

The Effect of Greenwashing Practices on Corporate Financial Performance: The Moderating Role of ESG Performance

Dinda Rahmahani Aisyah^{1*}, Diana Tien Irafahmi², Sri Pujiningsih³
Universitas Negeri Malang

Corresponding Author: Dinda Rahmahani Aisyah: dindarahmahani98@gmail.com

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ABSTRACT

This study investigates the effect of greenwashing on corporate financial performance with ESG performance as a moderating variable and market capitalization as a control variable. The study uses 40 mining, energy, and basic materials companies listed on the Indonesia Stock Exchange during 2021–2024. The results reveal that greenwashing negatively but insignificantly affects financial performance, while ESG significantly moderates this effect. The Conclusion is Greenwashing negatively but insignificantly influences financial performance, while ESG performance significantly weakens this negative effect. Firms with stronger ESG implementation are better positioned to maintain legitimacy. Market capitalization positively affects financial performance.

INTRODUCTION

In the last two decades, global commitments such as the Paris Agreement and SDGs have encouraged companies to improve their sustainability practices, making environmentally friendly campaigns a key business strategy (Porter & Kramer, 2011). However, this push has also led to an increase in greenwashing, which is the presentation of inaccurate or exaggerated environmental claims in order to gain public legitimacy (Delmas & Burbano, 2011). This phenomenon is particularly evident in Indonesia's mining, energy, and raw materials sectors, which have a high ecological impact but use the narrative of “green industry” to cover up environmental damage. The case of gold mining on Sangihe Island is a clear example of how exploitative practices are covered up by sustainability rhetoric (Greenpeace, 2025).

Mining downstreaming policies since 2020 have increased reputational pressure on extractive companies, but have not always been accompanied by adequate environmental practices, thereby increasing the potential for greenwashing (Laksono, 2022). This practice can provide short-term perceptual benefits, but poses reputational risks and a decline in public trust in the long term (Walker & Wan, 2012). Another challenge is the low level of transparency and the absence of standard sustainable finance in Indonesia, which provides room for companies to make green claims without strong verification mechanisms (Adi Chandra & Sacipto, 2020). Previous studies emphasize the importance of independent audits, international standard reporting, and comprehensive governance to reduce greenwashing practices (Aptasari et al., 2024; Kim & Lyon, 2015)

In this context, ESG performance and market capitalization play an important role in shaping the relationship between greenwashing and financial performance. Companies with high ESG scores tend to be more stable and accountable (Broadstock et al., 2021), while large companies are subject to stricter public scrutiny and are therefore more cautious about greenwashing (Wang et al., 2024). However, research findings on the impact of greenwashing on financial performance are still mixed (Li et al., 2023), necessitating empirical studies in emerging markets. This study aims to provide evidence on the influence of greenwashing on financial performance with ESG as a moderator in the mining, energy, and raw materials sectors in Indonesia.

This study aims to examine: (a) whether greenwashing influences the financial performance of Indonesian mining, energy, and basic materials companies; and (b) whether ESG performance moderates this relationship.

LITERATURE REVIEW

Legitimacy Theory

Researchers Firmansyah & Lastanti (2024) argue that legitimacy is a study of how a company behaves in relation to its surrounding environment. When legitimacy is threatened, companies may use symbolic disclosures – including greenwashing – to restore or maintain public acceptance.

Greenwashing

Greenwashing refers to the inconsistency between corporate environmental communication and actual environmental practices. Firms may exaggerate their environmental commitment through selective disclosure, ambiguous claims, or overstated sustainability initiatives. Ghitti et al. (2024) summarize that greenwashing involves the voluntary disclosure of misleading or false environmental information that is planned, initiated by companies, and understood as misleading by the public.

Financial Performance

Researchers Destiani & Hendriyani (2021) explain financial performance as the achievements or results that have been achieved by company management in carrying out its functions in managing company assets effectively during a certain period of time. Previous studies, such as Velte (2017), Li et al. (2018), Buallay (2019), and Barraq & Hersugondo (2021), used Return On Investment (ROA) to measure financial performance. This is because ROA shows the accounting performance of a company and how effectively management uses assets to generate income.

ESG Performance

To help stakeholders and investors make better choices, ESG provides information on how businesses handle and report on environmental, social responsibility, and corporate governance policies (Ardiansyah et al., 2024). The goal of the ESG approach is to attract investors to invest in companies so that they can promote sustainability.

Capitalization Market

By analyzing market capitalization, potential investors can determine profitable investment steps because market capitalization is influenced by management actions, legal constraints, economic activity levels, tax laws, interest rates, and stock market conditions (Nurjanah et al., 2022). This study illustrates that market capitalization not only serves as a measure of value, but also as a reflection of investors' perceptions of a company's prospects and risks.

