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JOURNAL

THE EFFECT OF CARBON EMISSION DISCLOSURE, PROFITABILITY, AND CORPORATE GOVERNANCE ON COST OF DEBT

Muhammad Luthfi Fahrozi
fahroziluthfi@gmail.com
Faculty of Economics and Business, State University of Jakarta

I Gusti Ketut Agung Ulupi
Faculty of Economics and Business, State University of Jakarta

Gentiga Muhammad Zairin
Faculty of Economics and Business, State University of Jakarta

Abstract:
The purpose of this research is to examine and evaluate how corporate governance, profitability, and carbon emission disclosure affect the cost of debt. Financial reports and corporate sustainability reports from the industrial, infrastructure, basic materials, energy, and transportation and logistics sectors listed on the Indonesia Stock Exchange (IDX) for the years 2021–2023 are used as secondary data in this quantitative study. Purposive sampling was used to pick the 62 companies with 186 observation data that make up the research sample. Eviews 13 software is used for panel data regression and descriptive statistical analysis. The findings indicate that debt costs are negatively impacted by corporate governance, as indicated by the percentage of independent boards of commissioners, and carbon emission disclosure. In contrast, the cost of debt is positively impacted by corporate governance and profitability as determined by institutional ownership. These findings provide insights for companies to improve debt cost efficiency by paying attention to the transparency of carbon emission disclosures, profitability, and corporate governance. It is hoped that companies can take advantage of these results to manage risks and achieve business sustainability through more strategic policies.

Keywords:
Carbon Emission Disclosure, Profitability, Corporate Governance, Institutional Ownership, Proportion of Independent Board of Commissioners, Cost of Debt

BACKGROUND

In a company, funding is needed to manage and develop existing businesses and launch company operations. Funding comes from two different sources, namely internal and external (Nisa & Wulandari, 2021). Internal funds, which originate from the company's revenue balance, are one source of funding. External funds, on the other hand, come from sources outside the business, such debt. Companies that have debt will be subject to a rate of return that must be submitted to creditors, known as interest.

Greenhouse gases have become a major center of attention for capital market participants. Greenhouse gases (GHG) are an important concern for capital market participants due to their impact on the environment, regulation, reputation and financial performance of companies.

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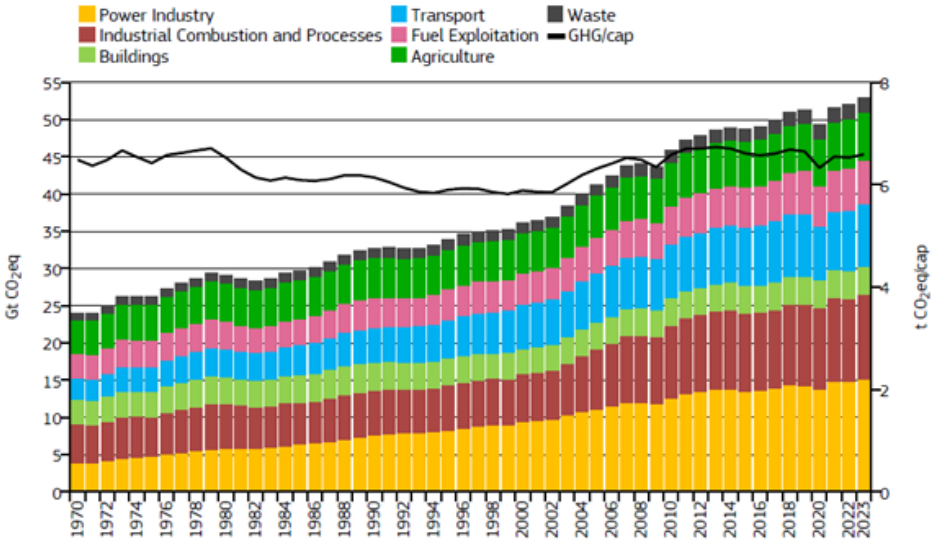
Increasingly stringent emissions-related regulations also increase legal risks and fines for non-compliant companies. In addition, consumers and investors are increasingly paying attention to sustainable business practices, so companies that successfully reduce emissions are more favored and have a better reputation. Global warming is one of the factors contributing to climate change. Temperature increases brought on by human activity may be the source of this global warming. According to the Intergovermental Panel on Climate Change (IPCC), the earth's temperature could continue to increase by 4.2 degrees Celsius between 2050 and 2070 if there are no concrete steps to slow down this global warming. According to Faizah (2022), Industry contributes to global warming through the operational activities of companies that produce large amounts of waste.

