
The Influence of ESG (Environmental, Social, Governance) and Company Size on Financial Performance

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Abstract:

This study employed a quantitative method with a causal associative approach. The sample was determined through purposive sampling and selected 37 energy sector companies that met the criteria, resulting in 185 observations over the five years of the study. Data analysis was performed using multiple linear regression, preceded by classical assumption tests, including tests for normality, multicollinearity, heteroscedasticity, and autocorrelation. Based on the analysis, the Environmental variable significantly impacted the financial performance (ROA) of energy sector companies, with a positive regression coefficient of 0.263 and a significance value of 0.037. The Social variable significantly impacted financial performance (ROA), with a regression coefficient of 0.308 and a significance value of 0.032. The governance variable significantly influences financial performance (ROA), with a regression coefficient of 0.0276 and a significance value of 0.028. Firm size has the strongest and most significant influence on financial performance (ROA), with the largest regression coefficient of 0.715 and a significance value of 0.000.

Keywords: *Environmental, Social, Governance, Firm Size, Financial Performance (ROA).*

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1. Introduction

In recent years, sustainability has become a global focus, significantly influencing the direction of business development, particularly in sectors that directly impact the environment and society. This shift is driven by growing concerns about climate change and environmental degradation, demands for more transparent corporate governance, and growing pressure from investors to ensure companies have a long-term vision aligned with sustainability principles. In this context, the concept of Environmental, Social, and Governance (ESG) has become a key indicator in evaluating the quality of modern companies.

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According to the Global Sustainable Investment Review (GSIR, 2022), ESG-based investments experienced significant growth, increasing by more than 55% compared to the 2018–2022 period, indicating that global investors are increasingly prioritizing companies capable of demonstrating sustainable performance. Several recent studies, such as those by Zhang et al. (2024), Al-Hadi et al. (2023), and Le et al. (2022), consistently found that ESG integration has a positive correlation with company profitability, especially when implemented consistently and supported by strong governance. For the energy sector in Indonesia, ESG integration is key to facing the challenges of global energy transformation, increasing operational efficiency, strengthening stakeholder relationships, and maintaining business sustainability amidst increasingly fierce global competition.

The energy sector plays a crucial role in national economic development. As a provider of basic community needs, this sector not only contributes to the provision of electricity, fuel, and strategic minerals, but also plays a key role in industrial activities and infrastructure development in Indonesia. The energy sector's contribution to Gross Domestic Product (GDP) has increased significantly from 6.43% in 2020 to 12.2% in 2022, demonstrating its strategic role in supporting the national economy (Izzah, A. J. S., & Darsono, D. (2024)). Furthermore, energy companies are also one of the largest sources of state revenue through taxes, royalties, and energy commodity exports, so the operational sustainability of this sector is crucial for Indonesia's economic stability. However, the energy sector also faces increasingly complex global challenges. The shift towards Net Zero Emissions (NZE) requires energy companies to undertake an energy transition by reducing carbon emissions and increasing the use of renewable energy.

This phenomenon demonstrates that not all companies implementing sustainability principles through ESG are able to deliver improved financial performance. Several energy companies listed on the IDX are still experiencing profit fluctuations due to commodity price pressures, high operating costs, and the environmental risks inherent in their industry. This indicates that ESG implementation alone does not automatically increase profitability without efficient resource management and strong governance.

This research was conducted because the energy sector plays a vital role in the Indonesian economy. The energy sector not only provides basic community needs but also supports industry and national development, contributing significantly to Gross Domestic Product (GDP) and state revenue through taxes and exports (Izzah & Darsono, 2024). However, the energy sector also faces significant challenges, ranging from the energy transition to Net Zero Emissions (NZE), high environmental risks, and social demands from communities surrounding operational areas. These conditions require energy companies to pursue not only profitability but also sustainability through the implementation of Environmental, Social, and Governance (ESG) principles.

