

The Role of Environmental Costs, Managerial Ownership, and Financial Performance in Driving Corporate Social Responsibility: Evidence from Indonesia's Basic Materials Industry

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ABSTRACT

This study aims to examine the effect of environmental costs, managerial ownership, and financial performance on corporate social responsibility (CSR). The research employs a quantitative approach using secondary data obtained from the Indonesia Stock Exchange (IDX). The population consists of companies in the basic materials sector listed on the IDX for the 2022–2024 period, with 16 firms selected through purposive sampling. The dependent variable in this study is CSR, while the independent variables are environmental costs, managerial ownership, and financial performance. Panel data regression analysis was conducted using EViews 12. The results indicate that environmental costs and financial performance positively and significantly affect CSR, while managerial ownership has a negative effect. The coefficient of determination (R^2) of 39.83% suggests that the independent variables explain 39.83% of the variation in CSR, while the remaining 60.17% is influenced by other factors outside the model.

Keywords: Environmental Costs; Managerial Ownership; Financial Performance; Corporate Social Responsibility

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SDGs: Responsible Consumption and Production (12); Climate Action (13); Decent Work and Economic Growth (8); Industry, Innovation, and Infrastructure (9); Peace, Justice, and Strong Institutions (16)

INTRODUCTION

The rapid development of the modern era has led to continuous growth in the business world, resulting in the emergence of new companies and the expansion of business organizations. Beyond profit-seeking, companies are also obligated to pay attention to the social and environmental impacts of their operations (Zalukhu et al., 2020). Environmental and social responsibility issues have become increasingly prominent, particularly in the basic materials sector. Companies in this sector significantly contribute to environmental problems such as air pollution, waste generation, and other ecological damage (Merawati & Pramitha, 2020). To address these growing environmental concerns, companies undertake environmental management efforts to mitigate the effects of operational activities, which naturally involve the allocation of environmental costs (Meiyana & Aisyah, 2019).

Environmental costs refer to the expenses incurred by companies to cover the damage caused by their operational activities (Endang Elviani et al., 2022). These costs can drive Corporate Social Responsibility (CSR) as part of the expectations of stakeholders. According to the World Business Council for Sustainable Development (WBCSD), CSR represents a company's obligation to engage in ethical behavior and contribute to sustainable economic development, with the ultimate goal of improving the quality of life for employees, families, and society (Prasetyo & Paramitha, 2020). Social responsibility is reflected in accountability reports, typically presented in financial statements intended for stakeholders such as management, investors, and creditors.

In Indonesia, several cases have drawn attention to companies neglecting their social and environmental responsibilities. One example is PT Timah Tbk's collaboration with private sector entities in Bangka Belitung, which resulted in environmental damage from illegal tin mining activities estimated at IDR 271 trillion. This incident adversely affected local communities and caused significant losses to the state (Budiawan Sidik A, 2024). According to Kompas.com, this case led to economic and ecological losses, as well as enormous environmental restoration costs. Bambang Hero Sarjono, a forestry and environmental academic from IPB University and one of the expert witnesses, estimated that the total loss of IDR 271 trillion comprised IDR 157.83 trillion in environmental damage, IDR 60.28 trillion in environmental economic losses, IDR 5.26 trillion in rehabilitation costs, and IDR 47.70 trillion in losses outside forest areas (Budiawan Sidik A, 2024).

In this context, environmental costs, managerial ownership, and financial performance become crucial variables to be examined further. Theoretically, these three factors have the potential to influence the implementation of corporate social responsibility, particularly in the basic materials sector. Therefore, this study is relevant to identifying the determinants of CSR among basic materials companies in Indonesia, providing strategic insights to enhance social responsibility, strengthen corporate reputation, and support long-term business sustainability.

THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

The stakeholder theory, first introduced by Freeman (1984), posits that companies are accountable not only to shareholders but also to all stakeholders who have an interest in corporate activities. These stakeholders include employees, customers, suppliers, government, communities, and the surrounding environment. According to this theory, corporate sustainability depends on the company's ability to manage relationships with its stakeholders. Thus, businesses are expected to not only pursue profit but also consider the social and environmental impacts of their operations.

Environmental cost refers to the expenditures incurred by companies to address environmental damage resulting from business activities (Azizah & Cahyaningtyas, 2023). In the basic materials sector, operational activities often cause environmental degradation. To prevent and mitigate such damage, companies allocate environmental costs (Tambunan et al., 2023).

Managerial ownership refers to the proportion of shares owned by company management. It represents the level of managerial involvement in company ownership. When management holds shares, they tend to align their decisions with maximizing company value (Setiadi, 2021). Managerial ownership affects corporate decision-making since directors and commissioners who hold shares participate actively in strategic decisions to ensure optimal company performance (Rahma & Hayati, 2022).

