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The Effect of ESG Disclosure on Cost of Debt (An Empirical Study on Manufacturing and Energy Sector Companies Listed on the Indonesia Stock Exchange in 2019–2023)

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ABSTRACK

This study investigates the impact of Environmental, Social, and Governance (ESG) disclosure on the cost of debt among manufacturing and energy sector companies listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023. Using a quantitative approach, the research analyzes ESG scores sourced from the Bloomberg Terminal and financial data from company reports. The panel data regression model tests both the aggregate ESG disclosure and individual ESG components—environmental, social, and governance—against the cost of debt, with control variables including firm size, profitability, leverage, liquidity, and the BI interest rate. The findings reveal a significant positive relationship between overall ESG disclosure and the cost of debt, suggesting that higher ESG engagement may be perceived by creditors as increasing financial burden or risk. Among the ESG components, only social disclosure significantly raises the cost of debt, indicating potential concerns from lenders regarding resource allocation for social activities. In contrast, environmental and governance disclosures showed no significant impact. The results challenge prior assumptions that stronger ESG performance universally reduces financing costs. Additionally, the BI interest rate also significantly influences debt cost, while other control variables do not. These outcomes underscore the complexity of ESG valuation in emerging markets like Indonesia, where regulatory compliance, market perception, and strategic motives intersect. The study contributes to a nuanced understanding of ESG disclosure effects in the corporate debt market and suggests further exploration of sector-specific and regional ESG practices.

Keywords: ESG Disclosure, Cost of Debt, Social Responsibility, Corporate Sustainability, Panel Data Analysis

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INTRODUCTION

Environmental, Social, and Governance (ESG) considerations have gained significant prominence in contemporary business practices. According to Raimo et al. (2021), sustainability concerns have increased markedly, with over 60% of American consumers expressing willingness to pay premium prices for sustainably packaged products. Furthermore, McKinsey & NielsonIQ (2023) reports that 78% of US consumers consider sustainable lifestyles highly important, demonstrating that sustainability has evolved beyond a mere trend to become a critical factor in business and investment decision-making. The ESG framework originated from the United Nations' "Who Cares Wins" report in 2004, which recommended integrating environmental, social, and governance considerations into business and investment decisions. As Adriyani et al. (2024) explicate, ESG implementation contributes positively to organizational transparency and accountability, enhancing stakeholder trust, strengthening corporate reputation, and ultimately increasing enterprise value. In Indonesia, regulatory support for ESG practices has emerged

through the Financial Services Authority (OJK) Regulation No. 51/POJK.03/2017, which mandates financial service institutions and public companies to integrate sustainability aspects into their operational activities.

The correlation between ESG disclosure and cost of debt has been extensively investigated with varying outcomes. Raimo et al. (2021) identified a significant negative relationship between ESG disclosure and debt cost, indicating that comprehensive ESG reporting provides creditors with enhanced transparency, particularly regarding non-financial aspects such as environmental impact, social responsibility, and corporate governance. This finding aligns with research by Eliwa et al. (2021) and Núñez et al. (2023), who similarly demonstrated that superior ESG scores correlate with reduced borrowing costs. However, conflicting evidence exists in the literature. Gigante & Manglaviti (2022) found no significant influence of ESG scores on debt costs among non-financial European firms. Conversely, Gonçalves et al. (2022) reported a statistically significant positive relationship between ESG variables and debt costs, suggesting that lenders may perceive sustainability investments as corporate resource wastage. Similarly, Henny & Hermawan (2020) discovered that enhanced ESG disclosure quality can increase debt costs, as creditors evaluate ESG investments from a risk perspective, considering potential liquidity reduction and credit risk elevation.

Examining individual ESG components reveals differential impacts on debt costs. Regarding environmental performance, Yilmaz (2022) and Hamrouni et al. (2020) demonstrated significant negative relationships between environmental scores and debt costs. Contrastingly, Janah & Purwanto (2024) and Johnson (2020) found no significant influence, suggesting that creditors may not prioritize environmental disclosure in risk assessment and interest rate determination. For social disclosure, Johnson (2020), Apergis et al. (2022), Rai & Ismawati (2024), and Shi et al. (2024) established significant negative relationships with debt costs, indicating that effective social risk management and disclosure can yield lower debt expenses. However, Hamrouni et al. (2020) argued that social disclosure might increase debt costs due to shareholder perceptions of managerial opportunism or excessive resource consumption.