2. Theoretical Background

Stakeholder Theory: Stakeholder theory explains that companies are responsible not only to shareholders but also to all stakeholders affected by their activities, including employees, communities, governments, and the environment. ESG implementation reflects a company's efforts to meet stakeholder expectations and maintain long-term relationships. Companies that effectively address environmental, social, and governance issues tend to gain greater trust and legitimacy, which can positively impact financial performance.

Legitimacy theory: is one of the theories underlying companies' ESG (Environmental, Social, and Governance) practices. Legitimacy theory states that organizations strive to ensure that their operations are viewed as legitimate and in accordance with prevailing social norms. Legitimacy is defined as the assumption that an entity's actions are desirable, appropriate, or appropriate within a socially constructed system of norms, values, beliefs, and definitions (Adenina & Sudrajat, 2024).

Environmental Social, and Governance (ESG) Concept: ESG is a holistic approach that encompasses three main dimensions in assessing the sustainability and ethical impact of a company. The Triple Bottom Line (TBL) concept is the basis of the modern ESG concept, which includes environmental, social, and economic aspects. Meanwhile, ESG according to (Eccles & Klimenko, 2019) is a series of standards used by socially conscious investors to screen potential investments based on environmental, social, and corporate governance practices.

Company Size: Company size is a scale that indicates the size of a company. According to Dang et al. (2018), company size can be measured using total assets, sales, or market capitalization. Company size reflects a company's ability to face uncertainty and manage business risks. Meanwhile, Sartono stated that large, well-established companies will have an easier time obtaining capital than small companies.

Financial performance: Every company strives to maximize shareholder wealth, which means maximizing share value. This process requires considering both profit and risk. Furthermore, a shift in perspective on the closely related values and reputation is required. Compliance and regulations related to the environment, employment, and other issues are also important. is a condition that describes the finances of a company that carries out analysis using financial analysis tools, so that it is able to know about the good and bad financial conditions of a company which is a reflection of work performance Sari, W. (2021).

3. Methodology

This study uses a quantitative approach with a causal associative research design. Quantitative research is research that uses numerical data that can be analyzed using

statistical methods (Sugiyono, 2018). The study population consists of all energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The sample was selected using purposive sampling, resulting in 37 companies with a total of 185 company-year observations. Financial performance is measured using Return on Assets (ROA). Independent variables include Environmental, Social, and Governance (ESG) disclosure scores and company size as measured by the natural logarithm of total assets. Data analysis was performed using multiple linear regression analysis, preceded by classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests.

4. Empirical Findings/Result

Descriptive Statistical Test

Descriptive statistical analysis is used to describe or depict data seen from the maximum value, minimum value, average value (mean), and standard deviation value, of the variables Environmental (X1), Social (X2), Governance (X3), Company Size (X4), and Financial Performance (Y). The descriptive analysis of the data taken for this study is from 2020 to 2024.

Table 1. Descriptive Statistics

Variable	N	Min	Max	Mean	Std. Deviation
Environmental	164	0.0323	1.0000	0.367427	0.2252406
Social	164	0.0556	1.0000	0.333333	0.2443406
Governance	164	0.0667	1.0000	0.424526	0.3140810
Company Size (LN)	164	12.8200	29.0200	20.625183	3.7550476
Financial Performance (ROA)	164	0.0002	36.7341	0.337685	2.8623347

Based on the results of the descriptive statistical analysis test, the following are the details of the descriptive data that have been processed:

- Environmental: Based on data processing, the Environmental variable has a minimum value of 0.0323, a maximum value of 1.0000, and a mean value of 0.367427. The standard deviation is 0.2252406.
- Social: The minimum value is 0.0556, a maximum value of 1.0000, a mean value of 0.333333, and a standard deviation of 0.2443406.
- Governance: The minimum value is 0.0667, a maximum value of 1.0000, and the average governance score is 0.424526, with a standard deviation of 0.3140810.
- Company size, measured using the natural log of total assets (LN), has a minimum value of 12,820 and a maximum value of 29,020, with a mean value of 20.625183 and a standard deviation of 3.7550476.
- Financial Performance: ROA has a minimum value of 0.0002, a maximum value of 36.7341, a mean ROA of 0.337685, and a standard deviation of 2.8623347.

