

# Determinants of Disclosure of Carbon Emissions in the Financial Statements of Manufacturing Companies Listed on the IDX for the Period 2018-2019

Nuraini, Zul Azmi, Misral  
Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Riau

\*E-mail: nurainiharahap912@gmail.com, pakazmee@gmail.com, misral@gmail.com

**Abstract. Purpose:** This study aims to find empirical evidence regarding the effect of Firm Size, Firm Age, Industry Type, Institutional Ownership Structure, Media Exposure, Leverage and Profitability on Disclosure of Carbon Emissions.

**Design/Methodology/Approach:** This study uses amounted to 27 companies regarding the effect of Company Size, Company Age, Type of Industry, Institutional Ownership Structure, Media Exposure, Leverage and Profitability on Disclosure of Carbon Emissions.

**Findings:** Based on the data analysis and discussion that has been carried out in the previous chapter, the following conclusions can be drawn: 1) the firm size variable affects the disclosure of carbon emissions; 2) the age of the company has an effect on the disclosure of carbon emissions; 3) the industrial type variable has an effect on the disclosure of carbon emissions; 4) the firm size variable has an effect on the disclosure of carbon emissions; 5) the media exposure variable has an effect on the disclosure of carbon emissions; 6) the leverage variable has no effect on the disclosure of carbon emissions; and 7) the profitability variable has an effect on the disclosure of carbon emissions.

**Theoretical contribution/Originality:** This journal provides information that Can contribute to stockholder and government in Indonesia, especially for companies that influence the disclosure of carbon emissions

**Keywords :** *Carbon Emission Disclosure, Corporate Governance, Financial Ratios, Media Exposure*

## INTRODUCTION

Carbon emission disclosures are environmental disclosures presented in the company's annual report covering Greenhouse Gases and energy use, corporate governance and strategies in relation to climate change, performance against greenhouse gas emission reduction targets and risks and opportunities related to the impacts of climate change. Based on data from the World Resource Institute (WRI) in 2015, there are at least 40 developed and developing countries that currently have mandatory emission reporting programs in each country. There are also several sub-national programs, such as the California Compulsory GHG Reporting Program. Several countries are currently testing mandatory emission reporting programs at the local scale and considering implementing them at the national scale, such as in China. WRI expects more countries to adopt mandatory emission reporting programs to systematically measure and monitor their emissions. They can use data to inform policy and develop and assess progress towards national and sectoral goals.

With the mandatory emission reporting program, business actors can use to disclose emissions which can lead to regular emission tracking and bench marking. These programs enable industry to understand associated emissions risks and opportunities so that they can efficiently focus on abatement activities that will have the greatest impact on greenhouse gas reductions (World Resource Institute, 2015). Although the disclosure of carbon emissions in Indonesia is a voluntary disclosure, companies should pay more attention to this,

Considering the last few decades, environmental conditions have worsened and widespread demands from various levels of society for the creation of livable environmental conditions. By disclosing carbon emissions, you will get benefits such as: gaining legitimacy from stakeholders, avoiding threats, especially for companies that produce greenhouse gases such as increased operating costs, reduced demand, reputation risk (reputational risk), legal proceedings, and fines and penalties (Berthelot dan Robert, 2011; Azmi dan Nuraini, 2020).

Research on *Carbon Emission Disclosure* has been widely carried out in the international world, several researchers who have conducted research on this subject are: Choi, *et al* (2013). Choi, *et al* (2013) conducted research on the disclosure of carbon emissions in companies included in the top 100 category from 2006 to 2008 in *Australian Stock Exchange*. Choi, *et al* (2013) developing index *list* in measuring the extent of disclosure of carbon emissions based on *request sheet* used by CDP (*Carbon Development Project*). Choi, *et al* (2013) In conducting the research, using the independent variables, namely the Increase in Disclosure of Carbon Emissions, Company Size, Profitability, *Leverage*, Carbon Emission Level, Industry Type and Quality *Corporate Governance*. The same research was also conducted by Luo *et al* (2013), but the factors that affect the disclosure of carbon emissions in these studies are different. Luo *et al* (2013) using independent variables

*Developing Country*, ROA, *Leverage*, *Growth Opportunities*, *Carbon Emission*, *Size*, *Legal System*, ETS and *Newer* in influencing the company in reporting *Carbon Emission Disclosure*. Firm size variable is a variable that is often used in several studies regarding *Carbon Emission Disclosure*, research result Lorenzo (2009); Ghomi and Leung (2013); Jannah and Muid (2014) and Majid and Ghozali (2015) prove that company size has an effect on *Carbon Emission Disclosure*. Meanwhile, according to the results of research conducted by Suhardjanto dan Choiriyah (2010) and Linggasari (2015) company size has no effect on *Carbon Emission Disclosure*.

