

The Influence of Profitability, Media Exposure, Institutional Ownership, Company Size and Leverage on Carbon Emission Disclosure

(Empirical Study of Mining Companies Listed on the Indonesia Stock Exchange for the 2018-2021 Period)

Ananda Febry Mellyanawati¹, Noer Sasongko²

¹*Faculty of Economics and Business, Muhammadiyah University Surakarta, Indonesia*

²*Faculty of Economics and Business, Muhammadiyah University Surakarta, Indonesia*

Abstract: Carbon Emission Disclosure (CED) is an entity's contribution to environmental and climate change, particularly to global warming. This study aims to determine the effect of profitability, media exposure, institutional ownership, company size and leverage on carbon emission disclosure and which variables are significant in mining companies in Indonesia. The research population is mining companies that have been registered and published financial reports on the Indonesia Stock Exchange (IDX) for 2018-2021. Sampling in this study used a purposive sampling method and obtained 17 sample companies. This study used quantitative data analysis methods supported by the SPSS Statistics 24 program as a tool for testing data and using multiple linear regression analysis. The results of the study prove that media exposure has an effect on carbon emission disclosure. Meanwhile, profitability, institutional ownership, company size, and leverage have no effect on carbon emission disclosure.

Keywords: Profitability, Media Exposure, Institutional Ownership, Company Size, Leverage, Carbon Emission Disclosure.

1. Introduction

Global phenomenon such as climate change is one of the biggest environmental issues we are facing. Behind the industry's success in increasing the speed of the economy, there are unavoidable negative impacts, namely a decrease in environmental quality in line with fast industrial growth, carbon retention, and other greenhouse gases which tend to increase every year. Industrial company activities have an impact on the environment, so it is very reasonable for companies to participate in reducing greenhouse gas emissions and overcoming the effects of climate change. Companies need to increase awareness of the issue of global warming due to CO₂ emissions resulting from the company's industrial activities and activities. Entities that do not take part in efforts to maintain and reduce the effect of greenhouse gases on the environment, then these companies carry out sustainability and their life cycle considering that the environment is a resource and support for company activities.

Carbon Emission Disclosure (CED) is an entity's contribution to environmental and climate change, particularly to global warming. The existence of a business entity certainly cannot be separated from the community environment, so that the company's activities are required to be in harmony with the values and norms that apply in society. This causes an increase in the need for information related to environmental disclosure, especially the disclosure of carbon emissions.

This study aims to determine the effect of profitability, media exposure, institutional ownership, company size and leverage on carbon emission disclosure and which variables are significant in mining companies in Indonesia. So, based on the background described above, the researcher takes the title: "The Influence of Profitability, Media Exposure, Institutional Ownership, Company Size and Leverage on Carbon Emission Disclosure (Empirical Study of Mining Companies Listed on the Indonesia Stock Exchange for the 2018-2021 Period)".

2. Literature Review and Hypothesis

2.1 Legitimacy Theory

Legitimacy theory is a conformity between social system norms and social values related to organizational activities so that it will help organizations to adapt to the environment. Legality is a company's activities must be in accordance with applicable laws and also get approval and support from the community around the company. This legitimacy theory encourages companies to carry out social and environmental responsibilities so that they get recognition from the community. Apart from the community, other stakeholders

will certainly appreciate companies that have environmental concern, this can be seen from the information in the company's report that discloses its emissions in its financial statements.

2.2 Stakeholder Theory

According to stakeholder theory, different stakeholder groups have different views regarding what an organization should do in carrying out its operations, many social contracts are made with different stakeholder groups not a contract with society in general (Deegan and Unerman, 2011). According to this theory, increased corporate social responsibility makes businesses more attractive to society and investors. This theory has complex implications for individuals, organizations and other societies.

2.3 Effect of Profitability on Carbon Emission Disclosure

According to Irwhantoko (2016) Profitability is an indicator that can be used to measure financial performance. Companies with better financial performance have more potential to disclose environmental information. This is because environmental disclosure, including disclosure of carbon emissions, requires greater company resources. The greater the company's financial performance, the more capable it is to carry out various initiatives to contribute to efforts to reduce carbon emissions.

Based on the theory of legitimacy, society always puts pressure on companies to care about environmental issues, including carbon emissions resulting from company operations. So companies with high profitability will find it easier to respond to this pressure because companies have the availability of funds to make efforts to reduce and disclose carbon emissions and this can increase the company's value in the market and gain legitimacy from the public. Meanwhile, companies with low profitability are more focused on achieving financial goals and improving their performance thereby limiting their ability to prevent and report carbon emission prevention and reporting because it can add to the company's operational burden.

This is in line with research by Jannah and Muid (2014), namely companies that have high profitability are more able to contribute to maintaining environmental sustainability, such as replacing machines that are more environmentally friendly, or other environmental actions such as planting trees to increase CO₂ absorption so as to reduce CO₂ absorption . carbon emissions in nature as a result of industrial activities. Thus, even though the disclosure of carbon emissions is still a voluntary disclosure, companies with high profitability will be able to disclose carbon emissions compared to companies that have low profitability. The results of the research by Jannah and Muid (2014) and Cahya (2016) show that profitability has an effect on the disclosure of carbon emissions. Based on the description above, the hypothesis that is built is:

H₁ : Profitability has an effect on Carbon Emission Disclosure

2.4 Effect of Media Exposure on Carbon Emission Disclosure

Media exposure or media disclosure according to Jannah (2014) is how companies use available media to communicate identity and information about the activities carried out by the company. Companies have a moral obligation to disclose their activities not only limited to financial aspects but also social and environmental aspects.