Financial performance refers to an assessment of how effectively a company manages its financial activities according to established standards (Lestari et al., 2024). The quality of financial performance, whether positive or negative, can be measured through profitability and leverage indicators (Suripto & Lucas, 2023). Stable profit growth enhances corporate value. With sound financial planning, companies can develop their business strategies to further improve financial performance (Suzan & Khotimah, 2023).

Corporate Social Responsibility (CSR) represents a company's obligation to build good relationships with the surrounding community as a result of operational activities that may cause environmental degradation or social inequality (Aliyah et al., 2022). CSR reflects corporate accountability for its impact on society and the environment (Kholifah, 2022).

Environmental Costs and Corporate Social Responsibility

Environmental costs arise from operational activities that impact the environment (Santoso, 2018). These expenditures demonstrate corporate responsibility toward environmental preservation and business sustainability (Endang Elviani et al., 2022). By disclosing environmental costs, companies signal transparency to stakeholders, showing that funds have been allocated for environmental protection, pollution control, and compliance with environmental regulations (Hapsoro & Ambarwati, 2020). A consistent allocation of environmental costs also serves as a positive signal of corporate commitment to social and sustainability issues, enhancing public trust and reputation (Meiyana & Aisyah, 2019).

Companies that regularly allocate environmental budgets are viewed as environmentally responsible and socially accountable. The higher the environmental costs, the greater the expected level of CSR implementation (Habib Siregar et al., 2022). However, previous studies have shown mixed findings — while Nurhayati et al. (2023) found a positive effect of environmental costs on CSR, Endang Elviani et al. (2022) reported no significant effect on either CSR or financial performance. Hence, the hypothesis is formulated as follows:

H1: Environmental costs have a positive effect on corporate social responsibility.

Managerial Ownership and Corporate Social Responsibility

According to agency theory, managerial ownership plays a crucial role in reducing conflicts between owners and managers by aligning the interests of both parties. Managerial ownership reflects the active involvement of management in the company's shareholding, encouraging them to act more prudently and responsibly in decision-making. The greater the proportion of shares held by managers, the stronger their motivation to enhance firm value

through improved performance and the implementation of corporate social responsibility (CSR) (Merawati & Pramitha, 2020; Erawati & Sari, 2021). Consequently, when managers own shares, they are more likely to strengthen the company's commitment to social and environmental responsibilities, as they also experience the direct impact of every corporate decision made.

Previous research has yielded mixed results regarding the relationship between managerial ownership and CSR. Studies by Ardiansyah & Parasetya (2024), Elizabeth & Pangaribuan (2021), Beno et al. (2022), and Saptowinarko Prasetyo (2023) found that managerial ownership has a negative effect on CSR, whereas Erawati & Sari (2021) reported a positive effect. These differences suggest that the influence of managerial ownership on CSR depends on how well managers balance their personal interests with the company's social responsibilities. Based on these findings, the following hypothesis is proposed:

H2: Managerial ownership has a positive effect on corporate social responsibility.

Financial Performance and Corporate Social Responsibility

Financial performance reflects a company's ability to generate profit and serves as an important indicator for evaluating operational success. One of the most commonly used measures is the profitability ratio, which indicates the extent to which a company can generate earnings from its available resources (Merawati & Pramitha, 2020). A high level of profitability reflects managerial efficiency and strong performance, providing the company with greater capacity to implement and disclose its social responsibilities to society (Yovana & Kadir, 2020).

Companies with good financial performance tend to pay greater attention to stakeholder interests by disclosing corporate social responsibility (CSR) activities transparently. High profitability not only strengthens public trust and access to capital but also motivates companies to maintain their reputation through social and environmental initiatives. Previous studies by Iqbal et al. (2021), Utpala & Adiwibowo (2021), and Ayuni (2022) confirmed that profitability positively affects CSR disclosure. Based on these findings, the following hypothesis is proposed:

H3: Financial performance has a positive effect on corporate social responsibility.

RESEARCH METHOD

This study employs a quantitative research approach using secondary data obtained from the annual reports and sustainability reports of basic materials companies listed on the Indonesia Stock Exchange (IDX) for the 2022–2024 period. The sample was selected using a purposive sampling technique, resulting in 16 companies that met the research criteria.

The dependent variable in this study is **corporate social responsibility (CSR)**, while the independent variables include **environmental costs**, **managerial ownership**, and **financial performance**. Data were analyzed using **panel data regression** with the assistance of **EViews 12** software.