In addition, the results of research on industry type variables on *Carbon Emission Disclosure* show influential results (Choi, *et al*, 2013; Jannah dan Muid, 2014; Linggasari, 2015) but different results are proven by Suhardjanto and Choiriyah (2010) as well as Ghomi and Leung (2013) which states that the type of industry has no effect on *Carbon Emission Disclosure*. Ghomi and Leung (2013) as well as Linggasari (2015) examines the effect of firm age and institutional ownership on Carbon Emission Disclosure. According to the results of research conducted by Ghomi and Leung (2013) firm age and institutional ownership have an effect on

*Carbon Emission Disclosure*, while the research conducted by Linggasari (2015) did not find an effect between company age and *Carbon Emission Disclosure*.

Dawkins and Fraas (2011), Jannah and Muid (2014) as well as Majid and Ghozali (2015) researching the effect *media exposure* to *Carbon Emission Disclosure*. The results showed that *media exposure* berpengaruh terhadap *Carbon Emission Disclosure* (Dawkins and Fraas, 2011) and Majid and Ghozali (2015). While the research conducted by Jannah and Muid (2014) found no effect between *media exposure* With *Carbon Emission Disclosure*.

Furthermore, profitability and leverage are both measures of financial performance that can be taken into consideration in disclosing carbon emissions. The results of the study prove that profitability and leverage have an effect on Carbon Emission Disclosure (Jannah and Muid, 2014; Majid and Ghozali, 2015; Linggasari, 2015) but Lorenzo (2009) did not find an effect between profitability and leverage with Carbon Emission Disclosure in his research.

This issue becomes interesting to study because disclosure of carbon emissions is a new concept and little research has been done on this subject in Indonesia in particular and there are still inconsistent results from previous studies. This study aims to examine the factors that influence the extent of carbon emission disclosure (Carbon Emission Disclosure) in manufacturing companies in Indonesia. The variables studied in this study include: Company Size, Company Age, Industry Type, Institutional Ownership Structure, Media Exposure, Leverage and Profitability as a proxy for Company Performance. In addition, there are still very few companies in Indonesia that dare to disclose carbon emissions, which is of particular interest to researchers. This phenomenon is related to the concerns of companies about the impact of the disclosure. The impacts that can be caused include, among others, a decrease in the company's production level and significant changes in company policies.

## LITERATURE REVIEW AND HYPOTHESES FORMULATION

### Carbon Emission Disclosure

Carbon Emission Disclosure is one example of environmental disclosure that is part of an additional report that has been stated in PSAK No. 1 (Revised 2009) Paragraph Twelve which states that an entity may also present, apart from financial statements, reports on the environment and value reports. value added statement, especially for industries where environmental factors play an important role and for industries that consider employees as a group of report users who play an important role. These additional reports are outside the scope of Financial Accounting Standards.

The environmental disclosure includes the intensity of GHG emissions or energy use, corporate governance and strategies in relation to climate change, performance against greenhouse gas emission reduction targets, risks and opportunities related to the impacts of climate change (Cotter *et al*, 2011). By knowing the amount of carbon dioxide emissions in the air as an effect of the company's activities, it can be used as part of the content of the sustainability report by the organization/company. Calculation of the amount of carbon is a business tool that builds information that may (or may not) be useful for understanding and managing carbon concentrations in the air that have an impact on climate change (Puspita, 2015).

### Company Size

Company size is defined as the determination of the size, dimensions, or capacity of a company, as the determination of a large or small company can be seen from the total asset value, net sales and market capitalization. So the larger the size of a company, the greater the capital invested in various types of businesses,

easier to enter the capital market, obtain a high credit rating and so on, all of which will affect the existence of its total assets (Daniel, 2013).