Regarding governance disclosure, Apergis et al. (2022) and Houqe et al. (2020) demonstrated significant negative effects on debt costs, suggesting enhanced investor confidence in companies with superior governance scores. Conversely, Yilmaz (2022), Hamrouni et al. (2020), and Rai & Ismawati (2024) found no significant relationship, indicating that robust governance may not necessarily mitigate default risk perception. The disparate findings regarding ESG disclosure's impact on debt costs across aggregate and individual components underscore the necessity for further investigation, particularly within the Indonesian economic and regulatory context where research remains limited. This study therefore examines manufacturing and energy sector companies listed on the Indonesia Stock Exchange during 2019-2023, sectors chosen for their substantial contributions to carbon emissions, natural resource utilization, and industrial waste generation.

METHOD

Types and Sources of Data

This study employs a quantitative approach, analyzing numerical data processed using statistical methods to draw conclusions. The research aims to examine the significant impact of each ESG disclosure, both collectively and individually, on the cost of debt. Data is collected from the annual financial statements of companies published on the Indonesia Stock Exchange (IDX) website and additional data from the Bloomberg terminal. By utilizing these sources, the study seeks to assess the relationship between ESG disclosures and the cost of debt, offering valuable insights into the financial implications of corporate sustainability practices.

Research Population and Sample

The population of this study consists of manufacturing and energy sector companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. The sampling technique used is purposive sampling, a non-random method where samples are selected based on specific criteria aligned with the research objectives. The criteria for selecting samples include: (1) manufacturing and energy sector companies listed on the IDX between 2019 and 2023, (2) companies with ESG scores published by the Bloomberg terminal for consecutive years from 2019 to 2023, and (3) companies with interest expenses during the study period.

Operational Definition of Variables

This study examines several variables to assess the relationship between ESG disclosure and the cost of debt, including independent, dependent, and control variables. The independent variable is ESG disclosure, which evaluates the impact of a company's sustainability practices on its financial and operational performance. ESG disclosure is measured using the ESG score published by Bloomberg Terminal, with scores ranging from 0 to 100. These scores are based on non-financial disclosures related to environmental, social, and governance practices. The ESG score is calculated as the weighted average of scores in the three pillars: Environmental (E), Social (S), and Governance (G) (Eliwa et al., 2021; Henny & Hermawan, 2020; Houqe et al., 2020; Lavin & Montecinos-Pearce, 2022; Maaloul et al., 2023).

The environmental disclosure measures a company's efforts to manage the environmental impact of its operations, such as greenhouse gas emissions, energy efficiency, waste management, and renewable energy use. Bloomberg calculates the environmental score based on both performance and transparency, with companies demonstrating higher transparency receiving better scores (Bloomberg, 2021). This score ranges from 0 to 100 and is used in various studies to measure environmental disclosure (Eliwa et al., 2021; Henny & Hermawan, 2020). Social disclosure evaluates how companies address social issues, including employee safety, training, human rights, and consumer responsibility. Bloomberg's social score

is based on both company policies and actual quantitative data, such as accident rates or employee training hours (Bloomberg, 2021). Previous studies have utilized Bloomberg's social disclosure score, such as those by Eliwa et al. (2021) and Maaloul et al. (2023).

Finally, the governance disclosure measures a company's corporate governance practices, such as board composition, shareholder rights, and financial reporting quality. The governance score reflects how well these practices contribute to responsible decision-making and long-term sustainability (Bloomberg, 2021). This variable is widely used in previous research (Eliwa et al., 2021; Henny & Hermawan, 2020).

The dependent variable is the cost of debt, defined as the expected return that creditors demand for lending to a company. It is calculated by Bloomberg using the following formula:

$$Cost\ of\ Debt\ = \left\{\left(\frac{SD}{TD}\right)\ x\ (CS\ x\ AF) + \left(\frac{LD}{TD}\right)\ x\ (CL\ x\ AF)\right\} x\ (1 - TR)$$

Where:

SD = Short-term Debt,

CS = Pre-tax cost of short-term debt,

LD = Long-term Debt,

CL = Pre-tax cost of long-term debt,

TD = Total Debt,

AF = Adjusted factor for debt,

TR = Effective Tax rate.

