FINANCIAL DISTRESS, ENVIRONMENTAL PERFORMANCE AND CARBON EMISSION DISCLOSURE

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Abstract

This study seeks to acquire empirical evidence regarding the impact of financial distress and environmental performance on carbon emission disclosure. The employed study methodology is quantitative, utilizing secondary data from non-financial firms registered on the Indonesia Stock Exchange (IDX). This research employs purposive sampling, encompassing a total of 33 organizations sampled from 2017 to 2021. The analytical method employed was multiple linear regression analysis, executed utilizing the STATA 17.0 software. The findings of this study demonstrate that financial distress adversely impacts carbon emission disclosure, but environmental performance does not have an influence on carbon emission disclosure.

Keywords: Carbon Emission Disclosure, Financial Distress, Environmental Perfomance

Abstrak

Penelitian ini bertujuan untuk memperoleh bukti empiris terkait pengaruh financial distress dan kinerja lingkungan terhadap carbon emission disclosure. Metodologi penelitian yang digunakan adalah kuantitatif, dengan menggunakan data sekunder dari perusahaan nonkeuangan yang terdaftar di Bursa Efek Indonesia (BEI). Penelitian ini menggunakan purposive sampling, yang mencakup total 33 perusahaan yang diambil sampelnya dari tahun 2017 hingga 2021. Metode analisis yang digunakan adalah analisis regresi linier berganda, yang dilakukan dengan menggunakan perangkat lunak STATA 17.0. Temuan penelitian ini menunjukkan bahwa financial distress berdampak menurunkan carbon emission disclosure, tetapi kinerja lingkungan tidak menunjukkan pengaruh terhadap carbon emission disclosure

Kata Kunci: *Carbon Emission Disclosure, Financial Distress, Kinerja Lingkungan*

INTRODUCTION

In recent years, carbon emission disclosure has emerged as a significant issue in numerous nations, including Indonesia. This matter pertains to the effects of climate change. Climate change jeopardises organisational sustainability, as corporations significantly contribute to carbon emissions that drive climate change (Jannah & Muid, 2014). Carbon emission disclosure represents an entity's impact on environmental change, particularly global warming. A business entity's existence is inherently linked to the community context, necessitating that the company's operations conform to the prevailing societal values and standards. This has resulted in a growing need for information from firms regarding environmental disclosure, particularly concerning carbon emissions. Consequently, corporations must enhance carbon emission disclosure to attain environmental legitimacy (Akhiroh, 2016).

Companies have not fully implemented carbon emission disclosure. Disclosure of carbon emissions by firms in poorer nations remains voluntary. The resources and operations conducted by corporations in developing nations remain comparatively limited (Irwhantoko & Basuki, 2016). Nonetheless, other nations have emulated this approach and pledged to diminish greenhouse gas emissions, including carbon, by implementing obligatory regulations for corporations to declare their carbon emissions (L. Luo et al., 2013). Indonesia has pledged to engage in carbon emission reduction initiatives, as outlined in Law No. 17 of 2004, which mandates voluntary disclosure of carbon emissions as one method of compliance. Carbon emission disclosure has significant potential for companies to enhance trust among the public, shareholders, and government entities (Rahmadhani & Indriyani, 2019). Disclosure of carbon emissions will enable companies to uphold trust, quality, and value.

The Indonesian government is undertaking initiatives and promises to mitigate carbon emissions; firms will be mandated to minimise and report their carbon emissions. Conversely, numerous studies indicate that revealing carbon emissions incurs substantial expenses (Sari, 2016; Dewi et al., 2019). Financial distress signifies a company's leverage, reflecting its assets and the financial dangers that may impose future burdens. An increased leverage ratio indicates a greater amount of a company's debt. Firms with significant indebtedness typically prioritise debt repayment above enforcing carbon emission disclosure (Permatasari & Khoirunnisa, 2020). Companies facing financial distress may inadequately disclose their carbon emissions. Consequently, academics are examining the impact of a company's financial distress on carbon emission disclosure.