Based on the legitimacy theory, large companies' activities will be more visible than small companies, so the demands and pressures from the community will be greater. This makes large companies more sensitive to environmental issues. Disclosure of carbon emissions is part of environmental disclosure that companies can use to respond to these pressures so that company activities still get legitimacy from the community (Suhardi, 2015). Meanwhile, based on stakeholder theory, the larger the size of the company, the more the number of stakeholders involved in it will increase and the interaction between large companies and the community tends to be more significant and has an economically significant effect.

The results of research by Ghomi and Leung (2013) and Choi, et al (2013) found a positive relationship between firm size and voluntary disclosure. This result is in line with the results found by Jannah and Muid (2014) who found that company size affects the disclosure of carbon emissions. This also supports the legitimacy theory that large companies have greater pressure from environmental problems so they tend to increase their response to the environment. Large companies are more encouraged to provide quality voluntary disclosures to gain legitimacy. However, different findings were obtained by Suhardjanto and Choiriyah (2010) who found that the results of company size had no effect on the disclosure of carbon emissions

## **COMPANY SIZE HAS AN EFFECT ON DISCLOSURE OF CARBON EMISSIONS.**

### **Company Age**

According to Ulum (2009) age in a company is part of the documentation that shows what the company is doing and will achieve. Nugroho (2012) defines company age as the beginning of the company carrying out operational activities so that it can maintain the company's going concern or maintain its existence in the business world. That is, the age of the company shows the company's ability to maintain its business continuity. The age of the company shows the company's ability to survive and the amount of information that can be absorbed by the public. The longer the age of the company, the more information obtained by the company, so that it can reduce uncertainty in the future (Sembiring, 2005). Under normal conditions, long-established companies will have more management and commitment to accounting information than newly established companies, so that, when it comes to disclosure, companies that have maturity (long operating) will tend to produce more information.

Companies that have been around for longer indicate that the company can survive the various kinds of competition it has faced. This makes the company prefer to maintain its competitive advantage against its competitors and can affect the value of the company in the eyes of investors. Companies that have been around for a long time usually have better and more environmentally friendly equipment that tend to have an advantage in disclosing carbon emissions compared to companies that have inadequate equipment to be able to maintain their existence and long-standing competitive advantage. This is supported by the results of research by Ghomi and Leung (2013) which states that the age of the company affects the disclosure of carbon emissions. But different findings were found by Linggasari (2015) who concluded that the age of the company could not affect the disclosure of carbon emissions.

### **Company Age has an effect on Disclosure of Carbon Emissions.**

### **Industry Type**

The Global Industry Classification Standard (GICS) classifies companies into two types in terms of carbon pollution, namely companies that are intensive in producing carbon (pollutants) and companies that are not intensive in producing carbon (Choi, et al 2013). Based on the legitimacy theory, the community will place greater demands on carbon-intensive companies, because they are considered more polluting to the environment (Patten, 2002), therefore carbon-intensive companies will make wider disclosures than non-carbon-intensive companies in order to gain legitimacy from the community. Not all companies engaged in various manufacturing fields disclose their activities if they do not have a positive value for the company. For types of high profile companies such as mining that produce more environmental damage and higher carbon emissions compared to low profile types of companies such as those engaged in services, trade, and so on (Jannah and Muid, 2014).

Companies that are members of industries that have a large impact on the environment are more likely to make environmental disclosures compared to industries that have little impact on the environment. Emissions-intensive industries will face stricter supervision from the government and are often a sensitive political issue in a country, making those who are in an emission-intensive sector more likely to provide voluntary disclosures,

including disclosure of carbon emissions. Moreover, carbon-intensive companies will get the spotlight from the public because the company's operational activities have the potential and are likely to be related to the interests of the wider community. Carbon-intensive industries will disclose more carbon emissions than non-carbon-intensive industries.

This is in accordance with the legitimacy theory, carbon-intensive companies tend to get greater pressure from the community so that companies must provide carbon disclosure reports to comply with demands and gain legitimacy from the community. Research conducted by Choi, et al (2013), Zhang, et al (2013) and Ghomi and Leung (2013) found evidence that the type of industry affects the disclosure of carbon emissions. This is supported by research conducted by Brammer and Pavelin (2006) which found indications that companies engaged in steel processing, natural resources, paper and pulp, power generation, water and chemical have a greater responsibility for environmental issues. But different findings were found by Ghomi and Leung (2013) who concluded that the type of industry had no effect on the disclosure of carbon emissions.