FIGURE 1 GRAPHIC OF GREENHOUSE GASES



Source: Emissions Database for Global Atmospheric Research (EDGAR) (2024)

Based on data contained in the Emissions Database for Global Atmospheric Research (EDGAR), carbon emissions continued to increase from 1970 to 2023 with the largest contributor coming from the energy sector. When compared to 2019, the trend of carbon emissions decreased by 3.7% in 2020, which was caused by the Covid-19 epidemic. Carbon emissions have decreased because the daily activity level for the industrial sector has also decreased by 35% due to restrictions on energy demand worldwide (Le Quéré et al., 2020). In Indonesia, companies with high carbon emissions face major challenges in accessing credit from financial institutions. This is stated in the Financial Services Authority (OJK) Regulation 51/2017, which was passed on July 20, 2017. Some major banks in Indonesia have even publicly committed to support the "Net Zero" target and reduce financing to companies with a high carbon footprint. Companies that fail to reduce emissions or do not adopt good governance practices face the risk of increased debt costs or difficulty obtaining credit.

As part of their obligation to the environment, these rules encourage all businesses and sectors to report carbon emissions. Companies will therefore be in charge of calculating, documenting, identifying, and reporting carbon emissions produced (Rangga & Kristanto, 2023). According to the findings of studies by Kleimeier & Viehs (2016) and Andanrani et al. (2024), the cost of debt has a beneficial impact on carbon emission disclosure. In the meanwhile, studies by Hu &

Liang (2024) and Nasih et al. (2024) demonstrate that the cost of debt has a detrimental impact on carbon emission disclosure.

Profitability is one of the main financial metrics considered by investors and creditors in evaluating company performance. companies with high ROA often get loans at lower costs, either in the form of lower interest rates or more favorable terms (Pardosi & Sinabutar, 2019). Pardosi & Sinabutar (2019) and Soebagyo & Iskandar (2022) indicate that profitability is positively and significantly affected by the cost of debts. Meanwhile, research Utami (2021), Sherly & Fitria (2019), and Muspyta & Ruslim (2021) showed that profitability has a negative influence on the cost of loans and does not significantly affect them hence, it cannot raise the cost of debts.

The term "corporate governance" describes the procedures, guidelines, and methods that businesses employ to oversee and manage their operations (Sofiana et al., 2023). The establishment of an independent board of commissioners, which serves as the primary supervisor of firm management, is one aspect of corporate governance that influences creditors' assessments of the cost of indebtedness (Anam et al., 2021). Sofiana et al. (2023) found no negative correlation between the percentage of independent commissioners and the cost of debt. In the meantime, studies by Anam et al. (2021), Calen (2019), Musrifa (2021), and Yani & Indriani (2022) demonstrate that the cost of debt has a negative impact on the percentage of independent commissioners. Institutional ownership, or the percentage of company shares held by other businesses or organizations, is a crucial component of corporate governance (Sofiana et al., 2023). Based on research from Sofiana et al. (2023), Anam et al. (2021), and Sherly & Fitria, (2019) show that corporate governance as measured by institutional ownership is positively influenced by the cost of debts. Meanwhile, research from Soebagyo & Iskandar (2022), Calen (2019), Nisa & Wulandari (2021), and Yani & Indriani (2022) reveals that institutional ownership is negatively and significantly affected by the cost of debts.

Based on the phenomena previously described, researchers see a contradictory gap between carbon emission disclosure, profitability, and good corporate governance on the cost of debts. In addition, in this era of climate change, researchers want to know whether companies that have disclosed carbon emissions can still maintain the value of the cost of debt if balanced with profitability and good corporate governance.