Carbon emission disclosure is intrinsically linked to the company's environmental performance. Environmental performance constitutes a component of the company's initiatives to safeguard the environment, as its operations contribute to environmental degradation, particularly through chemicals and emissions present in raw materials and equipment (Anggraeni, 2015). Consequently, corporations must enhance their environmental performance and provide pertinent environmental information. Clarkson et al. (2008) assert that firms exhibiting strong environmental performance typically implement proactive ways to address environmental issues. It promotes organisations to engage in

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environmental disclosure practices, including the reporting of carbon emissions. Research by Dawkins & Fraas (2011) and Priliana & Ermaya (2023) indicates that organisations exhibiting strong environmental performance typically implement proactive ways to address environmental issues.

This study employs non-financial corporate entities as subjects for investigation, informed by the phenomena and discrepancies observed in prior research findings. Apriliana (2019) defines non-financial firms as entities that generate significant carbon emissions and substantially affect the surrounding environment through their operating activities. This study aims to examine the impact of financial distress and environmental performance on carbon emission disclosure.

This research offers multiple significant contributions. First, this study is the first study to analyze the relationship between financial distress and environmental performance on carbon emission disclosure in Indonesia. Most previous studies (Akhiroh, 2016; Irwhantoko & Basuki, 2016; Jannah & Muid, 2014) only focus on common variables, such as total assets, profitability, and leverage. Second, this study contributes by complementing previous literature by examining the relationship between financial distress and environmental performance on carbon emission disclosure. Studies that discuss carbon emission disclosure in Indonesia still need to be expanded.

Ultimately, carbon emission disclosure represents a company's contribution to environmental change, particularly on global warming. This situation generates a growing necessity for corporate information regarding environmental disclosure, particularly about carbon emissions, in reaction to current demands. This study used a carbon emission disclosure index purported to be more precise, namely one derived from the CDP (Carbon Disclosure Project) and formulated by Choi et al. (2013). This work is significant as prior research in the Indonesian context has not utilised this index, thereby enhancing the existing empirical findings.

LITERATURE REVIEW

Legitimacy Theory

Lindblom (1994) posits that legitimacy is a dynamic concept that evolves with temporal and spatial variations. Shifts in societal expectations might render previously accepted norms obsolete, resulting in a genuine divergence between public anticipations of organizational conduct and actual organizational behaviour. The legitimacy sought from the public is that the company's operational operations adhere to the established limitations and norms in line with applicable regulations (Deegan, 2011). The company will achieve legitimacy if its predicted outcomes align with those of the community. Legitimacy theory examines the interaction between corporations and society as mediated by governmental rules (Irwhantoko & Basuki, 2016). This thesis elucidates the impetus for an organization's environmental disclosure.

Legitimacy theory is used in this study because it involves companies and communities in the locations where the company operates to generate profits. Based on this theory, companies' disclosure of carbon emissions is one step to gaining legitimacy from the surrounding community. The legitimacy obtained

shows the company's sustainable operations because the company has complied with the norms and values in the surrounding environment.

Stakeholder Theory

Stakeholders possess the capacity to influence the company in executing its operations, including the process of making disclosures. Borghei-Ghomi and Leung (2013) contend that stakeholders possess varying expectations of corporations, and to fulfil these expectations, stakeholders may exert pressure on companies, either directly or indirectly, to enhance environmental disclosures. The organisation must consistently collaborate with its stakeholders to ensure alignment with its vision. Deegan (2011) demonstrated that stakeholders had diverse interests and perspectives about organisational operations, necessitating the "negotiation" of distinct social contracts with stakeholders holding varying interests.

Stakeholder theory is used in this study because there is a relationship between companies and stakeholders. Companies cannot separate themselves from the social and environment in which they operate. Companies are required to accommodate the interests of their surroundings so that their interests can be optimally achieved. Thus, companies need to map the various interests of stakeholders, which leads to a stronger relationship between the company and stakeholders. So, carbon emission disclosure can balance the interests of stakeholders and the company itself.