## **Type of Industry has an effect on Disclosure of Carbon Emissions.**

### **Institutional Ownership**

Institutional ownership is ownership of company shares owned by institutions or institutions such as insurance companies, banks, investment companies and other institutional ownership (Tarjo, 2008). Institutional ownership has an important meaning in monitoring management because institutional ownership will encourage more optimal supervision. Such monitoring will certainly guarantee prosperity for shareholders, the influence of institutional ownership as a supervisory agent is suppressed through their large enough investment in the capital market so that it can hinder the opportunistic behavior of managers (Suhardi, 2015).

Companies that have a fairly high level of institutional ownership will be under pressure from these stakeholders or shareholders, so that in relation to disclosure, the company will disclose voluntary additional reports in accordance with the direction of stakeholders in accordance with stakeholder theory. The existence of institutional investors can be an effective monitoring tool for management in realizing the achievement of company goals, this can encourage management to be able to meet stakeholder satisfaction. The business processes that are carried out that involve activities related to social, environmental and governance are increasingly needed by stakeholders to assess the company's overall performance in the long term. To meet these demands, the company needs to convey the disclosure of carbon emissions. The results of research by Ghomi and Leung (2013) state that institutional ownership has an effect on Disclosure of Carbon Emissions. However, different findings were produced by Linggasari (2015) who concluded that institutional ownership has a negative effect on Disclosure of Carbon Emissions.

## **Institutional Ownership Structure has an effect on Disclosure of Carbon Emissions.**

### ***Media Exposure***

Media news has a role in increasing the pressure caused by public demands on the company. The media has an important role in social mobilization movements, for example groups interested in the environment (Jannah and Muid, 2014). The company, in this case, has a moral obligation to disclose its activities not only limited to financial aspects, but also social and environmental aspects. Companies also need to be aware of the media that monitors their activities because they are related to the value and reputation of the company.

The media plays an important role in communicating information to the public, the media is the center of attention of the wider community, especially the internet (web) media is an effective media supported by internet users who are starting to increase (Azmi and Murialti, 2018). Information regarding company activities is also included in information that can be communicated to the public through the media. The company is not only responsible for reporting related to financial activities, but social and environmental aspects also need to be considered. The more intense the media coverage of the environment, the more motivated companies will be to make disclosures about environmental information. By disclosing on environmental aspects, especially in the context of carbon emissions, the company will get a good reputation based on the news carried out by the media.

The results of research by Jannah and Muid (2014) state that media exposure has an effect on Carbon Emission Disclosure. This is in line with the findings obtained by Majid and Ghazali (2015) who concluded that media exposure has an effect on Carbon Emission Disclosure. However, Linggasari (2015) found a different finding which stated that media exposure had no effect on Carbon Emission Disclosure.

## ***Media Exposure effect on Disclosure of Carbon Emissions.***

### ***Leverage***

*Leverage* shows the ability of the company's capital to meet all of its obligations (part of each rupiah of own capital which is used as collateral for the entire debt) (Linggasari, 2015). Stakeholder theory states that the higher the company's leverage, the greater the company's responsibility to creditors, forcing the company to use available sources of funds to pay off the debt rather than to disclose carbon emissions because disclosing will result in greater costs and can be a burden for the company. (Deegan, 2004; Choi, et al 2013; Azmi & Januryanti, 2021). Luo et al (2013) argue that highly leveraged companies have few funds to implement a proactive carbon reporting system because of their large debt burden.

The higher the level of leverage, the more likely it will violate the credit agreement so that the company will try to report higher profits by reducing costs including the company's disclosure costs (Adawiyah, 2013). Environmental disclosures made by companies with poor or unstable financial conditions will cause concern from debtholders, suppliers and customers (Choi, et al 2013). Making voluntary disclosures such as environmental disclosures will add extra costs to the company so that there is a tendency for companies with high leverage to prefer not to disclose in this case the disclosure of carbon emissions in order to save costs, besides pressure from creditors is the reason companies prefer to concentrate on paying off. all its obligations rather than making voluntary disclosures.