Classical Assumption Test

Normality test

A normality test was conducted to determine whether the data in this study were normally distributed. In this study, the author used the Kolmogorov-Smirnov test because it is suitable for relatively large sample sizes and provides a snapshot of the overall data distribution. The results of the normality test can be seen in the following table:

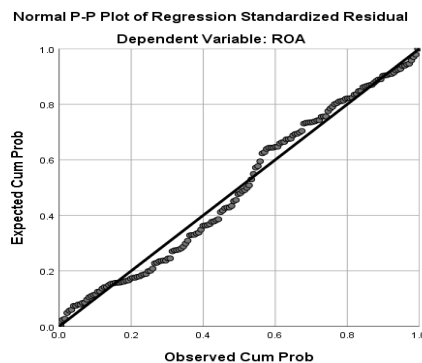


Figure 1. Normal P-P Plot

Based on the results presented in figure 1, the Asymp. Sig. value is 0.056, which is greater than the significance limit of 0.05. Therefore, it can be concluded that the residual data in this study is normally distributed. This indicates that the regression model used meets one of the important assumptions in regression analysis, namely the assumption of residual normality.

Multicollinearity Test

To detect the presence or absence of multicollinearity, researchers used two main indicators: Tolerance and Variance Inflation Factor (VIF). In general, multicollinearity is considered absent if the tolerance value is above 0.10 and the VIF value is below 10. The smaller the VIF value and the larger the tolerance value, the lower the risk of multicollinearity in the model. The following is a summary of the results of the multicollinearity test for this study, which can be seen in Table 2:

Table 2. Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1 (Constant)	-3.719	.581			-6.406	.000		
Environmental	.263	.125	.161	2.102	.037		.792	1.263
Social	.308	.142	.173	2.163	.032		.722	1.384
Governance	.276	.124	.174	2.217	.028		.752	1.330
Firm Size (LN)	.715	.177	.277	4.030	.000		.980	1.020

Based on table 2, the results of the tolerance value calculation show that no independent variable has a tolerance value of more than 0.10 and no VIF value is more than 10. Therefore, it can be concluded that the regression model in this study does

not have multicollinearity between the independent variables in the regression model and the model is suitable for use.

Heteroscedasticity Test

To detect the presence or absence of heteroscedasticity in this study, a scatter plot was used. The scatter plot pattern is observed from the distribution of data points derived from the predicted values of the dependent variable, namely ZPRED, and its residuals, SRESID. If the scatter plot forms a specific pattern, it indicates the presence of heteroscedasticity in the regression model. If the scatter plot is randomly distributed, it indicates the absence of heteroscedasticity in the regression model. These points will be spread above and below zero on the Y-axis. The results of the heteroscedasticity test in this study are as follows:

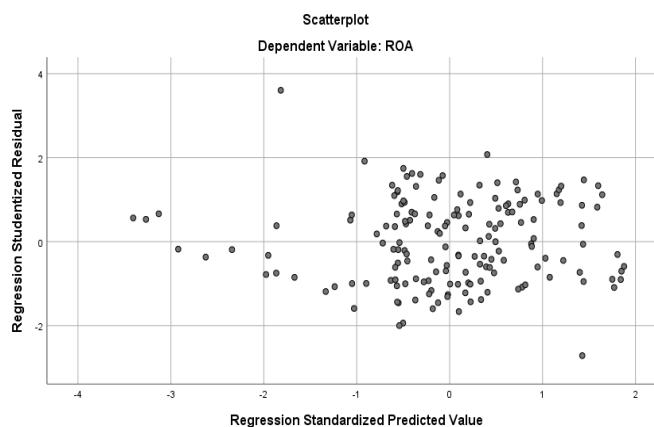


Figure 2. Scatter Plot

Based on the scatterplot, the residual points are randomly distributed both above and below zero on the vertical axis. The points do not form any specific patterns such as a funnel shape (widening or narrowing), waves, or linear structures that would typically indicate the presence of heteroscedasticity. In addition, the distribution of points appears to be relatively even across the entire range of predicted values, indicating that the variance of the residuals neither increases nor decreases at certain levels of the predicted values.