THEORETICAL FRAMEWORK

Agency Theory

According to agency theory, the principal and agent enter into a contract in which the principal hires the agent to perform a variety of duties and gives the agent permission to make business choices for the company (Jensen & Meckling, 1976). Agency theory explains how the principal delegates full authority and responsibility for business activities and company assets to the agent (Sherly & Fitria, 2019).

Cost of Debt

Daffa et al. (2022) tate that the interest that a business must pay creditors in exchange for borrowed money is known as the cost of debt. According to (Soebagyo & Iskandar, 2022) the cost of debt is determined by dividing the total interest expense by the average amount of

interest-bearing debt that the company owns. This strategy guarantees that the business can pay off its debt while continuing to provide value to its stakeholders (Sun et al., 2022).

Carbon Emission Disclosure

Disclosure of carbon emissions is a way for businesses to try to lower their carbon emissions and fulfill their moral and social obligations to society (Rangga & Kristanto, 2023). The process of releasing gases that include carbon into the atmosphere is known as "carbo emission" (Asmeri et al., 2022). Companies can reveal their environmental performance through carbon emission disclosure (Kelvin et al., 2017). Carbon emission disclosure contains information about energy consumption, greenhouse gas emissions, corporate governance, and opportunities and hazards related to the phenomenon of climate change.

Profitability

Profitability is a metric used to assess a company's financial success. Profitability serves to measure the company's ability to create profits as well as measure the extent of management efficiency in managing resources (Mayer N. H. Pardosi & Sinabutar, 2016). This ratio shows the company's operational efficiency by reflecting profit from sales and investment (Utami, 2021). Companies with high profitability usually take less debt because they can finance their operations with retained earnings (Muspyta & Ruslim, 2021).

Corporate Governance

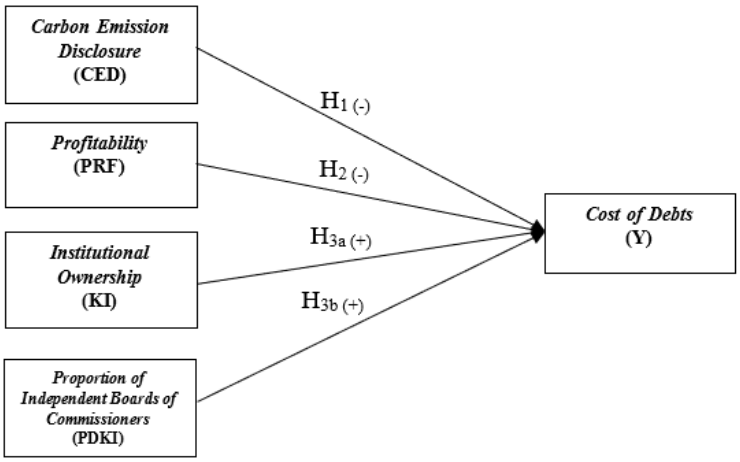
A system called corporate governance is employed by businesses to increase financial transparency and operational effectiveness (Calen, 2019). Corporate governance is a framework that governs how interested parties interact with regard to the rights and obligations that the corporation must perform (Anam et al., 2021). Transparency, accountability, fairness, and responsibility are the tenets of good corporate governance (GCG) in business management. One important aspect of corporate governance is institutional ownership which refers to the percentage of shares owned by other entities or companies (Sofiana et al., 2023). The existence of institutional ownership can make various institutional parties more involved in monitoring the management and performance of the company (Anam et al., 2021). Supervision from institutions can attract public trust and minimize creditors' doubts about the company's financial performance.

Furthermore, a significant component of corporate governance is the percentage of independent commissioners. Parties with complete authority over business administration and the capacity to counsel the board of directors are known as independent commissioners (Nisa & Wulandari, 2021). An independent board of commissioners is crucial for assisting businesses in presenting financial reports that are more accurate and transparent (Anam et al., 2021).