Hypothesis

Researcher Marquis et al. (2016) argues that greenwashing functions as a legitimization strategy that can improve a company's image in the public eye. With a good image, companies can attract the attention of investors and increase consumer confidence, which ultimately has an impact on increasing sales and stock prices. On the other hand, Walker & Wan (2012) found that greenwashing practices reduce stakeholder trust and trigger reputational risks, which can reduce consumer loyalty and investor interest.

H1: Greenwashing negatively affects corporate financial performance.

Broadstock et al. (2021) research shows that companies with high ESG scores are more resilient to market volatility, including during the COVID-19 crisis. Then, Ho et al. (2024) research, it was found that ESG performance has a positive impact on financial performance. This means that greenwashing will not be too detrimental if it is supported by solid ESG performance, and will even continue to provide legitimacy for companies. However, other studies show that high ESG actually worsens the impact of greenwashing. Kim & Lyon (2015)

emphasize that if companies with high ESG levels are found to be engaging in greenwashing practices, then the disappointment felt by stakeholders will be greater than that felt towards companies with low ESG ratings.

H2: ESG performance weakens (moderates) the negative effect of greenwashing on financial performance.

The relationship between variables is illustrated through a conceptual framework in the figure below the line.

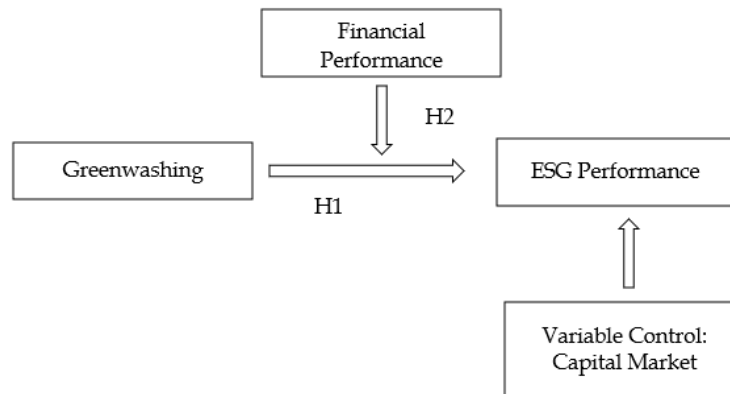


Figure 1. Conceptual Framework and Research Hypothesis

METHODOLOGY

This quantitative study uses secondary data from annual and sustainability reports of 40 mining, energy, and basic materials companies listed on the Indonesia Stock Exchange (IDX) from 2021–2024. Greenwashing is measured using the Greenwashing Index (GWI), derived from the gap between green communication and green practices based on content analysis. Financial performance is measured using ROA, ESG performance using PROPER ratings, and market capitalization using stock summary data. Data are analyzed using multiple linear regression and Moderated Regression Analysis (MRA).

RESEARCH RESULT

Descriptive Statistical Analysis

Descriptive statistics provide a general description of the research object that is used as a research sample. The explanation of data through descriptive statistics is expected to provide an initial description of the issues being studied.

Table 1 Statistic Descriptive

Variable	N	Min	Max	Mean
Greenwashing	160	-1.625	2.211	.09174
Financial Performance	160	-15.550	61.635	9.02639
ESG Performance	160	2	5	3.47
Capital Market	160	423921	381973183726464	19939222570863.82

Source: data analysis results, 2025

Based on descriptive analysis of 160 observations, the Greenwashing variable showed a minimum value of -1.625 and a maximum of 2.211 with an average of 0.09174, reflecting the variation in the level of inconsistency between green communication and green practices between companies. Referring to the classification by Li et al. (2023), most companies were in the greenwashing category (109 companies), followed by silent green (45 companies), vocal green (5 companies), and silent brown (1 company), indicating a tendency for companies to focus more on green communication than on the implementation of substantial green practices. The Financial Performance variable (ROA) has a range of -15.550 to 61.635 with an average of 9.02639, indicating that, in general, companies are in relatively good financial condition despite considerable variations in profitability. The ESG Performance variable (PROPER) has a value between 2 and 5 with an average of 3.47, indicating that the majority of companies are at a fairly good level of environmental compliance, with 57.5% of companies scoring 3 and 23.1% scoring 4. Meanwhile, Market Capitalization has a very wide range, from 0.42 million to 381.9 trillion rupiah, with an average of 19.9 trillion, illustrating the heterogeneity of company size in the sample. In general, these descriptive results illustrate the dominance of greenwashing practices and significant variations in financial performance, ESG performance, and company structure.

Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical technique used to understand the relationship between one dependent variable and two or more independent variables. The following is a multiple linear regression analysis from the following study:

Table 2 Multiple Linear Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.815	1.559		1.164	.247
	LAG_X1	-1.027	.761	-.115	-1.350	.180
	LAG_Z	.506	.676	.066	.748	.456
	LAG_X2	9.160E-14	.000	.272	2.981	.003

a. Dependent Variable: LAG_Y

Source: data analysis results, 2025

From the regression analysis, the regression model is obtained as follows:

$$Y = 1,815 - 1,027X1 + 0,506Z + 9,150E-14X3 + \epsilon$$

**Table 3 T Test
 Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.815	1.559		1.164	.247
	LAG_X1	-1.027	.761	-.115	-1.350	.180
	LAG_Z	.506	.676	.066	.748	.456
	LAG_X2	9.160E-14	.000	.272	2.981	.003

a. Dependent Variable: LAG_Y

Source: data analysis results, 2025

Based on the t-test results, Greenwashing (X1) has a significance value of 0.180 (> 0.05) and a t-value of -1.350, which is smaller than the t-table value, so this variable does not have a significant effect on Financial Performance (Y). Meanwhile, ESG Performance (Z) also shows a significance value of 0.456 (> 0.05) and a t-value of 0.748, so it can be concluded that ESG has no significant effect on Financial Performance. Unlike the two variables above, Market Capitalization (X2) has a significance value of 0.003 (< 0.05) and a t-value of 2.981, which is greater than the t-table value, indicating that this variable has a significant effect on Financial Performance. Thus, only company size was found to influence financial performance, while the level of greenwashing and ESG performance did not show a significant relationship in the regression model tested.

MRA Test

In this section, a moderated regression analysis (Moderated Regression Analysis/MRA) is performed to determine whether the moderating variable can strengthen or weaken the relationship between the independent variable and the dependent variable. The results of the MRA test are as follows:

**Table 4 MRA Test
 Coefficients^a**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.093	1.547		1.352	.179
	LAG_X1	-5.640	2.406	-.634	-2.345	.021
	LAG_Z	.324	.674	.042	.480	.632
	LAG_X2	1.096E-13	.000	.326	3.463	.001
	X1*Z	2.074	1.028	.558	2.019	.046

a. Dependent Variable: LAG_Y

Source: data analysis results, 2025

From the regression analysis, the regression model is obtained as follows:

$$Y = 2,093 - 5,640X1 + 0,324Z + 1,096E-13X3 + 2,074X1*Z + \varepsilon$$

Table 5 T Test MRA

Coefficients ^a		Unstandardized		Standardized	t	Sig.
		Coefficients				
Model		B	Std. Error	Beta		
1	(Constant)	2.093	1.547		1.352	.179
	LAG_X1	-5.640	2.406	-.634	-2.345	.021
	LAG_Z	.324	.674	.042	.480	.632
	LAG_X2	1.096E-13	.000	.326	3.463	.001
	X1*Z	2.074	1.028	.558	2.019	.046

a. Dependent Variable: LAG_Y

source: data analysis results, 2025

The t-test results show that greenwashing has a significant effect on financial performance, as indicated by a significance value of 0.021 (< 0.05) and a t-value of -2.345, which is outside the t-table limits, thus proving that greenwashing practices affect company profitability. Conversely, ESG Performance does not have a significant effect on Financial Performance because its significance value is 0.632 (> 0.05) and the t-value is 0.480, which is within the t-table range. The Market Capitalization variable has a significant effect with a significance value of 0.001 and a t-value of 3.463, indicating that company size plays an important role in improving its financial performance. Additionally, the interaction variable of Greenwashing × ESG Performance has a significance value of 0.046 and a t-value of 2.019, proving it to be a significant moderating variable. This finding indicates that ESG can strengthen the relationship between greenwashing practices and a company's financial performance.

DISCUSSION

The insignificant negative relationship between greenwashing and financial performance suggests that misleading sustainability communication does not directly harm financial outcomes in the short term. This may reflect limited stakeholder ability to detect greenwashing or insufficient regulatory enforcement in Indonesia. However, the negative direction aligns with legitimacy theory, which suggests that misleading actions eventually trigger reputational risks.

ESG performance significantly moderates this relationship, indicating that firms with strong sustainability performance are more capable of maintaining credibility even when their communication includes symbolic elements. This reinforces the importance of substantive sustainability practices in mitigating legitimacy threats.

Market capitalization's positive effect highlights that larger firms tend to achieve stronger financial performance due to operational scale, investor visibility, and greater capacity to manage sustainability risks.

CONCLUSIONS AND RECOMMENDATIONS

Greenwashing negatively but insignificantly influences financial performance, while ESG performance significantly weakens this negative effect. Firms with stronger ESG implementation are better positioned to maintain legitimacy. Market capitalization positively affects financial performance. Companies should prioritize substantive sustainability actions rather than merely symbolic communication. Regulators must strengthen guidelines and monitoring systems to reduce greenwashing practices. Investors should incorporate ESG quality assessments into investment decisions.

ADVANCED RESEARCH

This study is limited to PROPER as the ESG proxy and employs a sector-specific sample. Future studies may use alternative ESG metrics, expand to additional sectors, or apply longitudinal or experimental designs to assess stakeholder perceptions of greenwashing.

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