Carbon Emission Disclosure

Carbon emission disclosure represents a company's role in addressing environmental change, particularly regarding global warming. The presence of business entities is undoubtedly intertwined with the community context, necessitating that the company's operations align with established values and norms. This situation has resulted in a heightened demand for information from companies regarding the disclosure of environmental factors, particularly concerning carbon emissions, in light of current requirements. Consequently, it is crucial for organisations to enhance the transparency of information related to carbon emissions in order to secure legitimacy from their external environment (Akhiroh, 2016). The measurement of carbon emission disclosure can be achieved through an index derived from the CDP (Carbon Disclosure Project), as established by Choi et al. (2013). Utilising the subsequent formula:

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

Financial Distress

Financial distress occurs when a company's financial resources diminish. A corporation typically undergoes financial distress prior to bankruptcy. Financial distress represents a decline in financial conditions that may culminate in insolvency or liquidation (Platt & Platt, 2002). This condition indicates that the company has inadequate financial performance. Financial crisis dissuades organisations from disclosing their duties, as those in such circumstances prioritise

utilising their resources to meet their commitments, making it challenging for them to attain public legitimacy (Jannah & Muid, 2014). Financial distress is indicated by leverage. Leverage refers to a company's assets and financial liabilities that may impose future burdens. A higher leverage ratio indicates an increased value of the company's debt (Permatasari & Khoirunnisa, 2020). This study employs the Debt to Asset Ratio (DAR) for assessment, similar to the investigations carried out by Choi et al. (2013), Luo et al. (2013), Jannah & Muid (2014), Akhiroh (2016), and Rahmadhani & Indriyani (2019). The subsequent formula is employed to ascertain financial distress:

$$\text{DAR} = \frac{\text{Total Liability}}{\text{Total Assets}}$$

Environmental Perfomance

Environmental performance refers to a company's efforts to safeguard the surrounding environment as a responsibility stemming from its operational influence, including the processing of raw materials and energy consumption (Rahmawati & Subardjo, 2017). To enhance the company's environmental performance, the potential for environmental harm must be mitigated; otherwise, performance would be deemed inadequate if the operational activities of major corporations result in substantial environmental damage (Chasbiandani et al., 2019). Performance measurement is conducted by activity performance indicators that employ performance data sourced from internal or external datasets (Ikhsan, 2008). This study will conduct environmental performance measurements based on the annual PROPER findings published by the Ministry of Environment and Forestry, Republic of Indonesia. PROPER aims to motivate enterprises to enhance their environmental management performance, hence reducing their ecological effect. Each organisation will achieve optimal outcomes for gold, green, blue, and red indicators, while the least favourable outcomes will be represented by black indicators.

Hypothesis

Financial distress influences carbon emission disclosure. Companies in this state will devise a solution to alleviate this burden. One method to alleviate such demands is to diminish corporate disclosure (Rahmadhani & Indriyani, 2019). Disclosure of carbon emissions is regarded as a risk that corporations in declining financial conditions must address (Gantyowati & Nugraheni, 2014). Companies experiencing financial decline may prioritise financing corporate debt or other critical financial obligations. Consequently, corporations will diminish carbon emission reporting (Rahmadhani & Indriyani, 2019).

In this study, financial distress will be measured using leverage ratios like the research conducted by Choi et al. (2013), Luo et al. (2013), Jannah & Muid (2014), Akhiroh (2016), and Rahmadhani & Indriyani (2019). A high level of leverage indicates that the company has a large debt, so its disclosure is comparatively less. This statement is in line with research conducted by Jannah & Muid (2014), Poluan & Nugroho (2015), and Rahmadhani & Indriyani (2019).

H₁: Financial distress is negatively associated with carbon emission disclosure

Not all corporations disclose their environmental performance, as such disclosure remains voluntary in Indonesia. Companies that provide environmental disclosures typically exhibit strong environmental performance, as they implement many proactive ways to address environmental issues. This aligns with the findings of Dawkins & Fraas (2011) and Calcarina (2018), which demonstrate that companies exhibiting strong environmental performance tend to disclose environmental information and their performance regarding climate change and carbon emissions management. Companies share environmental information to mitigate adverse media coverage, enhance their image, preserve their reputation, and sustain their legitimacy (Luo et al., 2019).

Environmental performance in this study was measured using PROPER such as research conducted by Jannah & Muid (2014), Ulfa & Ermaya (2019), and Maulidiavitasari & Yanthi (2021). Companies with good environmental performance tend to make environmental disclosures compared to companies with poor environmental performance. This statement is in line with Zulaikha & Prafitri (2016) which proves that environmental performance has a positive effect on carbon emission disclosure.