Control variables include firm size, measured by the natural logarithm of total assets (Maaloul, 2023), profitability (measured by return on assets, ROA), and leverage (measured by the debt-to-asset ratio, DAR), which reflects the company's reliance on debt financing. Liquidity is measured by the current ratio, evaluating the company's ability to meet short-term obligations using its current assets (Qomariyah et al., 2022).

Data Analysis Methods

This study uses panel data regression analysis to examine the relationship between ESG disclosures and the cost of debt. The basic panel data regression equations used in this research are:

Model I:

$COD = a0 + \beta 1ESG + \beta 2SIZE + \beta 3PROFIT + \beta 4BI_RATE + \beta 5\text{LEV} + \beta 6\text{LIQUID} + e$ (1)

Model II:

$COD = a0 + \beta 1ED + \beta 2SD + \beta 3GD + \beta 4SIZE + \beta 5PROFIT + \beta 6BI_RATE + \beta 7\text{LEV} + \beta 8\text{LIQUID} + e$ (2)

Where COD refers to the cost of debt, ESG represents aggregate ESG disclosure, ED is environmental disclosure, SD is social disclosure, GD is governance disclosure, SIZE is company size,

PROFIT is profitability, BI_RATE is the Indonesian Bank Interest Rate, LEV is leverage, and LIQUID is liquidity.

The descriptive analysis aims to summarize the data without making general conclusions. Descriptive statistics include measures such as mean, median, mode, and standard deviation, and visualizations like tables, graphs, and pie charts (Sugiyono, 2013). The model selection tests involve determining the best model for panel data, including the Chow test, Hausman test, and Lagrange Multiplier test. These tests compare different models, such as the Common Effect Model, Fixed Effect Model, and Random Effect Model, to identify the most appropriate for the data.

Furthermore, classical assumption tests, such as normality, multicollinearity, heteroscedasticity, and autocorrelation, are used to ensure the validity of the regression model. For instance, multicollinearity is checked using the Variance Inflation Factor (VIF), where values below 10 suggest no multicollinearity issues (Priyatno, 2022). The hypothesis testing involves t-tests, F-tests, and the Adjusted R Square, which measures the explanatory power of the model, with higher R2 values indicating better explanatory power (Napitupulu et al., 2021).

FINDING AND DISCUSSION

Descriptive Statistical Analysis

The research aims to examine the effect of overall ESG disclosure and its individual pillars (environmental, social, and governance) on the cost of debt incurred by companies. The dependent variable in this study is the cost of debt, while the independent variable is ESG disclosure, further detailed into overall ESG scores, environmental disclosure (ED), social disclosure (SD), and governance disclosure (GD). The study also includes control variables such as firm size, profitability, BI-Rate, leverage, and liquidity. The sample was selected using purposive sampling from a population of 386 manufacturing and energy sector companies listed on the Indonesia Stock Exchange (IDX) from 2019-2023. After eliminating companies lacking consistent ESG scores on Bloomberg Terminal during the period and those without interest expenses, 39 companies were initially selected. However, 10 companies with outlier data were excluded, resulting in 29 companies for the final sample.

Descriptive statistics are provided for all variables, including cost of debt (COD), overall ESG disclosure (ESG), and its individual pillars (ED, SD, GD), along with control variables such as firm size (SIZE), profitability (PROFIT), BI-Rate, leverage (LEV), and liquidity (LIQUID). The table below summarizes the descriptive statistics for these variables:

Table 1. Descriptive Statistical Analysis

	COD	ESG	ED	SD	GD	SIZE	PROFIT	BI_RATE	LEV	LIQUID
Mean	0.060770	44.25579	31.82414	29.11745	71.78545	31.09310	0.055908	0.046420	0.419557	1.812075
Median	0.063100	45.63000	34.64000	28.48000	75.20000	31.04550	0.050000	0.042500	0.420000	1.700000
Maximum	0.095400	71.59000	74.96000	60.82000	95.00000	33.73060	0.181000	0.058100	0.790000	3.800000
Minimum	0.025500	21.14000	0.000000	9.980000	47.80000	27.38160	-0.035100	0.035200	0.020000	0.036000
Std. Dev.	0.013721	11.62351	19.35469	11.58651	11.80162	1.230072	0.043333	0.009159	0.162002	0.837321
Skewness	-0.056019	-0.105196	-0.011505	0.482581	-0.337983	-0.547478	0.299620	0.215846	-0.048002	0.375967
Kurtosis	2.906648	2.117986	1.823566	2.609798	2.296594	3.907155	2.876215	1.323574	2.650852	2.771275
Jarque-Bera	0.128489	4.967536	8.364842	6.547941	5.749920	12.21541	2.262065	18.10543	0.792191	3.732055
Probability	0.937776	0.083428	0.015262	0.037856	0.056418	0.002226	0.322700	0.000117	0.672943	0.154737
Sum	8.811600	6417.090	4614.500	4222.030	10408.89	4508.499	8.106700	6.730900	60.83580	262.7509
Sum Sq. Dev.	0.027108	19455.27	53942.98	19331.60	20056.08	217.8831	0.270395	0.012079	3.779216	100.9593
Observations	145	145	145	145	145	145	145	145	145	145

