2022](#)). In Indonesia, various investigations have revealed sustainability issues, particularly in strategic sectors, underscoring companies' vulnerability to ESG credibility concerns ([Mongabay, 2024](#); [Reuters, 2025](#); [Tempo, 2022](#)). In response to these conditions, Indonesian regulators have formulated various policies, including POJK No.51/POJK.03/2017, SEOJK No.16/SEOJK.04/2021, the Sustainable Finance Roadmap, ESG-based market indices such as IDX ESG Leaders, and the Green Taxonomy ([BEI, 2020](#); [OJK, 2017, 2021, 2022](#)).

Despite the strengthening regulatory push, ESG implementation in Indonesia has not yet been fully optimized. Studies indicate that only a portion of companies comply with ESG standards, and short-term economic incentives remain insufficient to encourage comprehensive adoption ([Soeprajitno et al., 2024](#); [Solovida et al., 2024](#)). In fact, sustainability practices have the potential to enhance firm value through improved reputation, risk reduction, and stronger investor relationships ([Eccles et al., 2014](#); [Friede et al., 2015](#); [Nafisah et al., 2020](#)). Nevertheless, international empirical evidence shows mixed results, with several studies reporting negative or insignificant effects ([Buchanan et al., 2018](#); [Krüger, 2014](#); [Wang et al., 2008](#)). These variations highlight the importance of considering cross-country contextual differences, as firms in emerging markets such as Indonesia may experience ESG impacts differently from those in developed economies ([Naeem et al., 2022](#)).

Beyond the direct relationship between ESG and firm value, the literature also emphasizes the importance of consistency across ESG pillars. One such indicator is ESG disparity, defined as inequality in a firm's level of engagement across the E, S, and G pillars ([Fuente & Velasco, 2024](#)). This dimension remains underexplored despite its significant implications, including increased information uncertainty, heightened risks of selective disclosure, and greater opportunities for greenwashing ([Bao et al., 2024](#); [Mervelskemper & Streit, 2017](#)). [Wang & Choi \(2013\)](#) initiated research on ESG diversity; however, this research approach remains limited and has not been widely applied in developing-country contexts. From an agency theory perspective, ESG disparity may reflect managerial opportunism and the exploitation of information asymmetry for personal interests ([Jensen & Meckling, 1976](#)).

Indonesia's context, which is currently undergoing a sustainability transition, combined with greater managerial discretion in the non-financial sector ([Yan et al., 2010](#)), examines ESG engagement

and ESG disparity in relation to firm value, an empirically relevant issue. Based on this urgency, this study examines “The Effect of ESG Engagement on Firm Value with ESG Disparity as a Moderating Variable (An Empirical Study of Non-Financial Sector Companies Listed on the Indonesia Stock Exchange from 2021 to 2024)”.

## Literature Review

### **Agency Theory**

Agency theory explains the relationship between principals and agents, which may give rise to conflicts of interest due to differing objectives and information asymmetry ([Jensen & Meckling, 1976](#)). In the context of ESG, this theory highlights the potential for managers to behave opportunistically, such as prioritizing activities that enhance short-term image without a genuine commitment to long-term sustainability ([Fuente & Velasco, 2024](#)). Greenwashing practices may emerge when managers allocate resources unevenly across ESG pillars based on personal preferences ([Masulis & Reza, 2015](#)).

ESG disparity (inequality in performance distribution across pillars) may serve as an indicator of agency problems, as it reflects inconsistencies in a firm’s sustainability strategy ([Veltri et al., 2023](#)). Firms with high ESG disparity may raise investor concerns regarding the reliability of ESG information, thereby weakening the positive impact of ESG on firm value. [Fuente & Velasco \(2024\)](#) find that ESG disparity becomes more detrimental in firms with severe agency problems, such as those where managers enjoy greater discretion over resource allocation, hold excess cash, or face weak ESG-based incentives. Consistent with [Jensen \(1986\)](#), managers may pursue suboptimal growth to enhance power and compensation, including through opportunistic ESG strategies.

### **Firm Value**

Firm value represents market perceptions of a company’s prospects and performance and is generally reflected in stock prices ([Astuti & Lestari, 2024](#)). Firm value is crucial as it reflects the achievement of the company’s primary objective, namely maximizing shareholder wealth ([Nafisah et al., 2020](#)). Various financial ratios are used to measure firm value, including the Price Earnings Ratio (PER), Price to Book Value (PBV), and Tobin’s Q ([Ningrum, 2022](#)).