H₂: Environmental performance is positively associated with carbon emission disclosure

Control Variable

This study employed a control variable to regulate the relationship between the independent variable and the dependent variable, as the control variable is hypothesised to influence the dependent variable (Retno & Priantinah, 2012). This study employs control variables like size, profitability, industry classification, and regulatory pressure.

1. Size

   The size indicates the company's magnitude based on total assets and total sales (Suhardi & Purwanto, 2015). This study measures size using the natural logarithm of total assets. This study employs natural logarithms to mitigate data volatility while preserving the original value. The size variable can be expressed as follows:

   $$\text{Size} = L_n \text{ (Total Assets)}$$

2. Profitability

   Profitability indicates the organization's capacity to produce profits. The profitability of a corporation is assessed by the Return on Assets (ROA) ratio. Return on Assets (ROA) is assessed by evaluating the ratio of net profit to the company's total assets within a certain time. The formula for calculating ROA is as follows:

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

3. Type of Industry

Industries that generate significant emissions during their manufacturing and operational processes are designated as emissions-intensive industries (Rahmadhani & Indriyani, 2019). The industrial kind is quantified via dummy variables. Firms in emissions-intensive sectors receive a score of 1, whereas those in non-emissions-intensive sectors are assigned a score of 0.

4. Regulatory Pressure

Regulatory pressure can be linked to the government's demands as one of the company's stakeholders in supervising its operational activities, especially those that have the potential to pollute the environment (Dewi et al., 2019). Regulatory pressure is measured using dummy variables. State-Owned Enterprises (SOE) companies are given a score of 1, while non-SOE companies are given a score of 0.

The conceptual structure of this investigation is illustrated in Figure 1.

Figure 1 Conceptual Framework
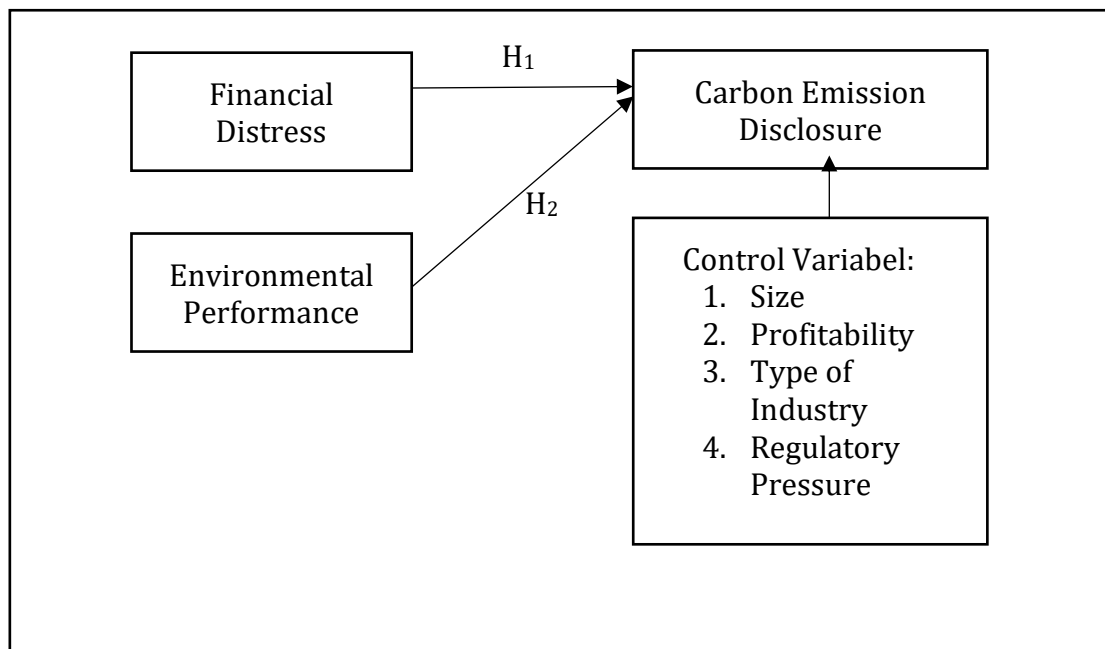
Research Model Source: Data processed by author (2024)