Leverage also has a negative effect on disclosure because liabilities that are greater than debt and interest repayments will limit the company's ability to carry out carbon emission reduction and disclosure strategies. Companies with high leverage, will be more careful in reducing and disclosing it, especially regarding expenditures related to carbon prevention measures. Leverage can have implications for the financial condition of a company, be it bad or not. Companies with high leverage may not be able to absorb the adverse financial impact of disclosing carbon information.

The above description is supported by research conducted by Majid and Ghozali (2015) which states that leverage has a negative effect on Carbon Emission Disclosure. The results of research conducted by Majid and Ghazali (2015) are strengthened by the results of research conducted by Suhardi (2015) which states that leverage has no effect on Carbon Emission Disclosure. However, different findings found that research conducted by Suhardjanto and Choiriyah (2010), Ghomi and Leung (2013) and Jannah and Muid (2014) stated that leverage had an effect on Carbon Emission Disclosure.

### ***Leverage has a negative effect on Disclosure of Carbon Emissions.***

### **Profitability**

Profitability is the company's ability to generate profits. According to legitimacy theory, companies with high profitability are easier to answer the demands made by the community. Profitability indicates the availability of company funds. The larger the operational funds, the more flexibility the company will have in determining its activities. Companies with high profitability are more capable of making disclosures compared to companies with low profitability (Lorenzo, et al 2009). This is also in accordance with stakeholder theory where companies have a responsibility to their stakeholders to meet their information needs in order to maintain their support. The higher the level of profitability, the more detailed the information provided by the manager because the management wants to convince investors about the company's profitability.

Companies with good financial condition are more likely to disclose environmental information. This is in line with Pradini's (2013) research, namely companies with better financial performance capabilities, the more likely they are to try to reduce emissions from their company's activities. Financial performance capabilities include various company initiatives to contribute to efforts to reduce emissions or in this case carbon emissions such as replacing machines that are more environmentally friendly, or other environmental actions, such as planting trees to increase carbon dioxide absorption (Jannah and Muid, 2014).

Firms with good financial standing can afford the additional human or financial resources required for voluntary reporting and better disclosure of carbon emissions to withstand external pressures. Companies with poor financial performance, disclosure of future environmental obligations is an additional cost, which causes concern from creditors, suppliers and customers about the company's performance. On the other hand, companies with high profitability disclose information that is a signal that they can act well on environmental pressures effectively. Companies with good financial performance have the financial ability to make decisions related to the environment, including efforts to prevent and report carbon emissions. The above description is supported by the results of research by Jannah and Muid (2014); Suhardi (2015); Majid and Ghozali (2015); which states that profitability has an effect on Carbon Emission Disclosure. But different findings were found by Suhardjanto and Choiriyah (2010) which stated that profitability had no effect on Carbon Emission Disclosure.

## RESEARCH METHODS

### Population And Sample

The population in this study is all financial data of manufacturing companies listed on the IDX in the 2018-2019 period, while the sample in this study is 27 manufacturing companies listed on the IDX in the 2018-2019 period.

### Variable Operational Definition

#### *Carbon Emission Disclosure*

Carbon Emission Disclosure is a voluntary disclosure of carbon emissions resulting from the company's production process (Cotter et al, 2011). Carbon Emission Disclosure in this study was measured using several items adopted from the research of Jannah and Muid (2014) based on the research of Choi et al (2013) to measure the extent of carbon disclosure, Choi et al developed a checklist based on the information request sheet provided by Carbon Disclosure. Projects (CDP). CDP is an independent non-profit organization that holds the largest volume of climate change information in the world based in the United Kingdom, with more than 3,000 organizations in 60 countries.

The following is the carbon emission disclosure formula developed in this study (Choi, et al, 2013):

$$CED = (\sum di / M) \times 100\%$$

Keterangan:

*CED* = carbon emission disclosure

$\sum di$  = The total score of 1 obtained by the company

*M* = Maximum total items that can be disclosed (18 items)

#### *Company Size*

In this study, firm size was measured using the natural logarithm of total assets. The use of natural logarithms in this study is used to reduce data fluctuations without reducing the original value. The formula used to calculate the firm size variable is (Linggasari, 2015):

Firm Size = Natural logarithm value of the company's total assets

#### *Company Age*

The age of the company is the length of time the company has been since the company was founded (Poerwadarminata, 2003). In this study, the age of the company is assessed from the time the company was founded until the year of research.