Tobin’s Q is a relevant indicator for assessing how the market values a firm’s performance and growth potential, particularly in the context of sustainability and ESG ([Pramudita & Budiwitjaksono, 2024](#)). This study employs Tobin’s Q, which measures the market value of a firm relative to the replacement cost of its assets. A Tobin’s Q value greater than one indicates that the firm is perceived by the market to have strong growth prospects. The use of Tobin’s Q is consistent with prior studies suggesting that higher firm value reflects effective management and long-term risk management ([Friede et al., 2015](#); [Iswajuni et al., 2018](#)).

### **Environmental, Social, and Governance (ESG) Concept**

Environmental, Social, and Governance (ESG) is a framework used to assess corporate performance based on three main dimensions: environmental, social, and corporate governance ([Li et al., 2021](#)). The environmental dimension emphasizes corporate responsibility in reducing pollution, preserving biodiversity, and managing resources sustainably. The social dimension encompasses a firm’s responsibilities toward employees, communities, and the protection of human rights. Meanwhile, the governance dimension focuses on accountability, transparency, and internal control structures ([Friede et al., 2015](#)).

In this study, ESG data are obtained from Refinitiv Eikon, one of the most widely used global ESG data providers in academic research and investment practice. Refinitiv provides standardized ESG scores covering multiple indicators across all three dimensions, serving as a measure of firms’ engagement in sustainability practices. Refinitiv Eikon evaluates corporate ESG operations and performance using publicly available information (e.g., annual reports, corporate websites, stock exchange filings, news sources, NGO websites, and corporate social responsibility reports) ([Naeem et al., 2022](#)).

### ***Environmental, Social, and Governance (ESG) Engagement***

ESG engagement reflects the extent to which firms implement sustainability practices substantively rather than merely engaging in symbolic disclosure (Eccles et al., 2014; Fuente & Velasco, 2024). Firms with high ESG engagement are considered to have stronger long-term prospects and greater ability to attract investors (Lo & Sheu, 2007). ESG engagement also contributes to reduced operational risk, enhanced reputation, and improved efficiency (Friede et al., 2015). This study measures ESG engagement as the average score across the three ESG pillars, capturing overall corporate sustainability performance (Melinda & Wardhani, 2020).

### ***Environmental, Social, and Governance (ESG) Disparity***

ESG disparity refers to imbalances in scores across ESG pillars or among rating agencies (Veltri et al., 2023). Such imbalances may create negative perceptions, as they signal inconsistency in a firm's sustainability commitment (Fuente & Velasco, 2024). High ESG disparity may lead investors to question the quality of ESG disclosures and perceive firms as riskier, thereby reducing market confidence (Bao et al., 2024). From an agency theory perspective, ESG disparity may reflect selective disclosure practices or opportunistic ESG strategies.

### ***The Effect of ESG Engagement on Firm Value***

Agency theory explains that sustainability practices can reduce conflicts of interest between managers and owners through improved monitoring mechanisms and the mitigation of information asymmetry risks (Jensen & Meckling, 1976). ESG engagement also provides positive signals to investors regarding a firm's long-term prospects (Eccles et al., 2014; Friede et al., 2015). When implemented substantively, ESG practices can enhance corporate credibility and reputation, thereby strengthening governance mechanisms and increasing firm value (Eccles et al., 2014; Flammer, 2015).

Conversely, when ESG is implemented symbolically or opportunistically, it may generate new agency costs (Krüger, 2014). Nevertheless, the literature suggests that markets generally reward firms with strong ESG commitments, as such engagement is perceived as evidence that managers act in alignment with shareholders' long-term interests (Naeem et al., 2022). Despite mixed empirical findings, the majority of studies support a positive relationship between ESG engagement and firm value.