Based on stakeholder theory , companies that are aware of the importance of environmental disclosure will definitely think of various ways to provide information to stakeholders, including information regarding disclosure of carbon emissions. By communicating the disclosure of carbon emissions through the media, it is hoped that the public will know about the social activities carried out by the company so that the company will gain the trust and legitimacy of the community because the disclosure of carbon emissions is considered a form of company transparency to the public so that the company has implemented the principles of Good Corporate Governance (GCG) by Good.

According to legitimacy theory , disclosure of carbon emissions is an environmental disclosure that can be carried out by companies to gain legitimacy from society and stakeholders . In disclosing carbon emissions, the media plays an important role in communicating these disclosures to the public, one of which is the internet media (website) . Through internet media (websites) companies can convey information and disclose carbon emissions in the hope that the public will know about these activities and can provide good value for the company and a positive image.

According to Jannah and Muid (2014) the more actively the media monitors the activities of a company, the more motivated the company will be to disclose its activities, especially in disclosing carbon emissions. Based on this description, the hypothesis that is built is:

H₂ : Media Exposure influences Carbon Emission Disclosure

2.5 Effect of Institutional Ownership on Carbon Emission Disclosure

Good institutional ownership will be able to improve company monitoring to disclose all activities carried out by the company to enhance the positive image of the company's stakeholders. Ho and Tower explain

that consistent concentration of ownership shows a positive relationship with voluntary disclosure. Companies with higher foreign and institutional ownership have a positive and significant relationship with the level of disclosure of carbon emissions.

The research conducted by Pratiwi is in accordance with the statement above which states that every company that has a high level of institutional ownership, the higher the level of investor oversight of the company's management performance in a transparent manner, including the disclosure of carbon emissions for the company's sustainability. Based on the theoretical studies and previous research above, the research hypothesis is proposed as follows:

H₃ : Institutional ownership affects Carbon Emission Disclosure

2.6 Effect of Company Size on Carbon Emission Disclosure

Company size is the size of the company which can be measured by total assets, total sales, and market capitalization value. Every company, both small and large, has a role in contributing to carbon emissions. However, large companies receive more attention from the public because their presence is easily visible so that large companies will receive many demands from the public to disclose carbon emissions.

Based on research conducted by Choi et al (2013) shows that company size has an effect on carbon emission disclosure. The results of this study are also supported by research conducted by Jannah and Muid which found that company size has an effect on carbon emission disclosure. Based on the theoretical studies and previous research above, the research hypothesis is proposed as follows:

H₄ : Company Size has an effect on Carbon Emission Disclosure

2.7 Effect of Leverage on Carbon Emission Disclosure

Utari, et al (2014) stated that leverage is the use of fixed costs on assets or a fixed burden on funds to increase the returns (return) of company owners or in other words leverage is the level of a company's ability to pay off its obligations. The level of leverage affects the disclosure of carbon emissions, where companies that have large obligations in paying debts and paying interest will limit the company's ability to carry out strategies for reducing and disclosing carbon emissions.

Companies with high leverage will be more careful in reducing and disclosing it, especially regarding expenses related to carbon precautions. Disclosure of carbon emissions by companies with high levels of leverage will cause concern for debt holders, suppliers and customers. Disclosure of carbon emissions will add extra cost to the company, so there is a tendency for companies with high leverage to prefer not to disclose carbon emissions in order to save costs. voluntary actions such as disclosure of carbon emissions.

The higher the company's leverage, the smaller the disclosure of carbon emissions, and vice versa, the smaller the company's leverage, the greater the disclosure of carbon emissions. Jannah and Muid (2014) found that leverage has an effect on disclosure of carbon emissions. Based on the description above, the hypothesis that is built is:

H₅ : Leverage affects Carbon Emission Disclosure

3. Methodology and Procedures

3.1 Types of Research

This type of research is quantitative research, that is, this research is compiled using data collection methods in the form of numbers, which are then measured using statistical methods. In this study, the causal relationship examined was the effect of profitability, media exposure, institutional ownership and leverage on carbon emission disclosure. The quantitative data in this study includes the financial reports of mining companies listed on the Indonesia Stock Exchange (IDX) in 2018-2021.

3.2 Population, Sample and Sampling Technique Data

Sugiyono (2015) population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. The population used in this study are mining companies that have been registered and published financial reports on the Indonesia Stock Exchange (IDX) in 2018-2021. The sample in this study are all mining companies listed on the Indonesia Stock Exchange (IDX) for the period 2018-2021.

The sample is part of the number and characteristics possessed by the population (Sugiyono, 2015). The sample consists of selected members of the population, in other words, not all elements of the population can be sampled. The research sample used purposive sampling method and obtained 17 samples of companies. According to Alfian and Sabeni (2013), purposive sampling is determining a sample from the existing population based on criteria determined by the researcher. The criteria used in determining the sample are as follows:

1. Companies listed on the IDX consecutively during the period 2018-2021.
2. Mining companies that present a complete annual report and/or sustainability report on the company's website or IDX website respectively according to the year of research.
3. Mining companies earning consecutive profits during the period 2018-2021.
4. Mining companies that explicitly disclose carbon emissions (including at least one policy related to carbon/greenhouse gas emissions or disclose at least one carbon emission disclosure item).