#### *Industry Type*

The type of industry in this study groups industries which are divided into two categories, namely non-intensive industries in producing carbon emissions and industries that are intensive in producing carbon emissions. This industrial grouping is in accordance with the policy issued by the GICS (Global Industry Classification Standard) where industries classified as carbon emission intensive are energy, transportation, materials and utilities while non-carbon emission intensive are in addition to energy, transportation, materials and utilities (Suhardi, 2015). The type of industry is measured by a dummy variable. Industries that are included in the group that are intensive in producing carbon emissions are given a number 1 while non-intensive industries are given a number 0.

#### *Institutional Ownership Structure*

Institutional ownership is ownership of company shares owned by institutions or institutions such as insurance companies, banks, investment companies and other institutional ownership (Tarjo, 2008). The formula used to calculate the Institutional Ownership Structure is (Boediono, 2005):

*Institutions x 100%*

Institutional Ownership =

*Total Shares*

*Shares Owned by*

### *Media Exposure*

*Media exposure* is an activity of listening, viewing and reading mass media messages or having experience and attention to these messages, which can occur at the individual or group level (Rachmat, 2005). Media Exposure is measured using a dummy variable where the value is 1 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 and sustainability reports. While the value 0 on the contrary (Jannah and Muid, 2014).

### *Leverage*

*Leverage* is a balance or comparison between the amount of long-term debt with its own capital (Riyanto, 2008). *Leverage* in this study is measured from the Debt to Equity ratio (DER) because DER reflects the large proportion between total debt (total debt) and total shareholder's equity (total own capital). The formula used to calculate the Debt to Equity Ratio (Debt to Equity Ratio) is (Husnan and Pudjiastuti, 2004):

### *Profitability*

Profitability is the ability of a company to make a profit (profit). This variable aims to measure the efficiency of the company's activities and the company's ability to earn profits. The scale method of measuring data on this variable uses a ratio.

### *Data analysis method*

The statistical analysis method used is the multiple regression method. Multiple regression method is a statistical method to test the relationship between several independent variables to one dependent variable. This analysis aims to examine the relationship between research variables and determine the magnitude of the influence of each independent variable on the dependent variable.

## **RESULTS AND DISCUSSION**

### **Descriptive Analysis Results**

The following provides descriptive statistical results of the variables of Disclosure of Carbon Emissions, Company Size, Company Age, Industry Type, Institutional Ownership Structure, Media Exposure, Leverage, Profitability and Environmental Performance:

#### *Classic Assumption Test Results*

Before testing the hypothesis, the classical assumption tests were carried out such as normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. The test results show that all the data used in the variables of this study are normally distributed and all variables used in this study are free from multicollinearity, heteroscedasticity and autocorrelation of data.

#### *Multiple Linear Regression Analysis Results*

The model designed in this study involves 7 variables, namely Company Size, Company Age, Industry Type, Institutional Ownership Structure, Media Exposure, Leverage and Profitability..

### **Hypothesis Test Results (Uji t)**

#### **Company Size Against Carbon Emission Disclosure**

Based on the results of the tests carried out and presented in table 4, the t-count value is 2.301 and the P-value is 0.024 and the coefficient value is positive 0.226. Then t table is 1,989. Thus, it is known that t count (2.301) > t table (1.989), P value (0.024) < (0.05) and the value of the coefficient is positive. So it can be concluded that H1 is accepted (Company Size has a positive and significant effect on Disclosure of Carbon Emissions).

Company Age Against Carbon Emission Disclosure

Based on the results of the tests carried out and presented in table 4, the t-count value is 3.687 and the P-value is 0.000 and the coefficient value is positive 0.314. Then t table is 1,989. Thus, it is known that t count (3.687) > t table (1.989), P value (0.000) < (0.05) and the value of the coefficient is positive. So it can be concluded that H2 is accepted (Company age has a positive and significant effect on Disclosure of Carbon Emissions).