**H<sub>1</sub>:** ESG engagement has a positive effect on firm value.

### ***The Moderating Role of ESG Disparity on the Effect of ESG Engagement on Firm Value***

ESG disparity reflects imbalances in sustainability efforts across ESG pillars or inconsistencies in measurement, which may indicate opportunistic managerial behavior (Jensen & Meckling, 1976; Veltri et al., 2023). Such imbalances increase the likelihood that ESG activities are undertaken for managers' personal interests, for example by emphasizing specific pillars to gain legitimacy or enhance individual reputation (Fuente & Velasco, 2024). This condition may generate negative perceptions, as investors face difficulties in assessing the authenticity of a firm's sustainability strategy (Chatterji et al., 2015).

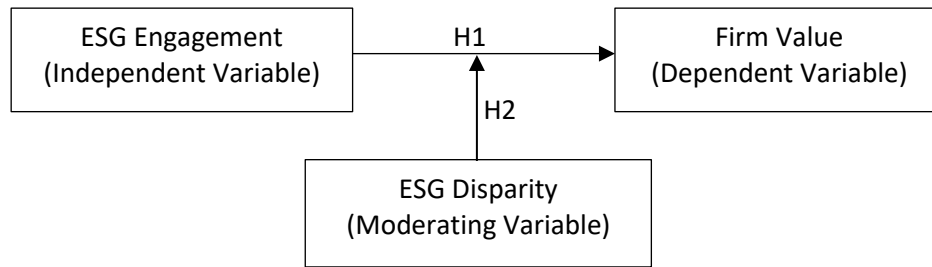
The literature further emphasizes that ESG disparity can erode investor confidence in sustainability information and signal potential greenwashing practices (Bao et al., 2024; Lee et al., 2023). In emerging markets such as Indonesia, ESG disparity may be more pronounced due to the absence of uniform disclosure standards. This condition may weaken the positive impact of ESG engagement on firm value, as the market questions the consistency of its implementation (Fuente & Velasco, 2024; Veltri et al., 2023).

**H<sub>2</sub>:** ESG disparity weakens the effect of ESG engagement on firm value.

### ***Conceptual Framework***

This study's conceptual framework is shown in Figure 1. ESG Engagement affects Firm Value (H1), while ESG Disparity acts as a moderating variable that can strengthen or weaken this relationship (H2). In

other words, firm value is influenced not only by the level of ESG engagement but also by the extent of consistency or disparity in the company's ESG practices.



**Figure 1.** Conceptual Framework

## Methods

### *Type and Sample of the Study*

This study employs a causal research design with a quantitative approach. The population consists of non-financial sector companies listed on the Indonesia Stock Exchange (IDX) during the period 2021–2024, totaling 848 firms. The sample was selected using purposive sampling. Based on predetermined criteria, the final sample comprises 71 companies, resulting in 216 firm-year observations over four years as shown in Table 1.

**Table 1.** Sample Selection Criteria

Criteria	Number
Non-financial sector companies listed on the Indonesia Stock Exchange (IDX) during 2021–2024	848
Companies without ESG scores from Refinitiv Eikon for 2021–2024	(777)
Companies with ESG scores from Refinitiv Eikon that did not publish annual reports during 2021–2024	(0)
<b>Total Sample Companies</b>	<b>71</b>
<b>Research Sample (2021–2024)</b>	<b>216</b>

### *Type and Source of Data*

This study employs documentation techniques for data collection. The data used are secondary data in the form of annual reports of non-financial companies listed on the IDX during 2021–2024 and ESG scores obtained from Refinitiv Eikon for the same period. Data sources include the official website of the Indonesia Stock Exchange ([www.idx.co.id](http://www.idx.co.id)), the official Refinitiv Eikon website (<https://eikon.refinitiv.com>), and the official websites of the respective companies under study.

### *Operational Definitions and Measurement of Variables*

The dependent variable in this study is firm value. Firm value reflects market perceptions of a company's prospects and performance and is generally represented by stock prices (Astuti & Lestari, 2024). Consistent with Fuente & Velasco (2024), firm value is measured using Tobin's Q (TOBINQ).

$$\text{TOBINQ} = \frac{\text{The Market Value of Common and Preferred Equity} + \text{Total Debt}}{\text{Total Assets}}$$

The independent variable in this study is ESG engagement. Following [Fuente & Velasco \(2024\)](#), ESG engagement is measured using the ESG score (ESGSCORE) provided by Refinitiv Eikon. This score represents a comprehensive assessment calculated as the arithmetic average of the three ESG pillars. The weights of the three ESG pillars are normalized into percentage values ranging from 0 to 100 ([Veltri et al., 2023](#)).