The operational definitions and measurement of variables are presented as follows:

Variable	Measurement	Source
Corporate Social Responsibility (Y)	CSR disclosure index based on indicators adopted from the Global Reporting Initiative (GRI) standards, measured as the ratio of disclosed CSR items to the total items expected to be disclosed.	Saptowinarko Prasetyo (2024)
Environmental Costs (X₁)	Total environmental costs incurred by the company, obtained from sustainability or financial reports and expressed in natural logarithm (Ln).	Wicaksono (2024)
Managerial Ownership (X₂)	The percentage of shares owned by management (directors and commissioners) compared to the total outstanding shares of the company.	Saptowinarko Prasetyo (2023)
Financial Performance (X₃)	Profitability ratio measured using Return on Assets (ROA) , calculated as net income divided by total assets.	Sentika et al. (2023)

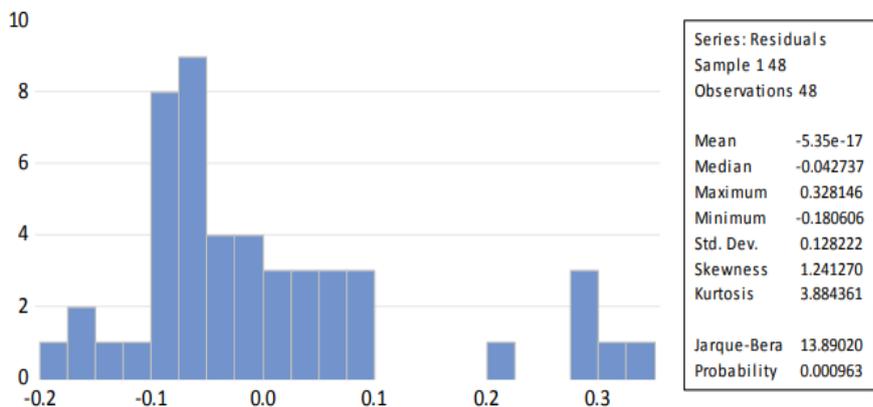
RESULTS AND DISCUSSION

Descriptive Statistical Analysis

	CSR	BIAYA LING...	KEPEMILIK...	KINERJA K...
Mean	0.348443	0.016374	0.149125	0.060500
Median	0.296703	0.006340	0.075992	0.047542
Maximum	0.703297	0.304651	0.814583	0.188605
Minimum	0.153846	0.000143	0.000262	0.002597
Std. Dev.	0.145803	0.044814	0.168761	0.048318
Skewness	1.468252	5.804838	1.575157	0.782238
Kurtosis	4.349075	37.37348	6.131018	2.640803
Jarque-Bera	20.88612	2632.641	39.45550	5.153222
Probability	0.000029	0.000000	0.000000	0.076031
Sum	16.72527	0.785967	7.158011	2.904000
Sum Sq. Dev.	0.999145	0.094388	1.338565	0.109727
Observations	48	48	48	48

Based on the results, it can be seen that the total number of observations for the variables is 48. This figure is derived from 16 companies in the basic materials sector listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period. The appropriate regression model selected after performing data transformation on variables X1, X2, X3, and Y is the **common effect model**.

Normality Test



The initial residual normality test produced a probability value of **0.000963**, which is less than 0.05, meaning that the residuals are not normally distributed. Therefore, the data were transformed using the natural logarithm (LN) for all variables.

After the transformation, the residual normality test showed a probability value of **0.350979**, which is greater than 0.05, indicating that the residuals are normally distributed.

Multicollinearity Test

Variance Inflation Factors
 Date: 06/28/25 Time: 06:46
 Sample: 1 48
 Included observations: 48

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.072189	42.07044	NA
LNBIAYA_LINGKUN...	0.001071	17.93403	1.218409
LNKEPEMILIKAN_M...	0.000446	3.544341	1.099670
LNKINERJA KEUAN...	0.001885	12.64246	1.194331

The multicollinearity test results show that the **Variance Inflation Factor (VIF)** values for all variables are between 1 and below 10. Thus, the regression model does not exhibit multicollinearity.

Heteroskedasticity Test

Heteroskedasticity Test: Glejser
 Null hypothesis: Homoskedasticity

F-statistic	1.332572	Prob. F(3,44)	0.2759
Obs*R-squared	3.997907	Prob. Chi-Square(3)	0.2617
Scaled explained SS	3.589155	Prob. Chi-Square(3)	0.3094

The heteroskedasticity test using the **Breusch-Pagan-Godfrey** method yielded a Chi-Square probability value of **0.2617**. Since $0.2617 > 0.05$, the null hypothesis is accepted, indicating that the model exhibits homoskedasticity (no heteroskedasticity problem).