#### *Type of Industry Positively Affects Carbon Emission Disclosure*

Based on the results of the tests carried out and presented in table 4, the t-count value is 2.301 and the P-value is 0.024 and the coefficient value is positive 0.191. Then t table is 1,989. Thus, it is known that t count (2.301) > t table (1.989), P value (0.024) < (0.05) and the value of the coefficient is positive. So it can be concluded that H3 is accepted (Type of Industry has a positive and significant effect on Disclosure of Carbon Emissions).

#### *Institutional Ownership Structure of Carbon Emission Disclosure*

Based on the results of the tests carried out and presented in table 4, the t value is -3.368 and the P value is 0.001 and the coefficient is negative -0.309. Then t table is 1,989. Thus, it is known that t count (-3.368) > t table (1.989), P value (0.001) < (0.05) and the value of the coefficient is negative. So it can be concluded that H4 is accepted (Institutional Ownership Structure has a negative and significant effect on Disclosure of Carbon Emissions).

#### *Media Exposure To Carbon Emission Disclosure*

Based on the results of the tests carried out and presented in table 4.4, the t-count value is 2.747 and the P value is 0.008 and the coefficient value is positive 0.266. Then t table is 1,989. Thus, it is known that t count (2.747) > t table (1.989), P value (0.008) < (0.05) and the value of the coefficient is positive. So it can be concluded that H5 is accepted (Media Exposure has a positive and significant effect on Disclosure of Carbon Emissions).

#### *Leverage To Carbon Emission Disclosure*

Based on the results of the tests carried out and presented in table 4, the t-count value is 1.028 and the P-value is 0.307 and the coefficient value is positive 0.083. Then t table is 1,989. Thus, it is known that t arithmetic (1.028) > t table (1.989), P value (0.307) < (0.05) and the value of the coefficient is positive. So it can be concluded that H6 is rejected (Leverage has no effect on Disclosure of Carbon Emissions).

#### *Profitability To Carbon Emission Disclosure*

Based on the results of the tests carried out and presented in table 4, the t-count value is 0.251 and the P value is 0.802 and the coefficient value is positive 0.020. Then t table is 1,989. Thus, it is known that t arithmetic (0.251) > t table (1.989), P value (0.802) < (0.05) and the value of the coefficient is positive. So it can be concluded that H7 is rejected (Profitability has no effect on Disclosure of Carbon Emissions).

#### *Koefisien Determinasi (R<sup>2</sup>)*

The coefficient of determination is used to explain the goodness of the regression model in predicting the dependent variable. The higher the coefficient of determination, the better the ability of the independent variable to explain the dependent variable. To measure the percentage contribution of the variables of Company Size, Company Age, Industry Type, Institutional Ownership Structure, Media Exposure, Leverage and Profitability to the Carbon Emission Disclosure (CED) variable, the adjusted R2 coefficient value is used. From the test results using SPSS shown in the table below, it can be seen that the value of Adjusted R2 is 0.512, this means that the independent variables of Company Size, Company Age, Industry Type, Institutional Ownership Structure, Media Exposure, Leverage and Profitability can explain the variation of the dependent variable CED by 51.2%. The remaining 48.8% is explained by other variables from outside the regression model.

## **CONCLUSION**

Based on the data analysis and discussion that has been carried out in the previous chapter, the following conclusions can be drawn: 1) The results of the first hypothesis testing show that the firm size variable affects the disclosure of carbon emissions; 2) The results of testing the second hypothesis show that the age of the company has an effect on the disclosure of carbon emissions; 3) The results of testing the third hypothesis show that the industrial type variable has an effect on the disclosure of carbon emissions; 4) The results of testing the fourth hypothesis show that the firm size variable has an effect on the disclosure of carbon emissions; 5) The results of testing the fifth hypothesis show that the media exposure variable has an effect on the disclosure of carbon emissions; 6) The results of testing the sixth hypothesis show that the leverage variable has no effect on the disclosure of carbon emissions; and 7) The results of testing the seventh hypothesis show that the profitability variable has an effect on the disclosure of carbon emissions.