3.3 Data and Data Sources

The type of data used in this research is secondary data. Secondary data is data that has been provided by other parties and obtained indirectly by intermediary media. The data can be in the form of archive notes or evidence, either published or unpublished. The data in this study are in the form of financial reports and annual reports obtained from www.idx.co.id and the official website of each company.

3.4 Data Collection Methods

This study uses secondary data sourced from financial statements and annual reports of mining companies listed on the Indonesia Stock Exchange (IDX) for the 2018-2021 period which can be accessed through the official website of the Indonesian Stock Exchange, namely www.idx.co.id. Data collection techniques and materials used in this study were obtained using the documentation method. This technique is carried out by reading and studying sources, such as books, research journals, theses, internet sites related to research problems. In addition, this technique was carried out to collect all the data needed in the research process in the form of financial reports and annual reports of mining companies listed on the Indonesia Stock Exchange (IDX). period 2018-2021.

3.5 Operational Definition and Variable Measurement

Variables are research objects used to analyze data. Variables are divided into 2, namely:

1. Dependent Variable

Dependent Variable (dependent variable) is the variable that is affected, as a result of the existence of independent variables. It is said to be the dependent variable because it is influenced by the independent variables. In this study the dependent variable is Carbon Emission Disclosure (Y). Carbon emission disclosure is a voluntary disclosure made by companies as a form of participation in order to support the government in achieving its goal of reducing carbon emissions.

This study predicts the possibility of disclosing carbon emissions in companies by using several items developed by Choi et al (2013) using carbon emissions which are divided into five categories related to climate change and carbon emissions with 18 items which if the company discloses the specified items then given a score of 1 whereas if the item found is not disclosed it will be given a score of 0 overall and divided by the maximum number of items that can be disclosed then multiplied by 100%. This model can be formulated by the equation following:

$$CED = \frac{\sum d1}{M}$$

Information:

CED = Disclosure of carbon emissions / Carbon Emissions Disclosure

$\sum d1$ = Total overall disclosure score obtained by the company

M = Maximum total items that can be disclosed.

Companies that have a high carbon emission disclosure value are companies that are active in disclosing their social and environmental activities.

2. Independent Variable

Independent Variables (independent variables) are variables that influence or cause changes in the emergence of the dependent variable. It is said to be an independent variable because it can affect other variables. In this study the independent variables are profitability, media exposure, institutional ownership, company size, and leverage.

Profitability

Maximum profit is the main goal that every company wants to achieve. To measure the profit level of a company used profitability ratios. Profitability shows how much the company's ability to generate profits as well as shows the efficiency of the company (Kasmir, 2017).

The higher the profitability owned by the company, the more capable the company is in disclosing its social activity reports. In this study using the ratio of Return On Assets (ROA) to measure company profitability. ROA measures a company's ability to generate net income based on a certain level of assets. The formula for calculating ROA is as follows (Kusumawati et al, 2018):

$$\text{Return on Assets} = \frac{\text{Profit After Tax}}{\text{Total Assets}}$$

Media Exposure

Apart from being a means of communication, the state media also functions as a supervisor of company performance. Companies need to consider the existence of the media. If there are negative issues, the company's image will decrease.

Media Exposure is measured using a dummy variable where a value of 1 is for companies that disclose more information related to carbon emissions through the company's website, as well as various disclosure media such as annual reports, sustainability reports, newspapers, and various other media. While the value 0 is the opposite (Jannah and Muid, 2014).

Institutional Ownership

Institutional ownership in research is proxied through ownership of institutional company shares. Institutional ownership is defined as a proportion of shares owned by institutions (Listyani, 2003).

$$\text{IO} = \frac{\text{Shares Owned by Institutions}}{\text{Total Shares}} \times 100\%$$

Company Size

Brigham and Houston (2010), business size is a measure of the size of the company which is addressed by the value of total assets, total sales, total profits, tax expenses and others.

This study uses log total assets in measuring company size. Total assets are the sum of all assets owned by an entity for a certain period of time and can be used to measure how much the company is running (Restuwulan, 2013). The higher the total asset value, the higher the tendency of the entity to disclose social and environmental activities. The formula used to calculate the current ratio is according to Jogiyanto (2001: 282):

$$\text{Company Size} = \text{Log Total Assets}$$

This is reinforced by Asnawi (2005: 274) which states that the calculation of the total asset variable can be refined with a logarithm or ln of assets because the value of this variable is usually greater than the value of other financial variables.

Leverage

Leverage in this study is measured from the Debt to Equity ratio (DER) because DER reflects the large proportion between total debt (total debt / total liabilities) and total equity. The formula used to calculate the Debt to Equity Ratio is (Husnan and Pudjiastuti, 2004):

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

3.6 Data Analysis Techniques

In this study using quantitative data analysis methods with the support of the SPSS Statistics 24 program as an internal tool tested the data and used multiple linear regression analysis which was used to test the effect of profitability, media exposure, institutional ownership, company size, and leverage on carbon emission disclosure.

1. Descriptive Statistical Analysis

Descriptive statistics are statistics related to the presentation of informative data so that data users can easily process them. These data must be summarized properly and regularly so that they can be used as a basis for decision making. Descriptive statistics provide an overview or description of a data seen from the average value (mean), standard deviation, variance, maximum, minimum, sum, range, kurtosis, and skewness (distribution skewed) (Ghozali, 2018). In this study the descriptive statistics analyzed were the maximum, minimum, average (mean) values, and standard deviation.