RESEARCH METHODOLOGY

This study employs a research approach that utilises hypothesis testing through a regression analysis to investigate the impact of financial distress on carbon emission disclosure, alongside several control factors. The research framework is as follows:

$$CED = \alpha + \beta1\ FD\ + \beta2\ KL + \beta3\ SIZE +\ \beta4\ ROA +\ \beta5\ TYPE + \beta6\ RP + e$$

Information:
α = Constant
$\beta1 - \beta6$ = Regression Coefficient
CED = Carbon Emission Disclosure
FD = Financial Distress
EP = Environmental Perfomance
SIZE = Size
ROA = Profitability
TYPE = Type of Industry
RP = Regulatory Pressure
E = Error

The independent variables in this study are financial distress and environmental performance and the dependent variable in this study is carbon emission disclosure.

Table 1 Operationalization of Research Variables

Variable	Indicator	Formula
Financial Distress (FD)	Companies that experience a decline in financial performance or are experiencing financial distress. Financial distress is proxied by leverage (Rahmadhani & Indriyani, 2019).	$DAR = \dfrac{\text{Total Liability}}{\text{Total Assets}}$
Environmental performance (EP)	Environmental performance refers to a company's capacity to be accountable for its surrounding environment (Setyaningsih & Asyik, 2016). Environmental performance evaluation is conducted via PROPER (Maulidiavitasari & Yanthi, 2021).	PROPER Rating
Carbon Emission Disclosure (CED)	Carbon Emission Disclosure is a form of entity contribution to environmental change, especially global warming (Choi et al., 2013).	$CED = \dfrac{\sum di}{M}$

Source: Created by the authors (2004)

This research is an empirical study conducted on non-financial companies listed on the Indonesia Stock Exchange for the period of 2017-2021. The reason for selecting this period is due to the availability of financial statements and annual reports that are accessible to the public, allowing the collected data to be used in this research. The subjects of this study are non-financial companies listed on the Indonesia Stock Exchange, covering 11 sectors excluding financial factors, over the span of 2017 to 2021, ensuring that the data used is representative of current conditions.

Table 2 Research Sample

Information	Amount
Non-financial corporations listed on the Indonesia Stock Exchange (IDX) from 2017 to 2021.	665
Non-financial corporations that were not continuously listed on the Indonesia Stock Exchange between 2017 and 2021.	(259)
Non-financial corporations that refrained from utilising the IDR (Rupiah) denomination in their financial filings from 2017 to 2021.	(92)
Non-financial corporations who failed to disclose carbon emission data in their Annual Reports from 2017 to 2021.	(245)
Non-financial corporations that failed to disclose information pertaining to environmental performance.	(36)
The quantity of non-financial firm samples.	**33**
Total Observations (five years)	**165**

Source: Author's own calculations based on our research data (2024)

RESULT AND DISCUSSIONS

Several results of research data processing, as presented in the Table 3 descriptive statistics and Table 4 regression analysis result, can be further elaborated as follows:

Table 3 Descriptive Statistics

Variable	Mean	Std.Dev	Min	Max
CED	0,6124	0,1393	0,1100	0,8300
FD	0,4982	0,3232	0,0925	1,9253
EP	3,4849	0,6009	3,0000	5,0000
SIZE	30,4654	1,2516	28,1019	33,4945
ROA	0,0791	0,1407	-0,5825	0,5990
TIND	0,4242	0,4957	0,0000	1,0000
REGPRESS	0,1515	0,3596	0,0000	1,0000

Source: Data Processed by the Author (2024)

Based on Table 3, the results of the descriptive statistics above can be explained: carbon emission disclosure shows that the average value obtained is 0.6124 and the standard deviation value is 0.1393. Financial distress has an average value of 0.4982 and a standard deviation value of 0.3232. Environmental performance has an average value of 3.4849 and a standard deviation value of 0.6009. Regarding the control variable, size had an average value of 30.4654 and had a standard deviation value of 1.2516. Profitability (ROA) has an average value of 0.0791 and has a standard deviation value of 0.1407. The industrial type has an average value of 0.4242 and has a standard deviation value of 0.4957. Regulatory pressure has an average value of 0.1515 and has a standard deviation value of 0.3596. This study has a sample of 33 with a total of 165 observations over five years. This total observation is relatively small because in Indonesia carbon emission disclosure is still voluntary.