The descriptive analysis reveals key insights, including the average cost of debt (6.07%) for manufacturing and energy sector companies listed on the IDX from 2019 to 2023. The ESG disclosure score averages 44.26 out of 100, indicating moderate disclosure levels across environmental, social, and governance aspects. Environmental disclosure (ED) shows an average score of 31.82, social disclosure (SD) averages 29.12, and governance disclosure (GD) is higher at 71.79, reflecting strong governance practices in the sampled companies. Control variables, such as firm size (mean = 31.09), profitability (mean = 5.59%), BI-Rate (mean = 4.64%), leverage (mean = 41.96%), and liquidity (mean = 181.2%), were also analyzed, providing a comprehensive understanding of the factors influencing cost of debt.

Data Analysis Model I

The selection of the appropriate panel regression model involves several tests, starting with the Chow test, followed by the Hausman test, and ending with the Breusch-Pagan Lagrange multiplier test. These tests are crucial in determining the most suitable regression model, such as the common effect model, fixed effect model, or random effect model.

The selection of the appropriate panel regression model is a crucial step in this study. To determine the most suitable model, three tests were conducted: the Chow test, the Hausman test, and the Breusch-Pagan Lagrange Multiplier (LM) test. The results of the Chow test show that the F-probability value is 0.0011, which is less than 0.05, indicating that the fixed effect model is preferable to the common effect model. However, the Hausman test result, with a probability value of 0.3378, suggests that the random effect model is more appropriate than the fixed effect model. Finally, the Lagrange Multiplier test yields a significance value of 0.0051, which is below 0.05, implying that the random effect model is better suited than the common effect model.

Table 2. Model I Panel Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.012490	0.037346	0.334431	0.7386
ESG	0.000333***	0.000114	2.910210	0.0042
SIZE	0.000144	0.001217	0.118231	0.9061
PROFIT	0.013249	0.029221	0.453426	0.6510
BI_RATE	0.536622***	0.102229	5.249215	0.0000
LEV	-0.001269	0.008589	-0.147758	0.8827
LIQUID	0.002188	0.001539	1.421391	0.1575

Source: Eviews 12 Output, processed data.*** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.

To ensure the validity and robustness of the regression model, classical assumption tests were conducted. The normality test indicates that the residuals are normally distributed, with a probability value of 0.56, which is greater than 0.05. The multicollinearity test confirms the absence of multicollinearity, as all Variance Inflation Factor (VIF) values are below the threshold of 10. The heteroscedasticity test suggests that the residuals are evenly distributed, indicating no heteroscedasticity issues. Additionally, the Durbin-Watson statistic value of 1.8386 indicates that the model does not suffer from autocorrelation.

Further hypothesis testing through the t-test and F-test was also performed. The hypothesis testing results for Model I demonstrate that among the independent variables, Environmental, Social, and Governance (ESG) disclosure and the BI-Rate (BI_RATE) have a significant positive effect on the cost of debt (COD), with ESG disclosure showing a significance level of 1% (p-value = 0.0042) and BI_RATE a p-value of 0.0000. On the other hand, firm size (SIZE), profitability (PROFIT), leverage (LEV), and liquidity (LIQUID) were found not to significantly impact the cost of debt, as their p-values exceeded the 0.05 threshold. The F-test results further support the significance of the independent variables collectively, with a p-value of 0.000012, confirming that the explanatory variables have a significant effect on COD. Additionally, the adjusted R-squared value of 0.1738 suggests that the model explains 17.38% of the variation in the cost of debt.