Conceptual Framework

This study's theoretical framework is prepared in accordance with its primary goals, which include testing and analyzing the impact of corporate governance, profitability, and disclosure of carbon emissions on the cost of debts in companies listed on the Indonesia Stock Exchange (IDX) for the years 2021–2023 that are in the transportation and logistics, energy, basic materials, infrastructure, and industrial sectors. The following is the theoretical framework developed for this study:

FIGURE 2 CONCEPTUAL FRAMEWORK



Source: Processed by Author (2024)

METHOD

The study's population consists of businesses in the transportation and logistics, energy, basic materials, infrastructure, and industrial sectors that were listed on the Indonesia Stock Exchange (IDX) between 2021 and 2023. Because these sectors are integrated into intense industries, there is population selection in these sectors. One industry that directly affects the environment is the intensive industry. Businesses in the mining, utilities, and construction industries will emit more carbon dioxide than businesses in the banking, healthcare, and service industries (Luo et al., 2013). Purposive sampling is the sample strategy used in this investigation. In the meanwhile, this study's sampling criteria include:

1. Businesses in the transportation and logistics, basic materials, energy, infrastructure, and industrial sectors that were listed on the Indonesia Stock Exchange (IDX) between 2021 and 2023.
2. Companies in the transportation and logistics, infrastructure, basic materials, energy, and industrial sectors that have released financial and sustainability reports and are listed on the Indonesia Stock Exchange (IDX) for the 2021–2023 timeframe.
3. Businesses that have been listed on the Indonesia Stock Exchange (IDX) for the years 2021–2023 and that have disclosed carbon emissions using GRI 305: Emissions as a standard include those in the transportation and logistics, energy, infrastructure, industrial, and basic materials sectors.

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TABLE 1 SAMPLING CRITERIA

No.	Keterangan	Jumlah
1.	Perusahaan sektor industrial, infrastruktur, *basic material, energy,* dan *transportation and logistics* yang telah terdaftar di Bursa Efek Indonesia (BEI) periode 2021-2023	305
2.	Perusahaan sektor industrial, infrastruktur, *basic material, energy,* dan *transportation and logistics* yang telah terdaftar di Bursa Efek Indonesia (BEI) periode 2021-2023 yang tidak mempublikasikan *sustainability report* dan laporan keuangan	(163)
3.	Perusahaan sektor industrial, infrastruktur, *basic material, energy,* dan *transportation and logistics* yang telah terdaftar di Bursa Efek Indonesia (BEI) periode 2021-2023 yang tidak menggunakan GRI 305: Emisi sebagai standar dalam mengungkapkan emisi karbon	(80)
	Jumlah Sampel Penelitian	62
	Total Observasi (3 tahun)	**186**

Source: Processed by Author (2024)

The secondary data used in this study was gathered from a variety of sources, including financial reports, annual reports, and corporate sustainability reports, all of which were accessed via the Indonesia Stock Exchange's official website or the websites of individual companies.

In this study, the average value of long-term and short-term debt is divided by the total interest expense to determine the cost of indebtedness (Sun et al., 2022). The following formula is used to calculate the cost of debts:

$$Cost\ of\ Debts = \frac{\text{Interest Expense}}{\text{Average of Long Term and Short Term Debt}}$$

In this study, carbon emission disclosures are measured using GRI 305. GRI was chosen in this study because it is widely applied by companies in Indonesia to disclose emissions (Kartikasary et al., 2023). The following are some of the components contained in GRI 305:

1. Disclosure of management approach (this disclosure refers to GRI 103)
2. Disclosure 305-1 Greenhouse Gas Emissions (Scope 1) Direct
3. Indirect disclosure of 305-2 Greenhouse Gas Energy emissions (Scope 2)
4. Other indirect 305-3 Greenhouse Gas emissions (Scope 3) disclosures
5. Disclosure 305-4 Greenhouse Gas emission intensity
6. Disclosure 305-5 Greenhouse Gas emission reduction
7. Disclosure 305-6 Ozone Depleting Substances (ODS) emissions
8. Disclosure 305-7 Nitrogen oxides (NOx), Sulfur Oxides (SOx), and other significant air emissions

The measurement is done by giving a value of one in each component disclosed by a company. Thus, companies that disclose all GRI 305 components will get a score of eight. The formula for measuring carbon emission disclosure is as follows:

$$Carbon\ Emission\ Disclosure = \frac{\text{Amount Disclosed with GRI 305}}{\text{Total of GRI 305 Components}}$$

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The Return on Asset (ROA) metric is used in this study to gauge profitability. The formula for Return on Asset (ROA) is as follows:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Asset}}$$