The moderating variable in this study is ESG disparity. The measurement of ESG disparity refers to [Harrison & Klein \(2007\)](#) by constructing two alternative proxies: the coefficient of variation (CV) and the Gini coefficient (GINI).

$$CV = \frac{\sqrt{\frac{(E - ESGSCORE)^2 + (S - ESGSCORE)^2 + (G - ESGSCORE)^2}{n}}}{ESGSCORE}$$

$$GINI = \frac{|E - S| + |E - G| + |S - G|}{2 \times ESGSCORE \times n^2}$$

To test robustness, an alternative measurement of ESG disparity is employed based on the level of concentration in the distribution of ESG scores across pillars ([Boydston et al., 2014](#)).

$$HERF = \sum_{j=1}^3 P_j^2 = \left(\frac{E}{E + S + G}\right)^2 + \left(\frac{S}{E + S + G}\right)^2 + \left(\frac{G}{E + S + G}\right)^2$$

[Fuente & Velasco \(2024\)](#) further adjust this measure by constructing a normalized Herfindahl–Hirschman Index (NHERF) to account for the number of ESG pillars. All disparity measures range between 0 and 1, where higher values indicate greater concentration of ESG engagement in a single pillar.

$$NHERF = \frac{HERF - \frac{1}{n}}{1 - \frac{1}{n}}$$

The control variables used in this study are firm size and leverage. Firm size represents the scale of a company and can be measured by total assets or net sales. Larger total assets and sales indicate a larger firm size ([Iswajuni et al., 2018](#)). Consistent with [Fuente & Velasco \(2024\)](#), firm size (SIZE) is measured using the natural logarithm of total assets.

$$SIZE = \ln(\text{Total Assets})$$

Leverage measures the extent to which a firm is financed by debt ([Fahmi, 2014](#)). Following [Fuente & Velasco \(2024\)](#), leverage (LEVERAGE) is measured as the ratio of total debt to total assets.

$$LEVERAGE = \frac{\text{Total Debt}}{\text{Total Assets}}$$

### Data Analysis

The data in this study are processed using EViews 13 software. In line with [Fuente and Velasco \(2024\)](#), the baseline model is employed to examine the effect of ESG engagement on firm value.

$$TOBINQ_{i,t} = \alpha + \beta_1 ESGSCORE_{i,t} + \beta_2 DISPARITY_{i,t} + \beta_3 X_{i,t} + \sum_{k=1}^{10} Sector_k + \sum_{t=2021}^{2024} Year_t + n_i + \varepsilon_{i,t}$$

To test the research hypotheses, the baseline model is extended by incorporating the moderating effect of ESG disparity across pillars on the relationship between ESG engagement and firm value.

$$\text{TOBINQ}_{i,t} = \alpha + \beta_1 \text{ESGSCORE}_{i,t} + \beta_2 \text{ESGSCORE} \times \text{DISPARITY}_{i,t} + \beta_3 \text{dumDISPARITY}_{i,t} + \beta_4 X_{i,t} + \sum_{k=1}^{10} \text{Sector}_k + \sum_{t=2021}^{2024} \text{Year}_t + n_i + \varepsilon_{i,t}$$

## Results

### Descriptive Statistics

Descriptive statistical analysis is used to analyze and describe the data based on each research variable. The results of the descriptive analysis in this study are presented in Table 2.

**Table 2.** Descriptive Statistics

	TOBINQ	ESGSCORE	CV	GINI	NHERF	SIZE	LEVERAGE
Mean	1.771543	50.74074	0.242404	0.061827	0.043747	31.12686	0.488804
Median	1.156414	49.00000	0.228564	0.060462	0.026805	31.29021	0.476145
Maximum	12.91819	89.00000	0.653216	0.168350	0.302996	33.78996	2.103699
Minimum	0.316141	12.00000	0.008748	0.001684	2.58E-05	26.32589	0.081018
Std. Dev.	1.848635	17.50262	0.146877	0.036852	0.054067	1.262329	0.240353
Skewness	3.811869	0.154655	0.560701	0.495339	2.200048	-0.861900	1.652291

The firm value variable (TOBINQ) has a mean of 1.7715, with a maximum value of 12.9182 and a minimum value of 0.3161. A mean value greater than one indicates that, on average, the sampled firms have market values exceeding their asset values. However, the standard deviation of 1.8486 suggests considerable variation in firm value across the sample.