Data Analysis Model II

The selection of the appropriate panel regression model is an essential part of this study. To determine the best model, three tests were conducted: the Chow test, the Hausman test, and the Lagrange Multiplier test. The results from the Chow test revealed that the F-probability value was 0.0005, which is less than 0.05, indicating that the fixed effect model is the most appropriate for this study. Meanwhile, the Hausman test, with a probability value of 0.4896, suggested that the random effect model is better

suited than the fixed effect model. Finally, the Lagrange Multiplier test produced a significance value of 0.0019, also less than 0.05, indicating that the random effect model is more suitable than the common effect model.

Table 2. Model II Panel Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000996	0.038992	-0.025548	0.9797
ED	8.04E-05	8.66E-05	0.928526	0.3548
SD	0.000385***	0.000135	2.846356	0.0051
GD	-0.000154	0.000137	-1.118760	0.2652
SIZE	0.001001	0.001304	0.767367	0.4442
PROFIT	0.018902	0.029448	0.641865	0.5220
BI_RATE	0.533420***	0.100612	5.301739	0.0000
LEV	-0.002861	0.008754	-0.326767	0.7443
LIQUID	0.001823	0.001569	1.161421	0.2475

Source: Eviews 12 Output, processed data.*** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.

Based on these results, the random effect model was chosen for the regression analysis in Model II. The regression results indicate that certain variables, such as social disclosure (SD) and interest rate (BI_RATE), significantly influence the cost of debt (COD). However, other variables like environmental disclosure (ED), governance disclosure (GD), firm size (SIZE), profitability (PROFIT), leverage (LEV), and liquidity (LIQUID) did not show a significant effect on the cost of debt.

The classical assumption tests were conducted to ensure the validity of the regression model. The normality test results showed that the data was normally distributed, as evidenced by a probability of 0.53, which is greater than the significance level of 0.05. Additionally, the multicollinearity test indicated no issues, as all Variance Inflation Factor (VIF) values were below 10. The heteroscedasticity test revealed that there were no problems with heteroscedasticity in the model, and the autocorrelation test indicated that the model did not suffer from autocorrelation, as the Durbin-Watson value fell within the acceptable range.

Further hypothesis testing through the t-test and F-test was also performed. The hypothesis testing results for Model II, demonstrate that among the independent variables, social disclosure (SD) and the BI-Rate (BI_RATE) have a significant positive effect on the cost of debt (COD), with SD showing a significance level of 1% and BI_RATE a p-value of 0.0000. On the other hand, environmental disclosure (ED), governance disclosure (GD), firm size (SIZE), profitability (PROFIT), leverage (LEV), and liquidity (LIQUID) were found not to significantly impact the cost of debt, as their p-values exceeded the 0.05 threshold. The F-test results further support the significance of the independent variables

collectively, with a p-value of 0.000004, confirming that the explanatory variables have a significant effect on COD. Additionally, the Adjusted R-squared value of 0.2018 suggests that the model explains 20.18% of the variation in the cost of debt.

Discussion

Effect of ESG Disclosure on Cost of Debt

The results of the regression analysis for Model I indicate that aggregate ESG disclosure has a significant positive effect on the cost of debt, contrary to the hypothesis (H1) proposed by previous studies (Eliwa et al., 2021; Lavin & Montecinos-Pearce, 2022; Núñez et al., 2023; Raimo et al., 2021). Specifically, the increase in ESG disclosure scores among manufacturing and energy companies listed on the Indonesia Stock Exchange from 2019-2023 correlates with higher debt costs. This finding aligns with Henny & Hermawan (2020), who argue that in ASEAN, ESG disclosures are more driven by regulatory requirements than by corporate initiative, often serving as a tool for corporate image-building rather than improving sustainability performance. The higher costs associated with ESG initiatives can strain liquidity and increase credit risk, leading to higher debt costs (Henny & Hermawan, 2020). This view is also supported by Gonçalves et al. (2022), who found that creditors perceive excessive ESG spending as a resource drain that increases credit risk and financial burden.

Effect of Environmental Disclosure on Cost of Debt

The regression analysis for hypothesis 2 (H2) reveals that environmental disclosure does not have a significant effect on a company's cost of debt, contrary to the hypothesis proposed by the researcher based on previous studies (Hamrouni et al., 2020; Yilmaz, 2022), which suggested a negative correlation between the two variables. However, this finding aligns with the results of Rai & Ismawati (2024), who found that environmental disclosure scores do not influence the cost of debt because companies require significant funds to implement effective environmental management, such as waste management systems and investments in renewable energy technologies. These expenditures, while substantial, do not guarantee returns that would offset the costs, leading creditors to perceive a higher risk of default. Furthermore, Janah & Purwanto (2024), Arora & Sharma (2022), and Johnson (2020) emphasize that financial institutions do not yet consider environmental performance as a significant factor in reducing corporate risk, thus not influencing debt costs.