2. Classic assumption test

The classic assumption test aims to detect the occurrence of deviations in the data which is carried out before testing the hypothesis. A good regression model is a regression that has normal data, is free of multicollinearity, is free of heteroscedasticity, and has no autocorrelation.

Normality test

Ghozali (2018) normality test aims to find out whether in the regression model, the confounding or residual variables have a normal distribution. A good regression model is a regression model that has normally distributed residual values.

The normality test in this study used the Monte Carlo method with a significant value of 0.05. When the significance value is more than 0.05, the data is declared to have a normal distribution, but if the significance value is less than 0.05, the data does not have a normal distribution. Gujarati and Porter (2013).

Multicollinearity Test

The multicollinearity test aims to test whether there is a correlation between the independent variables in the regression model. A good regression model means that there is no correlation between the independent variables with one another (Ghozali 2018). To determine whether there is multicollinearity using the Variance Inflation Factor (VIF) and tolerance values. These two measures indicate which of each independent variable is explained by the other independent variables. The VIF value is opposite to the tolerance value. If the VIF value is high, the tolerance will be low, and vice versa. The regression model is said to have no multicollinearity if the tolerance value is greater than or equal to 0.10 or the VIF value is less than or equal to 10.

Autocorrelation Test

The autocorrelation test was carried out with the aim of testing whether in the linear regression model there is a correlation between residual errors in period t and residual errors in period $t-1$ (previous) (Ghozali, 2018). The correlation that occurs is called autocorrelation. Autocorrelation is caused by sequential observations over time related to one another. A good regression model is a regression that is free from autocorrelation.

This study uses the Run Test test to detect autocorrelation. Whether or not there is autocorrelation in the regression model can be known with the condition that the Asymp. Sig. (2-tailed) is smaller than 0.05, so there is a symptom of autocorrelation. If the Asymp. Sig. (2-tailed) is greater than 0.05, so there are no signs of autocorrelation.

Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one residual observation to another. A good regression model is homoscedasticity or where there is no heteroscedasticity, namely the residue from one observation to another observation remains (Ghozali, 2018).

The heteroscedasticity test in this study used the Spearman test. If the significance value of the independent variable is greater than 0.05, it indicates that there is no heteroscedasticity. Conversely, if the significance value of the independent variable is less than 0.05, then the regression model contains heteroscedasticity.

Hypothesis test

Hypothesis testing is carried out with the aim of obtaining valid analytical results and can support the hypothesis. This study uses Multiple Linear Regression Analysis (Multiple Linear Regression Method) to analyze how much influence the independent variables have on the dependent variable. The regression model used in this study is as follows:

$$CED = \alpha + \beta_1 PROF + \beta_2 ME + \beta_3 IO + \beta_4 CZ + \beta_5 LEV + e$$

Information:

CED = Carbon Emissions Disclosure

α = Constant

β_1 = Regression coefficient of the profitability variable

β_2 = Regression coefficient of the media exposure variable

β_3 = Regression coefficient of institutional ownership variable

β_4 = Regression coefficient of firm size variable

β_5 = Regression coefficient of the leverage variable

PROF = Profitability

ME = Media Exposure

IO = Institutional Ownership

CZ = Company Size
 LEV = Leverage
 e = errors

Simultaneous Significance Test (F Statistical Test)

The F test was carried out with the aim of testing whether the regression model is feasible to use or fit (Ghozali, 2018). The basis used in making decisions with the F test can be done by looking at the output value of the data processing regression shown in the ANOVA table with a significance level of 0.05 ($\alpha = 5\%$). If the probability value is greater than α , it means that the regression model is not fit. Meanwhile, if the probability value is less than α , it means that the regression value is fit or feasible to use.

Adjusted R Square Test (Adj. R 2)

Adjusted R Square (Adj. R 2) is used to measure the model's ability to explain variations in the dependent variable (Ghozali 2018). Adj value. R 2 lies between zero and one. If the value is closer to zero, it means that the ability of the independent variable to explain the dependent variable is also lower. Meanwhile, if the value is closer to one, it means that the ability of the independent variable to explain the dependent variable is more comprehensive.

Statistical Test t

Ghozali (2018), the t test aims to test the effect of the independent variables individually on the dependent variable. This influence can be seen from the individual significance level of the independent variable on the dependent variable, assuming that the other independent variables have a constant value. This test uses a significance level (α) of 5% with the criterion if the significance value is less than 0.05 or t count is greater than t table, meaning that the independent variables individually affect the dependent variable.

4. Data Analysis and Discussion

Data analysis and discussion in this study provide an explanation of the general description of the research object, research results and discussion of findings regarding research results. The results of the research data analysis consisted of descriptive statistics, classical assumption tests, and the regression model hypothesis. The discussion in this chapter provides an explanation of the research findings through alternative hypotheses that have been built based on previous theories and research.

4.1 Description of the Research Object

The research object consists of mining sector companies that are consistently listed on the Indonesia Stock Exchange in the 2018 8 - 2021. The mining sector is an activity of taking valuable and economically valuable mineral deposits from the earth's crust, both mechanically and manually, on the earth's surface, below the earth's surface and under the water's surface.

The research data used is secondary data taken from the website of the company that became the research sample and from the website of the Indonesia Stock Exchange. The sample used in the study was selected using a purposive sampling technique. The following are the criteria used researchers in selecting samples.