Table 4 Regression Analysis Results

CED	Coefficient	Std. err.	t	P>t	[95% conf.	interval]
FD (H1)	-0,2151	0,0257	-8,3700	0,0000	-0,2659	-0,1164
EP (H2)	0,0127	0,0160	0,8000	0,4270	-0,0189	0,0444
SIZE	0,0219	0,0068	3,2300	0,0010	0,0085	0,0353
ROA	0, 0955	0, 0632	1,5100	0,1330	-0, 0293	0,2203
TIND	0, 0079	0, 0183	0,4300	0,6680	-0,0283	0, 0440
REGPRESS	-0,0129	0,0265	-0,4900	0,6260	-0,0652	0,0394
_cons	0,0004	0,2187	0,0000	0,9980	-0,4315	0,4324

Source: Data Processed by the Author (2024)

The regression model test findings in Table 4 indicate a significance value of 0.0000, signifying a negative and significant correlation between financial distress and carbon emission disclosure at a 1% significance level. This arises from multiple factors, including a greater emphasis on fulfilling financial commitments over environmental responsibility activities and the potential scarcity of resources to develop and execute carbon emission reduction programs (Rahmadhani & Indriyani, 2019).

This study aligns with the findings of Rahmadhani & Indriyani (2019) and Gantyowati & Nugraheni (2014), demonstrating that financial distress exerts a considerable detrimental impact. Consequently, a company's significant financial distress will diminish its carbon emission disclosures (Rahmadhani & Indriyani, 2019). Companies will allocate additional resources for carbon emission disclosure due to their poor financial state.

The regression model test findings in Table 4 yielded a significance value of 0.4270, indicating that environmental performance is unrelated to carbon emission disclosure. This conclusion is intriguing; despite corporations exhibiting strong environmental performance, it does not inherently imply a propensity to reveal information regarding their carbon emissions. Consequently, corporations should conduct a more thorough assessment of the factors influencing carbon emission disclosure practices.

This study aligns with the findings of Apriliana (2019), Anggraeni (2015), and Jannah & Muid (2014), which indicated that environmental performance does not influence carbon emission disclosure. This is predicated on the observation that carbon emission declarations by selected enterprises according to the PROPER assessment standards established by the Ministry of Environment and Forestry are not extensively reported in their yearly reports.

In this study, the majority of enterprises were categorized in the blue classification (score 3) solely based on water pollution criteria. The indicators are: 1) the company possesses a wastewater disposal permit; 2) the company collects and analyses wastewater samples at least monthly; 3) the company reports the outcomes of its wastewater monitoring; 4) the company maintains an effective water discharge meter; 5) the company performs daily measurements of wastewater discharge; 6) The concentration of wastewater complies with the BMAL or the stipulations outlined in the permission; 7) The quality of load-based wastewater adheres to the BMAL or the stipulations outlined in the permit.

According to the PROPER criteria, air pollution is broken down into two groups: green (score 4) and gold (score 5). Green (score 4) means that the amount of BME emissions is less than 50% (Emission Quality Standard), and gold (score 5) means that the amount of BME emissions is less than 5% (Pratiwi et al., 2021).

The more significant a company's involvement in environmental initiatives, the higher the necessity for transparency regarding its environmental performance in the annual report. This demonstrates the transparency of firms regarding their interests and responsibilities, allowing the public to understand the degree of their accountability and contributions to the environment (Pratiwi et al., 2021). Conversely, the involvement of firms in environmental initiatives aimed at emission reduction is limited, resulting in minimal disclosure of environmental performance in their annual reports.