Institutional ownership and the percentage of independent commissioners are used in this study to gauge corporate governance. The formula for calculating institutional share ownership is as follows:

$$\text{Institutional Ownerhsip} = \frac{\text{Number of Institutional's Shares x 100\%}}{\text{Number of Shares Outstanding}}$$

Meanwhile, the following formula is used to determine the board of commissioners' proportion:

$$\text{Proportion of Independent Board of Commissioners} = \frac{\text{Number of Indepedent Board of Commissioners x 100\%}}{\text{Total Board of Commissioners}}$$

RESULT

Descriptive Statistics

The goal of descriptive statistics is to give a summary of the variables under study without making any generalizations about the population. The analysis's findings, which display statistical data changes, are displayed in Table 2 (data without natural logarithms) acquired using Eviews 13. The average value and standard deviation of each variable, as well as the difference between the minimum and maximum values, demonstrate this.

TABLE 2 DESCRIPTIVE STATISTICS RESULT

	CED	PRF	KI	PDKI	COD
Mean	0.538978	0.047797	0.658259	0.428104	0.210900
Median	0.500000	0.035257	0.650250	0.400000	0.146298
Maximum	1.000.000	0.616346	1.914.201	0.800000	2.904.709
Minimum	0.000000	-0.580308	0.013860	0.000000	0.000000
Std. Dev.	0.247950	0.126864	0.262276	0.124769	0.344599
Skewness	-0.011522	0.033189	1.258.981	0.470301	5.929.890
Kurtosis	2.074.016	1.178.497	9.910.158	4.675.664	4.195.548
Jarque-Bera	6.649.320	5.981.454	4.192.007	2.861.752	12850.92
Probability	0.035985	0.000000	0.000000	0.000001	0.000000

Source: Processed by Author (2024)

Chow Test

TABLE 3 CHOW TEST RESULT

Redundant Fixed Effects Tests			
Equation: EQ01			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.908.302	-61,12	0.0013
Cross-section Chi-square	126.119.273	61	0.0000

Source: Processed by Author (2024)

According to Table 3's Chow Test results, the probability (cross-section) F is 0.0013 <0.05. Thus, it is determined that the Fixed Effect Model is approved, necessitating the next test, the Hausman Test.

Hausman Test

TABLE 4 HAUSMAN TEST RESULT

Correlated Random Effects - Hausman Test			
Equation: EQ01			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.670066	4	0.9550

Source: Processed by Author (2024)

The Hausman Test results using Eviews 13 are displayed in Table 4. It is known that the probability (cross-section) F is 0.9550> 0.05 based on the Hausman Test results table. Thus, the Random Effect Model is deemed acceptable, necessitating more testing, namely the Langrange Multiplier Test.

Lagrange Multiplier Test

TABLE 5 LAGRANGE MULTIPLIER TEST RESULT

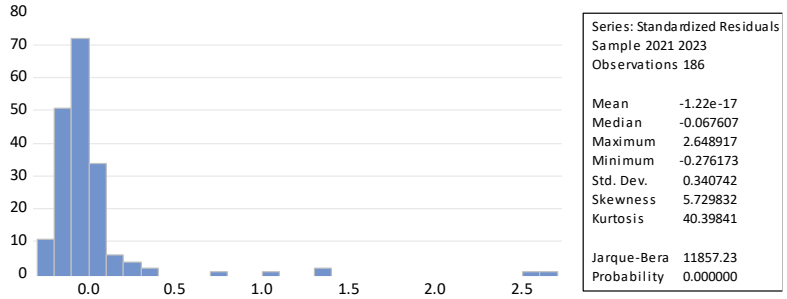
Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	1.023.548	0.890187	1.112.566
	(0.0014)	(0.3454)	(0.0009)

Source: Processed by Author (2024)

Table 5 shows the Langrange Multiplier Test output obtained using Eviews 13. According to the table's Langrange Multiplier Test results, the Breusch-Pagan probability is 0.0009 <0.05. Consequently, it can be said that the Random Effect Model is the most appropriate model for this research.