Table 4. 1Research Sample Selection Criteria

No.	Criteria	Amount
1	Number of study population	58
2	Mining companies that are not listed on the IDX in a row during the 2018-2021 period	-13
3	Mining companies that do not present a complete annual report and/or sustainability report on the company's website or IDX website respectively according to the year of research	- 3
4	Mining companies that did not earn consecutive profits during the 2018-2021 period	-2 5
5	Mining companies that do not explicitly disclose carbon emissions (include at least one policy related to carbon/greenhouse gas emissions or disclose at least one carbon emission disclosure item)	0
Samples that meet the criteria		17
Total research sample		68

Based on table 4.1. found as many as 17 companies that meet the criteria determined by researchers.

4.2 Descriptive Statistics Analysis Results

Descriptive statistics are used as the basis for the initial description of each variable used in the research which is part of the data analysis. Descriptive statistics are performed to see the minimum, maximum, average (mean), and standard deviation values for each variable. The results of descriptive statistics on mining sector companies listed on the Indonesia Stock Exchange can be seen in table 4.2.

Table 4.2 Results of Descriptive Statistics

	N	Minimum	Maximum	Means	std. Deviation
Carbon Emissions Disclosure	68	0.056	0.722	0.299	0.214324
Profitability	68	0.001	0.520	0.114	0.120628
Media Exposure	68	0.000	1,000	0.485	0.5035
Institutional Ownership	68	0.290	0.977	0.711	0.175359
Company Size	68	11,996	14,032	12,957	0.523242
leverage	68	0.097	2,485	0.819	0.610746

Source: Secondary data processed with SPSS Statistics 24, (2023)

The results of descriptive statistics in table 4.2. regarding the variables of carbon emission disclosure, profitability, media exposure, institutional ownership, and leverage of mining sector companies listed on the Indonesia Stock Exchange in the period 2018 to 2021 can be explained as follows:

4.3 Classical Assumption Testing Results

The classical assumption test was conducted to ensure that the regression model used in this study is unbiased and valid. The classic assumption test in this study is as follows:

4.3.1 Normality Test

Table 4.3 Normality Test Results

		Unstandardized Residuals	
N		68	
Normal Parameters ^{a,b}	Mean	0,0000000	
	Std. Deviation	0,10325742	
Most Extreme Differences	Absolute	0,122	
	Positive	0,122	
	Negative	-0,079	
Test Statistic		0,122	
Asymp. Sig. (2-tailed)		0,014c	
Monte Carlo Sig. (2-tailed)	Sig.	0,251d	
	99% Confidence Interval	Lower Bound	0,240
		Upper Bound	0,262

Source: Secondary data processed with SPSS Statistics 24 (2023)

Based on table 4.3 the significance value is 0.251 where the value is more than 0.05. From the results obtained, it can be concluded that the data is declared normally distributed.

4.3.2 Multicollinearity Test

Table 4.4 Multicollinearity Test Results

Variable	tolerance	VIF
Profitability	0.788	1.268
Media Exposure	0.843	1.186
Institutional Ownership	0.766	1.306
Company Size	0.823	1.216
leverage	0.753	1.328

Source: Secondary data processed with SPSS Statistics (2023)

Based on table 4.4, the VIF value of each variable is less than 10.00, namely profitability of 1.268, media exposure of 1.186, institutional ownership of 1.308, company size of 1.216, and leverage of 1.328. Meanwhile the tolerance value in table 4.4. of each variable more than 0.10, namely profitability of 0.788, media exposure

of 0.843, institutional ownership of 0.766, company size of 0.823, and leverage of 0.753. Based on the basic guidelines for decision making, the VIF and tolerance values show that there is no multicollinearity.

4.3.3 Autocorrelation Test

Table 4. 5 Autocorrelation Test Results

	Unstandardized Residuals
Test Value a	-0.00350
Cases < Test Value	34
Cases >= Test Value	34
Total Cases	68
Number of Runs	28
Z	-1,711
asympt. Sig. (2-tailed)	0.087

Source: Secondary data processed with SPSS Statistics (2023)

Table 4.5 shows that the significance value in this study is 0.087. Based on the basic guidelines for decision making, the results of the run test show that there are no autocorrelation symptoms.

4.3.4 Heteroscedasticity Test

Table 4. 6 Heteroscedasticity Test Results

			Unstandardized Residuals
Spearman's rho	Profitability	Correlation Coefficient	-0.199
		Sig. (2-tailed)	0.104
		N	68
	Media Exposure	Correlation Coefficient	-0,061
		Sig. (2-tailed)	0,623
		N	68
	Kepemilikan Institusional	Correlation Coefficient	-0,018
		Sig. (2-tailed)	0,887
		N	68
	Ukuran Perusahaan	Correlation Coefficient	0,075
		Sig. (2-tailed)	0,544
		N	68
	Leverage	Correlation Coefficient	0,018
		Sig. (2-tailed)	0,884
		N	68

Source: Secondary data processed with SPSS Statistics (2023)

Table 4.6 shows that the significance value of each variable in this study is more than 0.05, namely profitability of 0.104, media exposure of 0.623, institutional ownership of 0.887, company size of 0.554, and leverage of 0.884. Based on the basic guidelines for decision making, the results of the Spearman test show that there are no symptoms of heteroscedasticity.

4.4 Hypothesis Testing Results

4.4.1 Multiple Linear Regression

Multiple linear regression analysis aims to determine whether there is an influence of two or more dependent variables.