Panel Data Regression Analysis

Dependent Variable: LNCSR
 Method: Panel Least Squares
 Date: 06/28/25 Time: 06:49
 Sample: 2022 2024
 Periods included: 3
 Cross-sections included: 16
 Total panel (balanced) observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.271779	0.116686	-2.329137	0.0245
LNBIAYA_LINGKUNGAN	0.030632	0.014211	2.155590	0.0366
LNKEPEMILIKAN MANAJERIAL	-0.043206	0.009171	-4.711223	0.0000
LNKINERJA KEUANGAN	0.059179	0.018854	3.138710	0.0030
Root MSE	0.119332	R-squared		0.436745
Mean dependent var	-0.488860	Adjusted R-squared		0.398341
S.D. dependent var	0.160686	S.E. of regression		0.124639
Akaike info criterion	-1.247141	Sum squared resid		0.683531
Schwarz criterion	-1.091208	Log likelihood		33.93138
Hannan-Quinn criter.	-1.188213	F-statistic		11.37244
Durbin-Watson stat	0.349861	Prob(F-statistic)		0.000012

$$ROA = -0.271779 + 0.030632LN X_1 - 0.043206X_2 + 0.059179X_3 + e$$

Based on the regression results, the constant value of -0.271779 indicates that if all independent variables are zero, the predicted financial performance (ROA) is -0.271779. The environmental cost variable (X1) has a positive coefficient of 0.030632, indicating that an increase in environmental cost positively affects corporate social responsibility (CSR).

Meanwhile, managerial ownership (X2) has a negative coefficient of -0.043206, showing that when other variables are constant, a higher level of managerial ownership is associated with a 4.32% decrease in CSR. This suggests a negative relationship between managerial ownership and CSR.

Furthermore, financial performance (X3) has a positive coefficient of 0.059179, indicating that an increase in financial performance leads to a 5.92% increase in CSR disclosed in the company's reports. Thus, financial performance has a positive effect on CSR.

Partial Test (t-test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.271779	0.116686	-2.329137	0.0245
LNBIAYA_LINGKUNGAN	0.030632	0.014211	2.155590	0.0366
LNKEPEMILIKAN MANAJERIAL	-0.043206	0.009171	-4.711223	0.0000
LNKINERJA KEUANGAN	0.059179	0.018854	3.138710	0.0030

The partial test results show that **environmental cost** has a positive and significant effect on CSR, with a t-value of **2.155590** and a significance value of **0.0366** (<0.05).

Managerial ownership has a negative and significant effect on CSR, with a t-value of **-4.711223** and a significance value of **0.0000** (<0.05).

Meanwhile, **financial performance** has a positive and significant effect on CSR, with a t-value of **3.138710** and a significance value of **0.0030** (<0.05).

Therefore, it can be concluded that environmental cost and financial performance have a positive effect on CSR, while managerial ownership has a negative effect on CSR among basic materials companies listed on the IDX for the 2022–2024 period.

Coefficient of Determination (R²)

The R² value of **0.398341** (or 39.83%) indicates that variations in CSR can be explained by environmental cost, managerial ownership, and financial performance variables. The remaining 60.17% is explained by other variables not included in this study.

The findings show that environmental cost and financial performance have a **positive and significant** effect on Corporate Social Responsibility (CSR), while managerial ownership has a **negative** effect on CSR. This indicates that companies allocating greater funds for environmental activities and demonstrating strong financial performance tend to be more active in CSR implementation.

This aligns with **stakeholder theory** (Freeman, 1984), which posits that companies must consider the interests of various stakeholders, including society and the environment—to maintain legitimacy and business sustainability.

Conversely, the negative effect of managerial ownership on CSR implies that as managers hold a larger proportion of company shares, their focus on social activities tends to decrease. This occurs because manager-shareholders are often more profit-oriented and emphasize cost efficiency, leading to reduced attention to CSR activities that may not generate immediate financial returns. Thus, CSR implementation depends not only on financial capability but also on managerial orientation and commitment to balancing the company's economic and social objectives.

CONCLUSION

Environmental cost and financial performance have a **positive and significant** effect on Corporate Social Responsibility, while managerial ownership has a **negative** effect on CSR. This finding suggests that CSR implementation is influenced not only by financial capability but also by managerial orientation in balancing economic and social interests.

Overall, the results support **stakeholder theory**, emphasizing that a company's long-term success depends on its ability to meet stakeholder expectations through sustainable commitments to environmental, social, and governance (ESG) aspects.

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