The ESG engagement variable (ESGSCORE) has a mean of 50.7407, with a maximum score of 89 and a minimum score of 12. This indicates that, on average, the level of ESG engagement among Indonesian firms remains at a moderate level. The standard deviation of 17.5026 reflects substantial differences in ESG commitment across firms. The positive skewness value (0.1547) indicates a slightly right-skewed distribution, suggesting that most firms have ESG scores below the mean.

ESG disparity is measured using CV, GINI, and NHERF. The CV has a mean of 0.2424, with a maximum of 0.6532 and a minimum of 0.0087, indicating relatively low to moderate imbalance across ESG pillars for most firms. The GINI index has a mean of 0.0618, suggesting that ESG implementation is generally balanced, although a small number of firms exhibit higher levels of ESG disparity. The NHERF index has a mean of 0.0437, indicating that ESG engagement tends to be evenly distributed across pillars, despite the presence of several firms with significantly higher disparity levels.

The control variables consist of firm size (SIZE) and leverage (LEVERAGE). Firm size has a mean of 31.1269, while leverage has a mean of 0.4888. This suggests that, on average, firms finance approximately 48.88% of their assets through debt.

Overall, these descriptive results indicate that non-financial firms in Indonesia exhibit varying and generally moderate levels of ESG engagement, with relatively low ESG disparity across pillars, although a small number of firms demonstrate high imbalance. This provides an important basis for analyzing how ESG engagement and balance influence firm value.

### Panel Data Regression Model Selection

Panel data regression analysis consists of three models: the common effect model, the fixed effect model, and the random effect model. Model selection is conducted through several statistical tests.

#### Chow Test

The Chow test is employed to determine whether the common effect model or the fixed effect model is more appropriate.

**Table 3.** Results of the Chow Test  
Redundant Fixed Effects Tests  
Equation: EQ02  
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	10.216018	(70,139)	0.0000
Cross-section Chi-square	392.169443	70	0.0000

Source: Data processed using EViews 13 (2025)

Based on the results in Table 3, the probability value of the cross-section chi-square statistic is lower than the significance level ( $0.00 < 0.05$ ). Therefore, the null hypothesis is rejected, indicating that the fixed effect model is initially preferred.

### Hausman Test

The Hausman test is used to determine whether the fixed effect model or the random effect model is more appropriate. The test results in Table 4 show a probability value of 0.1399, which exceeds the 0.05 significance level. Accordingly, the null hypothesis is accepted, indicating that the random effect model is more appropriate.

**Table 4.** Results of the Hausman Test  
Correlated Random Effects - Hausman Test  
Equation: EQ03  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.656517	6	0.1399

### Lagrange Multiplier Test

The Lagrange Multiplier test is conducted to choose between the common effect model and the random effect model. Table 5 shows that the Breusch–Pagan probability value is 0.00, which is below the 0.05 significance level. Thus, the random effect model is selected as the most appropriate model for this study.

**Table 5.** Results of the Lagrange Multiplier Test

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	198.8194 (0.0000)	1.443143 (0.2296)	200.2626 (0.0000)

### Regression Results

Table 6 presents the results of panel data regression. The equation is as follows,  $TOBINQ = 10,1407 + 0,0069ESGSCORE + 4,5767CV - 14,3192GINI - 3,7173NHERF - 0,2692SIZE - 0,8393LEVERAGE$ .