Normality Test

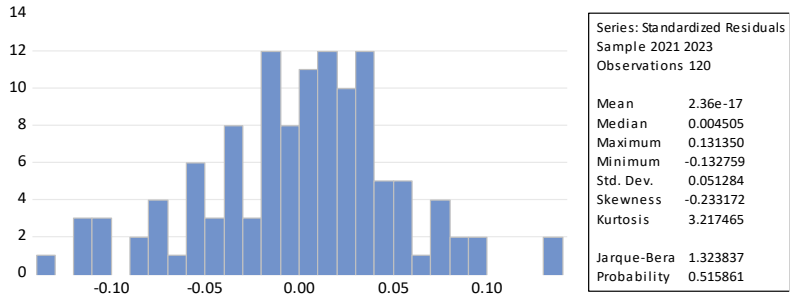
FIGURE 3 NORMALITY TEST RESULT



Source: Processed by Author (2024)

Figure 3 illustrates that the study's data are not distributed regularly. The Jarque-Bera probability value achieving a value of 0.000 <0.05 illustrates this. In order to improve the data by removing outlier data using Eviews data outliers, researchers performed an outlier test using the zscore test. 22 company samples with three years of observation were identified as outliers in this study based on the results of the outlier test. As a result, 66 of the observation data must be removed because they are outlier data. Consequently, 40 company samples and 120 observation data make up the total amount of observation data.

FIGURE 4 NORMALITY TEST RESULT AFTER OUTLIER TEST



Source: Processed by Author (2024)

Based on Figure 4 above, the prob value is obtained. Jarque-Brea (0.515861) > 0.05. So that the research data has been normally distributed.

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Multicollinearity Test

TABLE 6 MULTICOLLINEARITY TEST RESULT

	CED	PRF	KI	PDKI
CED	1.000000	-0.029205	0.001617	0.024100
PRF	-0.029205	1.000000	0.147407	0.062196
KI	0.001617	0.147407	1.000000	-0.274260
PDKI	0.024100	0.062196	-0.274260	1.000000

Source: Processed by Author (2024)

The pairwise correlations value is less than 0.80, as seen in table 6 above. This suggests that multicollinearity is not an issue, allowing the independent variables to reflect the precision of the used regression model.

Heteroscedasticity Test

TABLE 7 HETEROSCEDASTICITY TEST RESULT

Dependent Variable: ABS_RES
Method: Panel EGLS (Cross-section random effects)
Sample: 2021 2023
Periods included: 3
Cross-sections included: 40
Total panel (balanced) observations: 120
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.030594	0.021591	1.416.989	0.1592
CED	0.011585	0.011049	1.048.517	0.2966
PRF	0.088911	0.060657	1.465.792	0.1454
KI	-0.005369	0.021367	-0.251269	0.8021
PDKI	0.005563	0.029550	0.188242	0.8510

Source: Processed by Author (2024)

Table 7 above indicates that there are no heteroscedasticity issues with the research regression model. Because the probability value on CED (0.2966), PRF (0.1454), KI (0.8021), and PDKI (0.8510) > 0.05. Therefore, the data in this study are homogeneous and heteroscedasticity does not occur.

Auto-correlation Test

TABLE 8 AUTO-CORRELATION TEST RESULT

Weighted Statistics			
R-squared	0.193974	Mean dependent var	0.064252
Adjusted R-squared	0.165938	S.D. dependent var	0.038982
S.E. of regression	0.035601	Sum squared resid	0.145755
F-statistic	6.918814	Durbin-Watson stat	1.827589
Prob(F-statistic)	0.000050		

Source: Processed by Author (2024)

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Referring to Table 8, the Durbin Watson Stat value obtained is 1.827589. The regression model in this study is free of autocorrelation issues because this value falls between -2 and 2 (-2 < 1.827589 < 2).

Regression Analysis

TABLE 9 REGRESSION ANALYSIS RESULT

Dependent Variable: COD
Method: Panel EGLS (Cross-section random effects)
Sample: 2021 2023
Periods included: 3
Cross-sections included:
40
Total panel (balanced) observations: 120
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.052650	0.034336	1.533.394	0.1279
CED	0.090808	0.017323	5.241.988	0.0000
PRF	-0.023493	0.096014	-0.244686	0.8071
KI	0.028260	0.034366	0.822347	0.4126
PDKI	0.032771	0.046682	0.702017	0.4841

Source: Processed by Author (2024)

The study's regression equation model is as follows, which is based on the regression analysis results.