Table 4. 7 Multiple Linear Regression Test Results

	Regression Coefficient (B)	t	Sig.	Conclusion
(Constant)	-0.151	-0.396	0.694	
Profitability	0.111	0.907	0.368	H1 Rejected
Media Exposure	0.340	12,003	0.000	H 2 Accepted
Institutional Ownership	-0.107	-1,246	0.217	H 3 Rejected
Company Size	0.029	1,047	0.299	H 4 Rejected
leverage	-0.032	-1,299	0.199	H 5 Rejected

R = 0.876 R Square = 0.768 Adj R Square = 0.749	F Count = 4 1 , 02 2 Sig. F = 0.000
---	--

Source: Secondary data processed with SPSS Statistics (2023)

Statistical calculations produce multiple linear regression equations as follows:

$$CED = \alpha + 0,111PROF + 0,340ME - 0,107IO + 0,029CZ - 0,032LEV$$

4.4.2 Simultaneous Significance Test (F Test)

The research results presented in table 4.7 state that the F test on the regression model yields a significance value of 0.000 where the value is less than 0.05. The conclusion obtained is that the regression model is feasible to use in this study.

4.4.3 Adjusted R Square Test (Adj. R 2)

Based on the results of data processing in table 4.7 regarding the results of the Adj calculation. R 2 shows that the adjusted R square value is 0.749. These values indicate that the variable disclosure of carbon emissions can be explained by variables of profitability, media exposure, institutional ownership, company size, and leverage of 74.9% percent and 25.1% explained by variables outside the model.

4.4.4 Statistical Test t

Based on table 4.7 the significance value of t for each variable varies, these values include a profitability significance of 0.368, a significance of media exposure of 0.000, a significance of institutional ownership of 0.217, a significance of firm size of 0.299, and a significance of leverage of 0.199. From these values it can be concluded that the variable profitability, institutional ownership, company size and leverage have no effect on carbon emission disclosure. Meanwhile, media exposure has an influence on carbon emission disclosure.

4.5 Discussion of Research Results

4.5.1 Profitability to Carbon Emission Disclosure

Testing on hypothesis 1 predicts that profitability has a positive effect on disclosure of carbon emissions. The results of the study show that the significance value is 0.368 where the value is greater than $\alpha = 0.05$, so profitability has no effect on carbon emission disclosure. With this hypothesis 1 which states that profitability affects carbon emission disclosure is rejected.

The results of the study show that profitability has no effect on disclosure of carbon emissions. If the profitability of a company is high, the disclosure of carbon emissions will be narrower. In other words, lower profitability of companies leads to wider disclosure of carbon emissions. These results support the legitimacy theory because the theory explains that companies will disclose environmental information to legitimize their operations.

This research is supported by the research results of Pratiwi and Sari (2016). These results show that the amount of profit earned by mining companies has no effect on companies disclosing carbon emissions because these disclosures are included in the policies of the company's management itself and are not affected by the size of the profitability obtained.

4.5.2 Media Exposure to Carbon Emission Disclosure

Testing on hypothesis 2 predicts that media exposure has an effect on carbon emission disclosure. The results showed that the significance value obtained was 0.000 less than $\alpha = 0.05$, so media exposure has an influence on carbon emission disclosure. With this hypothesis 2 which states that media exposure has an effect on carbon emission disclosure is accepted.

This research is supported by the research results of Jannah and Muid (2014). The role of the media can encourage companies to publicize their activities in the environmental field in order to get a positive response from their stakeholders.

Disclosure of carbon through the media, companies will gain more legitimacy from society. And through the media companies can communicate with stakeholders effectively. This is in line with legitimacy theory and stakeholder theory. The company discloses emissions through the media in order to increase stakeholder knowledge about the company's environment.

In accordance with Government Regulation Number 47 of 2012 concerning Social and Environmental Responsibility of Limited Liability Companies, it says that every company as a legal subject has social and

environmental responsibilities. This social and environmental responsibility is an obligation for companies that carry out their business activities in the field of and/or related to natural resources based on the law. The company's obligations under the Company Law are implicitly aimed at mining companies, as companies whose business activities are related to natural resources. Therefore, the results above show that whether a company's financial performance is good or not is not a consideration for companies disclosing carbon emissions.

4.5.3 Institutional Ownership of Carbon Emission Disclosures

Testing on hypothesis 3 predicts that institutional ownership has an effect on carbon emission disclosure. The results showed that the significance value obtained was 0.217 more than $\alpha = 0.05$, so institutional ownership has no effect on carbon emission disclosure. With this hypothesis 3 which states that institutional ownership has an effect on carbon emission disclosure is rejected.

This research is in line with the research of Halimah & Yanto (2018) and Hermawan, et al (2018) which state that institutional ownership has no effect on disclosure of carbon emissions. This is because high institutional ownership in a company is not an indication that a company will disclose its carbon emissions in detail. Stakeholder theory illustrates that institutional ownership has an important meaning in management oversight because the existence of institutional ownership will encourage more optimal oversight where institutional investors want transparency over every company's operational activities including activities that have an impact on the environment. On that basis, the company will disclose additional voluntary reports.

However, the results of the study revealed that the high institutional share ownership of the company did not affect the number of carbon emission disclosure items disclosed. Institutional owners as the majority shareholder have great authority to encourage companies not to make voluntary disclosures including disclosure of carbon emissions because they want to maximize their profits.

4.5.4 Company Size to Carbon Emission Disclosure

Testing on hypothesis 4 predicts that company size has an effect on carbon emission disclosure. The results showed that the significance value obtained was 0.299 more than $\alpha = 0.05$, so company size had no effect on carbon emission disclosure. With this hypothesis 4 which states that company size has an effect on carbon emission disclosure is rejected.