**Table 6.** Results of the Random Effect Panel Data Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.14073	4.954083	2.046945	0.0419
ESGSCORE	0.006920	0.010370	0.667354	0.5053
CV	4.576678	6.975670	0.656092	0.5125
GINI	-14.31916	24.79697	-0.577456	0.5643
NHERF	-3.717273	5.447761	-0.682349	0.4958
SIZE	-0.269207	0.161840	-1.663412	0.0977
LEVERAGE	-0.839286	0.606494	-1.383833	0.1679
Effects Specification				
			S.D.	Rho
Cross-section random			1.596162	0.7640
Idiosyncratic random			0.887247	0.2360
Weighted Statistics				
R-squared	0.022765	Mean dependent var		0.531950
Adjusted R-squared	-0.005290	S.D. dependent var		0.875635
S.E. of regression	0.876372	Sum squared resid		160.5178
F-statistic	0.811457	Durbin-Watson stat		1.382748
Prob(F-statistic)	0.562057			
Unweighted Statistics				
R-squared	0.028546	Mean dependent var		1.771543
Sum squared resid	713.7778	Durbin-Watson stat		0.310959

Source: Data processed using EViews 13 (2025)

Based on Table 7, the moderated regression equation is as follows,  $TOBINQ = 10,5685 + 0,0040ESGSCORE + 0,9836ESGSCORE*CV - 3,6983ESGSCORE*GINI - 0,1475ESGSCORE*NHERF - 0,0914DUM\_CV + 0,26467DUM\_GINI - 0,1150DUM\_NHERF$ .

**Table 7.** Results of the Moderated Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.56849	5.203566	2.031009	0.0436
ESGSCORE	0.004009	0.016662	0.240626	0.8101
CV	-36.16643	22.84819	-1.582901	0.1150
GINI	135.9878	81.96987	1.658997	0.0987
NHERF	3.741822	17.36141	0.215525	0.8296
SIZE	-0.275478	0.165565	-1.663871	0.0977
LEVERAGE	-0.852942	0.619498	-1.376829	0.1701
ESGSCORE*CV	0.983559	0.525464	1.871790	0.0627
ESGSCORE*GINI	-3.698344	1.917555	-1.928677	0.0552
ESGSCORE*NHERF	-0.147528	0.423299	-0.348520	0.7278
DUM_CV	-0.091374	0.528489	-0.172896	0.8629
DUM_GINI	0.264597	0.461260	0.573640	0.5668
DUM_NHERF	-0.114971	0.474911	-0.242090	0.8090

Effects Specification			
		S.D.	Rho
Cross-section random		1.622478	0.7676
Idiosyncratic random		0.892869	0.2324
Weighted Statistics			
R-squared	0.041967	Mean dependent var	0.527130
Adjusted R-squared	-0.014666	S.D. dependent var	0.873239
S.E. of regression	0.878046	Sum squared resid	156.5060
F-statistic	0.741041	Durbin-Watson stat	1.419075
Prob(F-statistic)	0.710120		
Unweighted Statistics			
R-squared	0.024032	Mean dependent var	1.771543
Sum squared resid	717.0943	Durbin-Watson stat	0.309713

### Hypothesis Testing

#### Coefficient of Determination ( $R^2$ )

Based on the research results, the panel data regression analysis in Table 6 shows a coefficient of determination ( $R^2$ ) of 0.0228. This value can be considered very low, indicating that the influence of the independent variables on the dependent variable is weak. Specifically, 2.28% of firm value is explained by ESG engagement and the control variables, namely firm size and leverage, while the remaining 97.72% is explained by other factors outside this study.

Furthermore, the moderated regression analysis presented in Table 7 reports an  $R^2$  value of 0.0420. This value is also relatively low, suggesting that the explanatory power of the independent variables remains weak. In this model, 4.20% of firm value is explained by ESG engagement, ESG disparity, and the interaction between ESG engagement and ESG disparity, whereas the remaining 95.80% is influenced by other variables not included in the model.

#### Simultaneous Test (F-Test)

Based on the simultaneous test results in Table 6, the calculated F-statistic is 0.8115, which is lower than the critical F-value of 2.2569. The significance level is 0.5621, exceeding 0.05. These results indicate that ESG engagement does not have a significant effect on firm value.

Similarly, the simultaneous test results in Table 7 show an F-statistic of 0.7410, which is lower than the critical F-value of 2.2569, with a significance level of 0.7101 ( $> 0.05$ ). This finding indicates that ESG disparity, as a moderating variable, does not negatively moderate or weaken the effect of ESG engagement on firm value.

#### Partial Test (t-Test)

The first hypothesis (H1) examines the effect of ESG engagement on firm value. Based on the t-test results in Table 6, the ESGSCORE variable has a probability value of 0.5053 ( $> 0.05$ ) and a t-statistic of 0.6674. The control variables, firm size and leverage, also show probability values greater than 0.05, at 0.0977 and 0.1679, respectively. These results indicate that ESG engagement does not have a significant effect on firm value. Accordingly, H1 is rejected.