Autocorrelation Test

The autocorrelation test in this study was detected by examining the Durbin Watson (DW) value in the decision-making table. If the DW value lies between the upper limit (d_U) and $(4 - d_U)$, the autocorrelation coefficient is zero, indicating no autocorrelation. The results of the autocorrelation test in this study can be seen in the following table:

Table 3. Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.514 ^a	.264	.245	1.14621	1.855

Based on the calculation results, the Durbin-Watson value obtained is 1.855. This value is then compared with the dU value of 1.795 and the (4-dU) value of 2.205. From these results it can be seen that: $1.795 < 1.855 < 2.205$. Because the DW value is between dU and (4 - dU), it can be concluded that there is no autocorrelation in the regression model.

Hypothesis Testing Results

Multiple Regression Analysis

In this study, hypothesis testing was conducted using multiple linear regression analysis, which is used to examine the influence of two or more independent variables on a single dependent variable. In this study, multiple linear regression analysis was used to examine the influence of environmental, social, governance, and company size on financial performance. The regression model used in this study is: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$

The results of the multiple linear regression analysis are shown in the following table:

Table 4. Multiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	-3.719	.581			-6.406	.000
	Environmental	.263	.125	.161		2.102	.037
	Social	.308	.142	.173		2.163	.032
	Governance	.276	.124	.174		2.217	.028
	Ukuran Perusahaan (Ln)	.715	.177	.277		4.030	.000

Based on the results in the table above, a regression equation can be constructed as follows: $Y = -3.719 + 0.263X_1 + 0.308X_2 + 0.276X_3 + 0.715X_4$

Based on the multiple regression equation above, the analysis concludes that:

- Constant (α) = -3.719. This indicates that when all independent variables (Environmental, Social, Governance, and Company Size) are set to zero, the company's ROA is -3.719.
- Environmental (β_1) = 0.263. The regression coefficient indicates that every 1-unit increase in the Environmental score will increase ROA by 0.263, assuming other variables remain constant. This variable has a significance value of 0.037, indicating a significant effect because it is below 0.05. This means that the environmental aspect of ESG plays a significant role in improving financial performance (ROA).
- Social (β_2) = 0.308 indicates that every 1-unit increase in a company's social aspects will increase ROA by 0.308. A significance value of 0.032 also indicates that this variable has a significant effect. In other words, the better a company's social aspects, the higher its ROA.
- Governance (β_3) = 0.276 indicates that every 1-unit increase in the governance variable will increase ROA by 0.276. This variable is significant with a

significance value of 0.028, indicating that good corporate governance has a positive contribution to ROA.

- e) Company Size (β_3) = 0.715 indicates that company size has the largest influence compared to other variables. Every 1-unit increase in company size will increase ROA by 0.715. A significance value of 0.000 indicates that this variable is highly significant. This means that larger companies tend to have greater ability to generate profits.

5. Discussion

The results of the analysis indicate that the environmental dimension has a positive and significant effect on the financial performance (ROA) of energy sector companies. This finding confirms that environmental responsibility is no longer merely a compliance obligation but has become a strategic factor influencing firm profitability, particularly in high-risk and environmentally sensitive industries such as energy. Energy companies are directly exposed to environmental risks including carbon emissions, industrial waste, ecosystem degradation, and intensive natural resource utilization. Effective environmental management through emission control, waste treatment, energy efficiency, and compliance with environmental regulations helps companies mitigate operational risks, avoid sanctions, and improve operational efficiency. This result is consistent with prior studies showing that strong environmental performance enhances financial outcomes, firm value, and long-term sustainability, especially in environmentally intensive sectors (Zhang et al., 2024; Aydoğmuş & Gülay, 2022; Ramlawati et al., 2022; Xu & Zhu, 2024; Noora & Maithya, 2025). Moreover, companies with superior environmental practices tend to gain legitimacy and trust from stakeholders, which positively influences market perception and financial stability (Anggraini & Sari, 2024; Prakasa, 2024).