The size of the company does not affect the disclosure of carbon emissions. These results are in accordance with the research conducted, Cahya (2017) and Pratiwi (2018) who examined the effect of company size on carbon emission disclosure. Large companies have not considered the effectiveness of carbon emission disclosure as a policy that has a positive impact on companies in the future.

Company size has no effect on disclosure of carbon emissions because large companies have large sources of funds, so companies consider the legitimacy of the community to be less important. Companies prefer to use their funds to obtain as much profit as possible.

4.5.5 Leverage and Carbon Emission Disclosure

Testing on hypothesis 5 predicts that leverage has an effect on carbon emission disclosure. Based on the results of testing a significant value of 0.199 where the value is greater than $\alpha = 0.05$, leverage has no effect on carbon emission disclosure. With this hypothesis 5 which states leverage has an effect on carbon emission disclosure is rejected.

This study reveals that high or low leverage values have no impact on the disclosure of corporate carbon emissions. This happens because disclosure as a form of accountability for the use of large funds results in a threat to the continuity of the company. This condition can occur because companies with high or low leverage are more careful in disclosing carbon emissions which are voluntary disclosures. Disclosure of carbon emissions that is carried out widely will increase the company's operational costs. The increase in costs resulted in an increase in the company's financial burden and worsened the company's financial condition.

Companies with high leverage consider and decide to use sources of funds that aim to increase productivity rather than implementing disclosure of carbon emissions. In addition, companies have limited funds to disclose emissions so companies tend to reduce costs by using their resources for the purpose of improving the company's operational quality.

The results of this study support research by Saptiwi (2019), Ardini (2019), Herinda et al (2021) and Burritt et al (2016) which revealed that there is no influence between leverage and carbon emission disclosure in companies.

5. Conclusion

The results of research and discussion regarding the influence of profitability, media exposure, institutional ownership, company size, and leverage on carbon emission disclosure using panel data regression on mining companies listed on the Indonesian stock exchange for the 2018-2021 period, the following conclusions are obtained:

1. Profitability has no effect on carbon emission disclosure.
2. Media exposure has an effect on carbon emission disclosure.
3. Institutional ownership has no effect on carbon emission disclosure.
4. Company size has no effect on carbon emission disclosure.
5. Leverage has no affect carbon emission disclosure.

Thus the objectives in this study have been achieved. The results of this study contribute to a significant contribution of thought as input for knowledge and scientific literature, enriching concepts and theories in the field of accounting, particularly regarding the study of disclosure of carbon emissions. Practically, the results of this study can help company stakeholders, especially the management of mining sector companies in making corporate financial decisions. In addition, the results of this study can be used as a consideration for investors in making investment decisions, especially in mining sector companies.

References

- [1]. Almuaromah, D. A., & Wahyono, W. (2022). PENGARUH KINERJA LINGKUNGAN, KEPEMILIKAN INSTITUSIONAL, KEPEMILIKAN MANAJERIAL, PROFITABILITAS DAN LEVERAGE TERHADAP CARBON EMISSION DISCLOSURE (STUDI EMPIRIS PADA PERUSAHAAN PERTAMBANGAN YANG TERDAFTAR DI BURSA EFEK INDONESIA TAHUN 2016- 2020). *Eqien-Jurnal Ekonomi dan Bisnis*, 10(1), 578-586.
- [2]. Ambarwati, A., & Wicaksono, C. A. (2020). Relationship analysis of eco-control, company age, company size, carbon emission disclosure, and economic consequences. *The Indonesian Journal of Accounting Research*, 23(2), 293-324.
- [3]. Apriliana, E. (2019). Pengaruh tipe industri, kinerja lingkungan, dan profitabilitas terhadap carbon emission disclosure. *Widyakala: Journal of Pembangunan Jaya University*, 6(1), 84-95.
- [4]. Budiharta, P., & Kacaribu, H. E. P. B. (2020). The influence of board of directors, managerial ownership, and audit committee on carbon emission disclosure: a study of non-financial companies listed on BEI. *Review of Integrative Business and Economics Research*, 9, 75-87.
- [5]. Cahya, B. T. (2017). Carbon emission disclosure: Ditinjau dari media exposure, kinerja lingkungan dan karakteristik perusahaan go public berbasis syariah di Indonesia. *Nizham Journal of Islamic Studies*, 4(2), 170-188.
- [6]. Choi, B. B., D. Lee, and J. Psaros. 2013. An analysis of Australian Company Carbon Emission Disclosures. *Pacific Accounting Review* 25 (1): 58-79.
- [7]. Farida, H. N., & Sofyani, H. (2018). Pengaruh Profitabilitas, Ukuran Perusahaan, Leverage, Afiliasi Politik, Dan Dewan Komisaris Independen Terhadap Carbon Emission Disclosure: Studi Empiris pada Perusahaan Pertambangan yang Terdaftar di BEI Periode 2014-2016. *Reviu Akuntansi dan Bisnis Indonesia*, 2(2), 97-106.
- [8]. Florencia, V., & Handoko, J. (2021). Uji Pengaruh Profitabilitas, Leverage, Media Exposure Terhadap Pengungkapan Emisi Karbon Dengan Pemoderasi. *Jurnal Riset Akuntansi dan Keuangan*, 9(3), 583-598.
- [9]. Ghozali, I. (2018). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25(9th ed.)*. Semarang: Badan Penerbit Universitas Diponegoro.
- [10]. Halimah, N. P., & Yanto, H. (2018). Determinant of Carbon Emission Disclosure at Mining Companies Listed in Indonesia Stock Exchange. *International Conference on Economics, Business and Economic Education*. 127–141.
- [11]. Hapsoro, D., & Falih, Z. N. (2020). The effect of firm size, profitability, and liquidity on the firm value moderated by carbon emission disclosure. *Journal of Accounting and Investment*, 21(2), 240-257.
- [12]. Jannah, R., & Muid, D. (2014). Analisis faktor-faktor yang mempengaruhi carbon emission disclosure pada perusahaan di Indonesia (Studi empiris pada perusahaan yang terdaftar di bursa efek Indonesia periode 2010-2012). *Diponegoro Journal of Accounting*, 3(2), 1000-1010.
- [13]. Laksani, S. A., Andesto, R., & Kirana, D. J. (2021). Carbon Emission Disclosure Ditinjau dari Nilai Perusahaan, Leverage dan Media Exposure. *Studi Akuntansi dan Keuangan Indonesia*, 3(2), 145-164.
- [14]. Larasati, R., Seralurin, Y. C., & Sesa, P. V. S. (2020). Effect of Profitability on Carbon Emission Disclosure. *The International Journal of Social Sciences World (TIJOSSW)*, 2(2), 182-195.