The second hypothesis (H2) examines the moderating role of ESG disparity in the relationship between ESG engagement and firm value. Based on the t-test results in Table 7, the CV variable without interaction has a probability value of 0.1150 ( $> 0.05$ ), while the interaction term yields a probability value of 0.0627 ( $> 0.05$ ). The GINI variable without interaction has a probability value of 0.0987 ( $> 0.05$ ), and its interaction term yields a probability value of 0.0552 ( $> 0.05$ ). The NHERF variable without

interaction has a probability value of 0.8296 ( $> 0.05$ ), and its interaction term has a probability value of 0.7278 ( $> 0.05$ ). These findings indicate that none of the interaction effects are statistically significant. Therefore, ESG disparity (Z) does not moderate the effect of ESG engagement (X) on firm value (Y), leading to the rejection of H2.

## Discussion

The results indicate that ESG engagement does not have a positive effect on firm value and even exhibits a negative relationship. This finding suggests that ESG practices among non-financial firms in Indonesia have not yet been perceived by investors as a value-creation strategy. Consistent with [Hartzmark & Sussman \(2019\)](#), investors hold heterogeneous views on sustainable investment, with some perceiving the allocation of resources to ESG activities as a cost that detracts from the primary objective of profit maximization.

The weak impact of ESG on firm value can also be explained by the relatively limited level of ESG engagement. The average ESG score of the sampled firms is only 51 out of 100, and only 71 out of 848 non-financial firms have ESG scores available in Refinitiv Eikon. This condition reflects that ESG practices in Indonesia remain largely voluntary and are not yet supported by binding regulations, thereby limiting their relevance in market valuation. These findings are consistent with [Narulita et al. \(2024\)](#) and [Jeanice & Kim \(2023\)](#), who document that investors in Indonesia tend to focus more on short-term financial performance than on sustainability aspects.

Furthermore, the results are consistent with agency theory ([Pranoto & Marsono, 2023](#); [Surroca & Tribó, 2008](#)), which suggests that ESG activities may be perceived as the use of corporate resources to enhance managerial reputation rather than shareholder value. High variability in the quality of ESG reporting and low convergence among ESG rating agencies ([Chatterji et al., 2015](#)) further complicate investors' ability to distinguish between substantive and symbolic ESG practices. Consequently, ESG has not yet been regarded as a primary determinant of firm value in the Indonesian capital market.

The findings reveal that ESG disparity does not moderate the relationship between ESG engagement and firm value. All three measures of ESG disparity—the coefficient of variation, the Gini coefficient, and the Herfindahl–Hirschman Index—fail to demonstrate a statistically significant moderating effect. This indicates that differences in scores across ESG pillars have not yet become a key consideration for investors in firm valuation.

This condition may be attributed to the relatively uniform implementation of ESG practices at a minimum level, resulting in insufficient variation and disparity across ESG pillars to be statistically detectable. Moreover, investors in emerging markets such as Indonesia tend not to utilize ESG information extensively in investment decision-making ([Naeem et al., 2022](#)). In contrast to [Bao et al. \(2024\)](#), who find that ESG disparity increases perceived risk, the present study suggests that the market has not yet interpreted ESG disparity as a negative signal relevant to firm valuation.

## Conclusion

This study concludes that ESG engagement does not affect the firm value of non-financial companies in Indonesia during the 2021–2024 period. Additionally, ESG disparity does not function as a moderating variable in the relationship between ESG engagement and firm value. These findings indicate that ESG has not yet been fully internalized in the valuation mechanisms of the Indonesian capital market.

This study has several limitations, including a relatively short observation period, a focus on non-financial sectors, and the reliance on Refinitiv Eikon ESG scores and Tobin's Q as the sole measures of ESG performance and firm value. Furthermore, potential phenomena such as greenwashing may not be fully captured through ESG disparity measures.

Future research is encouraged to employ longer observation periods, include sectors more sensitive to sustainability issues, apply alternative theoretical frameworks such as legitimacy or signalling theory, and utilize multiple ESG rating sources to enhance the robustness and generalizability of the findings.

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