COD = 0,052650 + 0,090808CED – 0,023493PRF + 0,028260KI + 0,032771PDKI

F Test (Model Feasibility Test)

TABLE 10 F TEST RESULT

Weighted Statistics			
R-squared	0.193974	Mean dependent var	0.064252
Adjusted R-squared	0.165938	S.D. dependent var	0.038982
S.E. of regression	0.035601	Sum squared resid	0.145755
F-statistic	6.918.814	Durbin-Watson stat	1.827.589
Prob(F-statistic)	0.000050		

Source: Processed by Author (2024)

In order to determine how the cost of debt is impacted by carbon emission disclosure, profitability, institutional ownership, and the percentage of independent commissioners, the regression model in this study has been deemed appropriate for use.

T Test (Hypotesis Test)

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TABLE 11 T TEST RESULT

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.052650	0.034336	1.533394	0.1279
CED	0.090808	0.017323	5.241988	0.0000
PRF	-0.023493	0.096014	-0.244686	0.8071
KI	0.028260	0.034366	0.822347	0.4126
PDKI	0.032771	0.046682	0.702017	0.4841

Source: Processed by Author (2024)

According to table 11 above, the cost of debt is impacted by carbon emission disclosure if the probability value for CED (0.000) < 0.05 and the t-count (5.241988) > t-table (1.98729). Therefore, it might be said that **H1 is unacceptable.**

Carbon emission disclosure has no influence on the cost of debt, according to table 11 above, where the probability value for PRF (0.8071) > 0.05 and t-count (0.244686) <t-table (1.98729). Therefore, it might be said that **H2 is unacceptable.**

Institutional ownership has no effect on the cost of debt, according to table 11 above, which shows that the probability value for (0.4126) > 0.05 and t-count (0.822347) <t-table (1.98729). Therefore, it might be said that **H3a is unacceptable.**

According to table 11 above, the percentage of independent commissioners has no bearing on the cost of debt because the probability value for PDKI (0.4841) > 0.05 and t-count (0.702017) <t-table (1.98729). Therefore, it might be said that **H4 is unacceptable.**

Coefficient Determination Test

TABLE 12 COEFFICIENT DETERMINATION TEST

Weighted Statistics			
R-squared	0.193974	Mean dependent var	0.064252
Adjusted R-squared	0.165938	S.D. dependent var	0.038982
S.E. of regression	0.035601	Sum squared resid	0.145755
F-statistic	6.918.814	Durbin-Watson stat	1.827.589
Prob(F-statistic)	0.000050		

Source: Processed by Author (2024)

The adjusted R-squared value, as shown in table 12 above, is 0.165938. In terms of affecting the cost of debt, the coefficient value is rather modest. This indicates that the percentage of independent commissioners, institutional ownership, profitability, and carbon emission disclosure can all affect 16.59% of the cost of debt. Other factors not included in this study, however, can account for the remainder.

DISCUSSION

The Effect of Carbon Emission Disclosure on Cost of Debt

The findings of testing hypothesis 1 demonstrate that the cost of debt is significantly impacted by disclosure of carbon emissions. This indicates that a company's cost of debt will rise in tandem with an increase in carbon emission disclosure. This finding is consistent with agency

theory, which states that a company's disclosure of carbon emissions demonstrates its dedication to environmental responsibility. This can reduce the incidence of agency fees and boost principal trust. By disclosing carbon emissions, the business reduces information asymmetry between stakeholders and management and assists lenders in sending encouraging signals to increase their confidence in lending to businesses (Hu & Liang, 2024).

The findings of this study support those of Kleimeier & Viehs (2016) and Andanrani et al. (2024), who found that the cost of debts is positively impacted by carbon emission disclosure. This implies that the cost of the company's loans will rise in tandem with an increase in carbon emission disclosure. This study, however, runs counter to findings by Hu & Liang (2024) and Nasih et al. (2024), which claim that the cost of debt has a detrimental impact on the disclosure of carbon information. This implies that the cost of the company's loans will go down if carbon emission disclosure becomes up.