- [15]. Maqfirah, P. A., & Fahrianta, R. Y. (2022, September). Faktor-Faktor Yang Memengaruhi Pengungkapan Emisi Karbon Pada Perusahaan Manufaktur Yang Terdaftar Di Bei Periode 2016-2020. In *Prosiding National Seminar on Accounting UKMC (Vol. 1, No. 1)*.
- [16]. Nasih, M., Harymawan, I., Paramitasari, Y. I., & Handayani, A. (2019). Carbon emissions, firm size, and corporate governance structure: Evidence from the mining and agricultural industries in Indonesia. *Sustainability*, 11(9), 2483.
- [17]. Pranasyahputra, R. H., Elen, T., & Dewi, K. S. (2020). Pengaruh Leverage, Kompetisi, Dan Pertumbuhan Perusahaan Terhadap Carbon Emission Disclosure. *Jurnal Akuntansi Trisakti*, 7(1), 75-88.
- [18]. Pratiwi, P. C. (2016). Pengaruh Tipe Industri, Media Exposure, Dan Profitabilitas Terhadap Carbon Emission Disclosure (Studi Empiris Pada Perusahaan Non Industri Jasa Yang Terdaftar Di Bei Tahun 2012-2014). *Jurnal Akuntansi*, 4(2).
- [19]. Pratiwi, P.C., dan Sari.V.F. (2016). Pengaruh Tipe Industri, Media Exposure, dan Profitabilitas Terhadap Carbon Emission Disclosure. *Jurnal Wahana Riset Akuntansi*, 4(2), 829- 843.
- [20]. Presiden Republik Indonesia. (2012). Peraturan Pemerintah Republik Indonesia Nomor 47 Tentang Tanggung Jawab Sosial dan Lingkungan Perseroan Terbatas.
- [21]. Putri, W. Y. (2017). Pengaruh Regulator, Kepemilikan Institusional, Ukuran Perusahaan, Dan Profitabilitas Terhadap Carbon Emission Disclosure (Studi Pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2014-2016) (Doctoral dissertation, Fakultas Ekonomi dan Bisnis Unpas Bandung).
- [22]. Septriyawati, S., & Anisah, N. (2019, September). Pengaruh Media Exposure, Ukuran Perusahaan, Profitabilitas dan Leverage Terhadap Pengungkapan Emisi Karbon pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Periode 2014-2018. In *SNEB: Seminar Nasional Ekonomi dan Bisnis Dewantara (Vol. 1, No. 1, pp. 103-114)*.
- [23]. Suhardi, R. P., & Purwanto, A. (2015). Analisis Faktor–Faktor yang Mempengaruhi Pengungkapan Emisi Karbon di Indonesia (Studi pada Perusahaan yang Terdaftar di Bursa Efek Indonesia Periode 2010-2013). *Diponegoro journal of accounting*, 4(2), 836-848.
- [24]. Sumartini, R. A., & Aisyah, I. S. (2019). PENGARUH UKURAN PERUSAHAAN, PROFITABILITAS, DAN MEDIA EXPOSURE TERHADAP CARBON EMISSION DISCLOSURE (Studi pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia 2016- 2018) (Doctoral dissertation, Perpustakaan Fakultas Ekonomi dan Bisnis Unpas).
- [25]. Wahyuni, S. (2021). Pengaruh Kepemilikan Institusional dan Ukuran Perusahaan terhadap Nilai Perusahaan dengan Carbon Emission Disclosure sebagai Variabel Intervening pada Indeks Sri-Kehati BEI (Doctoral dissertation, Universitas Islam Negeri Alauddin Makassar).
- [26]. Widiyanto, I., & Sari, D. P. (2020). The effect of environmental performance, leverage and company size towards carbon emission disclosure on rated proper company in 2015–2018. *The effect of environmental performance, leverage and company size towards carbon emission disclosure on rated proper company in 2015–2018*, 1(02), 97-118.
- [27]. Wiratno, A., & Muaziz, F. (2020). Profitabilitas, ukuran perusahaan, dan leverage mempengaruhi pengungkapan emisi karbon di Indonesia. *Jurnal Ekonomi, Bisnis, Dan Akuntansi*, 22(1), 28-41.