Effect of Social Disclosure on Cost of Debt

The results of hypothesis 3 (H3) testing indicate a significant positive relationship between social disclosure and the cost of debt, contrary to the hypothesized negative impact. The findings reveal that higher social disclosure scores among manufacturing and energy sector companies listed on the Indonesia

Stock Exchange between 2019-2023 correspond to higher debt costs. This contrasts with previous studies (Apergis et al., 2022; Johnson, 2020; Rai & Ismawati, 2024), which suggested that increased social disclosure would lower debt costs. However, these results align with Hamrouni et al. (2020), who found a significant positive association between social disclosure and cost of debt in French companies. The researchers argue that shareholders perceive increased social involvement as opportunistic behavior or excessive resource consumption by managers, leading to higher debt costs. Furthermore, Magnanelli & Izzo (2017) and Perdiansyah & Ulpah (2024) also support this view, showing that high social scores can increase debt costs due to perceived financial inefficiencies and the need for significant investments.

Effect of Governance Disclosure on Cost of Debt

The testing of hypothesis 4 (H4) reveals that governance disclosure does not significantly affect the cost of debt for manufacturing and energy sector companies listed on the Indonesia Stock Exchange between 2019 and 2023. This finding contradicts the initial hypothesis, which proposed a negative relationship between governance disclosure and cost of debt, as suggested by prior studies (Apergis et al., 2022; Houqe et al., 2020). However, the results align with the research of Hamrouni et al. (2020), Malik et al. (2021), Rai & Ismawati (2024), and Yilmaz (2022), who found that governance disclosure does not directly influence the cost of debt. Rai & Ismawati (2024) argue that strong governance does not necessarily reduce the risk of default, as creditors may not perceive it as a guarantee against financial failure. Additionally, they point out that governance disclosure does not assure the quality of management practices, as irresponsible management may manipulate disclosures, negatively impacting the company's reputation and investor confidence.

Effect of Control Variables on Cost of Debt

The regression analysis of control variables in this study reveals mixed results regarding their impact on the cost of debt (COD). Firstly, company size (SIZE), measured by the natural logarithm of total assets, does not significantly affect COD, which contrasts with previous studies (Anriasa et al., 2022; Meiriasari, 2017). However, the finding aligns with Gresya et al. (2024), who argue that large firms with substantial assets tend to have higher profitability, reducing their reliance on external financing. Secondly, profitability (PROFIT), measured by Return on Assets (ROA), also shows no significant impact on COD, contrary to studies by Driharsanto & Husain (2017) and Raimo et al. (2021), but consistent with findings by Hastuti & Challen (2023) and Khusumaningrum et al. (2024). The lack of significance might stem from the fact that both high- and low-profit firms may utilize debt differently. Thirdly, the study confirms that the BI-Rate positively influences COD, in line with Brigham et al. (2017). Finally, leverage (LEV) and liquidity (LIQUID) do not significantly affect COD, supporting the findings of Hastuti & Challen (2023) and Aurelia & Leon (2022).

CONCLUSION

This study aimed to examine the impact of Environmental, Social, and Governance (ESG) disclosures and their individual components on the cost of debt (COD) for manufacturing and energy companies listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023. The findings reveal several important insights. First, the overall ESG disclosure has a significant positive effect on the COD, contradicting the initial hypothesis. Second, the environmental disclosure pillar was found to have no significant effect on COD, suggesting insufficient evidence to support its influence. Conversely, social disclosure was found to positively affect the COD. Lastly, governance disclosure was not significantly related to COD.

Despite the valuable insights provided, the study faces several limitations. The sample is limited to manufacturing and energy sectors in Indonesia, and the analysis period covers only five years, which may not fully capture long-term trends. Furthermore, the study uses ESG scores from Bloomberg Terminal, which is unavailable for all companies, reducing the sample size. Future research could address these limitations by expanding the sample across more industries and extending the study period. Additionally, researchers may explore specific ESG indicators, such as human rights, corporate social responsibility (CSR), and environmental innovation, to gain deeper insights into each pillar's individual effects on COD.

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