The Effect of Profitability on Cost of Debt

The findings of the second hypothesis test show that the cost of debt is not much impacted by profitability. This suggests that businesses typically favor internal funding over loan financing (Utami, 2021). Companies with good profitability tend to use retained earnings or internal cash flow to meet their financing needs. This happens because internal funding does not require interest costs and does not increase the company's financial burden, making it more efficient than relying on debt. Companies with high profitability also tend to have a strong financial position, which allows them to delay or even avoid using debt. As a result, their debt levels are relatively low, which automatically reduces the risk of default in the eyes of creditors. With this lower risk, their cost of debt remains stable and is not significantly affected by fluctuations in profitability.

According to Utami (2021) research, the cost of debt is not significantly impacted by profitability. This study's findings support that finding. This is due to the fact that profitable businesses typically use internal finance and reduce their financial burden. However, the findings of this study run counter to those of studies by Pardosi & Sinabutar (2019) and Soebagyo & Iskandar (2022), which found that profitability positively affects loan costs. This implies that business funding decisions will be influenced by profitability. As a result, businesses with large earnings typically have lower debt levels.

The Effect of Institutional Ownership on Cost of Debt

The findings of the test of hypothesis 3a indicate that the cost of debt is not significantly impacted by institutional ownership. Overall, because only a small number of enterprises have significant institutional ownership, institutional parties lack the power to influence a company's debt policy and regulate its performance (Calen, 2019). One relevant reason in the agency theory framework is that not all institutional parties play an active supervisory role. In some cases, they may act as passive shareholders who are not very involved in the management of the company. When this oversight function is not effective, agency risk between management and creditors remains. The existence of institutional investors may not be viewed by creditors as an assurance that agency risk will be decreased, which would not lessen the cost of debt.

According to Calen (2019), Soebagyo & Iskandar (2022), and Yani & Indriani (2022) the findings of this study corroborate earlier research that found no relationship between institutional ownership and debt costs. The reason for this is that because of the small number

of ownership shares, institutional parties are thought to be weak enough to affect the company's debt strategy. The study's findings run counter to those of studies by Sofiana et al. (2023), Anam et al. (2021), and Sherly & Fitria, (2019), which demonstrate that institutional ownership, a measure of corporate governance, has a favorable impact on debt costs. This is because, in order to preserve their rights, institutional parties prefer to invest businesses that have debt (Sherly & Fitria, 2019).

The Effect of Proportion of Independent Board of Commissioners of on Cost of Debt

The findings of testing hypothesis 3b indicate that the percentage of independent commissioners has no significant effect on the costs of debt. This is because the existence of independent commissioners is only to fulfill the requirements and necessities for every company that implements good corporate governance (Yani & Indriani, 2022). In terms of agency theory, conflicts of interest can arise due to differences in objectives between management (agents) who are more likely to focus on managing the company for personal gain, and shareholders or creditors (principals) who want transparent and responsible management, as well as stable and timely returns. However, in reality, the existence of independent commissioners is often seen as a formality rather than a key element in effective managerial oversight. Independent commissioners are often not directly and actively involved in strategic decision-making or routine oversight of the company's financial and financing policies.

The study's findings corroborate earlier studies by Yani & Indriani (2022) and Anam et al. (2021) which found no discernible relationship between the percentage of independent commissioners and the cost of debt. This is because independent commissioners only satisfy the rules for putting strong corporate governance into practice and are still ineffective. The findings of this study also run counter to studies by Sofiana et al. (2023), which found no negative relationship between the cost of debt and the percentage of independent commissioners. Therefore, an increase in the cost of debt may actually follow an increase in the percentage of independent commissioners.

CONCLUSION

Based on the results of hypothesis testing, this study can provide evidence and conclusions as follows:

a. Carbon emission disclosure has a positive effect on the cost of debt.
b. Profitability has no effect on the cost of debt.
c. Corporate governance as measured by institutional ownership has no effect on the cost of debt.
d. Corporate governance as measured by the proportion of independent commissioners has no effect on the cost of debt.

The results of this study are expected to be a strategic reference for companies in an effort to improve the level of cost of debts through better management of factors such as carbon emission disclosure, profitability, and corporate governance.

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