The initial control variable in this study is size, quantified by total assets and converted into natural logarithms (Ln). In the regression model test, the control variable size exhibits a positive correlation with carbon emission disclosure. The findings of this study align with the research by Choi et al. (2013), which demonstrated a favourable correlation between size and carbon emission disclosure. This indicates that major corporations are inclined to report carbon emissions, while smaller entities are not (Sari, 2016). Shareholders prioritise corporate social initiatives and utilise disclosure to convey the outcomes of corporate social businesses to garner substantial public support. Large corporations typically engage extensively with the media, lawmakers, non-governmental organisations, regulators, and the public, resulting in heightened pressure from external entities (Brammer & Pavelin, 2008).

The second control variable is return on assets (ROA). The regression model test findings indicate that profitability is unrelated to carbon emission disclosure. The findings of this analysis align with those of Irwhantoko & Basuki (2016), which indicate no correlation between profitability (ROA) and carbon emission disclosure. This may result from the disparity between profits and the costs associated with irrelevant disclosures. When a corporation reveals carbon emissions in a manner that obscures comprehension for investors and stakeholders, such disclosure is of minimal value (Irwhantoko & Basuki, 2016). Despite the company's substantial prosperity, it may prioritise resource allocation towards other areas, resulting in diminished emphasis on environmental awareness and regulatory compliance.

The third control variable is the industry type categorised in the IDX Industrial Classification (IDX-IC). The regression model test findings indicate that the kind of industry is unrelated to carbon emission disclosure. The findings of this study align with the research conducted by Ayu & Adiputra (2022) and Mahadewi et al. (2023), which indicates no correlation between industry type and carbon emission disclosure. Carbon emission disclosure is determined by the management policies of individual companies, hence it is unaffected by the company's industrial type. Companies that produce significant carbon emissions do not consistently declare these emissions, as the existing framework for carbon emission disclosure remains largely voluntary. The industry type does not influence companies' awareness in publishing carbon emission disclosures, as both emissions-intensive and non-emissions-intensive industries aim to disclose their carbon emission performance to attain legitimacy from the broader community (Mahadewi et al.,

2023). The carbon intensity of a corporation does not influence management's decision to disclose information (Ayu & Adiputra, 2022).

The final control variable is regulatory pressure. The regression model test revealed that regulatory pressure is not associated with carbon emission disclosure. The findings of this study align with the research undertaken by Andriadi & Werastuti (2020) and Faisal et al. (2018). The findings of this study suggest that non-state-owned enterprises are inclined to provide a broader spectrum of carbon information. Additionally, based on their annual reports from 2017 to 2021, it is arguable that the majority of non-SOE corporations disclose their carbon emissions with greater consistency. Suganda et al. (2015) identify complicated bureaucracy and political pressure as the primary obstacles encountered by SOE enterprises. These restrictions likely contribute to the narrower carbon emission disclosure in state-owned enterprises compared to non-state-owned enterprises.

The research in this study provides several important implications for corporate management, investors, government, and other stakeholders. The results of this study present empirical evidence that financial distress affects carbon emission disclosure. The findings of this study are important for corporate management to maintain the company's financial performance so that it can continue to disclose quality carbon emissions. This is important to maintain the company's reputation and credibility. The findings of this study are likely useful for investors in calculating the risk of a company in the future due to financial distress. Furthermore, this study also serves as a signal for the government to provide supervision by capturing signals determining factors for low carbon emission disclosure.

CONCLUSION

In the first hypothesis test, that companies that experience financial distress tend to have lower levels of carbon emission disclosure. This can happen because these companies prioritize the allocation of funds for more urgent and critical needs, such as debt payments and operational costs, so that carbon emission disclosure becomes less noticeable.

In the second hypothesis test, that companies with good environmental performance, do not necessarily disclose information about their carbon emissions. This can happen because even if a company is involved in certain environmental activities and has good environmental performance according to the PROPER criteria, this does not mean increasing transparency or disclosure of carbon emissions in their annual reports. Companies tend to disclose less information related to carbon emissions, especially if they do not carry out significant environmental activities in terms of emission reduction.

This study employed control factors like size, profitability, industry type, and regulatory pressure. Only the size control variable demonstrated a positive correlation with carbon emission disclosure. Larger corporations are often exposed to public scrutiny and significant shareholders, prompting them to engage in social activities and utilise disclosures to convey the outcomes of their social initiatives to garner public support.

The findings of this investigation yield various significant implications.