## REFERENCES

- Azmi, Z., & Januryanti, J. (2021). Faktor-Faktor Yang Mempengaruhi Sticky Cost. J-MAS (Jurnal Manajemen dan Sains), 6(1), 274-280.
- Azmi, Z., & Murialti, N. (2018). Pengaruh Corporate Governance Terhadap Pelaporan Online Informasi Strategik Pada Perusahaan Yang Terindeks LQ45. Jurnal Akuntansi Dan Ekonomika, 8(2), 143-152.
- Azmi, Z. & Nuraini, N., (2020). Emisi Karbon dan Akuntansi Manajemen (Tinjauan terhadap pengungkapannya dan corporate governance). Tata Kelola dan Akuntabilitas. Cetakan Pertama, Penerbit Jurusan Akuntansi FE UR 2020,
- Choi, Bo Bae, Doowon Lee dan Jim Psaros. (2013). *An Analysis Of Australian Company Carbon Emission Disclosures*. Pacific Accounting Review Vol. 25 No. 1, 2013 pp. 58-79.
- Clarkson, P. M., Li, Yue., Gordon D, R. dan Florin P, V.. (2008). *Revisiting The Relation Between Environmental Performance And Environmental Disclosure: An Empirical Analysis*. Accounting, Organizations and Society volume 33, Issues 4-5, 303-327.
- Dawkins, Cedric dan John Fraas. (2011). *The Impact Of Environmental Performance And Visibility On Corporate Climate Change Disclosure*. Journal Of Business Ethics 100 (2):303 – 322 (2011).
- Deegan, C. 2004. "Financial Accounting Theory". McGraw-Hill Book Company, Sydney.
- Deegan, C. dan Unerman, J.. (2011). *Financial Accounting Theory European Edition*. McGraw-Hill Education (UK) Limited (DU).
- Ghomi Borghei, Zahra & Philomena Leung. (2013). *An Empirical Analysis Of The Determinants Of Greenhouse Gas Voluntary Disclosure In Australia*. Sciedu Press Vol 2, No 1.
- Ghozali, Imam. (2016). *Aplikasi Analisis Multivariate Dengan Program SPSS*. Semarang : Badan Penerbit Universitas Diponegoro.
- Jannah, Richatul. (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)*. Jurnal Fakultas Ekonomika dan Bisnis, Universitas Diponegoro.
- Linggasari, Elsa. (2015). *Pengaruh Karakteristik Perusahaan Terhadap Carbon Emission Disclosure (Studi Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Periode 2011-2013)*. Jurnal Fakultas Ekonomika dan Bisnis, Universitas Diponegoro.
- Lorenzo, J.-Manel. P., Luiz. R.-Dominguez., Isabel. G.-Alvarez & Isabel-Maria. (2009). *Factors Influencing The Disclosure Of Greenhouse Gas Emissions In Companies World-Wide*. Journal of Management Decisions, Vol.47,pp, 1133-1157.
- Santoso, Singgih. (2012). *Aplikasi SPSS Pada Statistik Parametrik*. Jakarta : PT. Gramedia.
- Wang, Jianling, Song Lin & Shujie Yao. (2013). *The Determinants of Corporate Social Responsibility Disclosure: Evidence From China*. The Journal of Applied Business Research Volume 29, Number 6.

## TABLE

**Table 1**  
**Descriptive Statistics of Research Variables**

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
CED	81	.06	.72	.2168	.15164
SIZE	81	.82	1.20	.9690	.10099
AGE	81	17	81	38.23	14.961
TYPE	81	0	1	.68	.470
IOS	81	.20	1.00	.6335	.19810
MEDIA	81	0	1	.49	.503
DER	81	-31.78	7.40	.5827	3.80758
ROA	81	-.35	0,90	.0979	.16795
Valid N (listwise)	81				

**Table 2**  
**Multiple Regression Analysis Results**  
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.237	.144		-1.654	.102
	SIZE	.339	.147	.226	2.301	.024
	AGE	.003	.001	.314	3.687	.000
	TYPE	.062	.027	.191	2.301	.024
	IOS	-.228	.068	-.309	-3.368	.001
	MEDIA	.080	.029	.266	2.747	.008
	DER	.003	.003	.083	1.028	.307
	ROA	.007	.009	.265	.251	.802

a. Dependent Variable: CED

**Table 3**  
**Coefficient of Determination Test Results**  
**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate	Durbin-Watson
1	.748 <sup>a</sup>	.559	.512	.10596	1.908

a. Predictors: (Constant), ROA, TYPE, DER, AGE, MEDIA, IOS, SIZE

b. Dependent Variable: CED