The social dimension is also found to have a positive and significant impact on ROA, highlighting the importance of stakeholder-oriented practices in improving financial performance. Energy companies operate in close proximity to local communities and rely heavily on social acceptance to ensure operational continuity. Social initiatives related to occupational health and safety, employee welfare, training and development, community empowerment, and corporate social responsibility (CSR) programs contribute to stronger employee productivity, reduced conflict with local communities, and improved corporate reputation. When companies effectively manage social impacts through transparency, job creation, education support, and community development, they are more likely to maintain stable operations and avoid costly social disputes. This finding aligns with previous studies demonstrating that social performance and ESG disclosure positively affect financial performance, stock returns, and firm value (Husada & Handayani, 2021; Nugroho & Hersugondo, 2022; Putri et al., 2024; Sari & Widiatmoko, 2023; Rinofah et al., 2025). The result is further supported by global ESG studies emphasizing that socially responsible firms are better positioned to achieve sustainable financial outcomes (GSIA, 2021; Global Sustainable Investment Review, 2022).

Governance is shown to have a positive and significant influence on ROA, underscoring the critical role of good corporate governance in the energy sector. Given the sector's high capital intensity, complex operational structures, and substantial regulatory exposure, effective governance mechanisms are essential to ensure accountability, transparency, and risk control. Governance practices such as strong board oversight, an active audit committee, effective risk management, regulatory compliance, and ethical leadership help reduce agency problems, prevent fraud, and enhance the quality of strategic decision-making. Companies with strong governance structures are more likely to gain investor confidence, reduce financing costs, and maintain long-term financial performance. This finding is consistent with empirical evidence suggesting that governance quality strengthens the relationship between ESG practices and financial performance, particularly in capital-intensive industries (Izzah & Darsono, 2024; Adenina & Sudrajat, 2024; Hidayatul Aisyah Nur Rohman et al., 2024; Wati & Werastuti, 2025; Xu & Zhu, 2024). Strong governance also supports effective ESG implementation by ensuring alignment between sustainability strategies and corporate objectives (Amrotun et al., 2025).

Company size emerges as the variable with the strongest influence on ROA, indicating that larger energy companies tend to achieve higher financial performance. Large firms benefit from economies of scale, easier access to external financing, advanced technology adoption, and greater operational resilience. In the energy sector, firm size is closely associated with the capacity to invest in environmental technologies, comprehensive social programs, and robust governance systems. Larger companies are also better equipped to meet ESG reporting standards and absorb the costs associated with sustainability initiatives, thereby enhancing both operational efficiency and stakeholder confidence. This finding is consistent with previous research showing that firm size positively affects financial performance and strengthens the effectiveness of ESG implementation (Amalia & Khuzaini, 2020; Pongoh, 2013; Sari, 2021; Zhang et al., 2024). Overall, the results suggest that ESG performance and firm characteristics jointly shape financial outcomes in the energy sector, reinforcing the view that sustainability and profitability are mutually reinforcing rather than conflicting objectives.

6. Conclusions

Based on the analysis and discussion, it can be concluded that Environmental, Social, Governance (ESG), and company size have a positive effect on the financial performance (ROA) of energy sector companies listed on the Indonesia Stock Exchange for the 2020–2024 period. Good environmental practices and disclosures can improve operational efficiency and reduce environmental risks, thereby impacting profitability. Well-managed social aspects strengthen relationships with stakeholders and create operational stability that supports financial performance. The implementation of effective corporate governance increases transparency and investor confidence, which contributes to long-term profitability. Furthermore, large companies have advantages in access to capital, resources, and risk management, thus enabling them to achieve better financial performance. Simultaneously, consistent

ESG implementation supported by large company size has been proven to improve the financial performance of energy sector companies.

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