Firstly, firm management must consistently uphold strong financial performance, as this affects the extent of carbon emission reports. Transparency is essential for preserving the company's reputation and credibility. Secondly, the results of this study will likely assist investors in assessing a company's prospective risk by evaluating the extent of carbon emission disclosure alongside the company's financial performance. Thirdly, this study indicates the necessity for government oversight by taking into account the factors influencing low carbon emission declarations.

According to the researcher's experience in this study, some constraints were found that future researchers should consider to enhance their work, as this study has deficiencies that require ongoing attention in subsequent research. The study has certain limitations, which are as follows: This study primarily examines two key areas—financial distress and environmental performance—in relation to predicting carbon emission disclosure. Additional research is recommended to examine other factors that may also influence the outcome, like company governance, stakeholder awareness, or governmental legislation. This study exclusively utilises data from the annual reports of non-financial enterprises registered on the Indonesia Stock Exchange (IDX) throughout a five-year period (2017 to 2021), incorporating reports from the COVID-19 pandemic years (particularly 2020 and 2021). Subsequent research may prolong the study duration and also contemplate the exclusion of the COVID-19 crisis year from the research timeframe. This study employs only four control variables: size, profitability, industry type, and regulatory pressure. Subsequent research could incorporate other control factors, like CFO gender and CEO competence, to mitigate any bias in the findings of this study.

REFERENCES

Akhiroh, K. K. T. (2016). The Determinant of Carbon Emission Disclosures. *Accounting Analysis Journal*, *5*(4), 326–336. http://journal.unnes.ac.id/sju/index.php/aaj

Andriadi, K. D., & Werastuti, D. N. S. (2020). Determinan Emisi Karbon Pada Sektor Industri dan Manufaktur. *Jurnal Ilmiah Mahasiswa Akuntansi) Universitas Pendidikan Ganesha*, *11*(2), 147–158.

Anggraeni, D. Y. (2015). Pengungkapan Emisi Gas Rumah Kaca, Kinerja Lingkungan, Dan Nilai Perusahaan. *Jurnal Akuntansi Dan Keuangan Indonesia*, *12*(2), 188–209. https://doi.org/10.21002/jaki.2015.11

Apriliana, E. (2019). Pengaruh Tipe Industri, Kinerja Lingkungan, Dan Profitabilitas Terhadap Carbon Emission Disclosure. *Widyakala Journal*, *6*(1), 84. https://doi.org/10.36262/widyakala.v6i1.149

Ayu, P. S. W., & Adiputra, I. M. P. (2022). Pengaruh Economic Pressure, Peringkat Proper, Tipe Industri, dan Media Exposure Terhadap Carbon Emission Disclosure. *Jurnal Akuntansi Profesi*, *13*(2), 525–535.

Borghei-Ghomi, Z., & Leung, P. (2013). An Empirical Analysis of the Determinants of Greenhouse Gas Voluntary Disclosure in Australia. *Accounting and Finance Research*, *2*(1). https://doi.org/10.5430/afr.v2n1p110

Brammer, S., & Pavelin, S. (2008). Factors influencing the quality of corporate environmental disclosure. *Business Strategy and the Environment*, *17*(2), 120–136.

Calcarina, R. A. (2018). *Determinan Greenhouse Gas Emission Disclosure pada Perusahaan Manufaktur dan Pertambangan di Indonesia*. Fakultas ekonomi dan bisnis.

Chasbiandani, T., Rizal, N., & Satria, I. I. (2019). Penerapan Green Accounting Terhadap Profitabilitas Perusahaan Di Indonesia. *AFRE (Accounting and Financial Review)*, *2*(2), 126–132.

Choi, B. B., Lee, D., & Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review*.

Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, *33*(4–5), 303–327.

Dawkins, C., & Fraas, J. W. (2011). Coming clean: The impact of environmental performance and visibility on corporate climate change disclosure. *Journal of Business Ethics*, *100*, 303–322.

Deegan, C. (2011). *EBOOK: Financial Accounting Theory: European Edition*. McGraw Hill.

Dewi, L. G. K., Yenni Latrini, M., & Rsi Respati, N. N. (2019). Determinan Carbon Emission Disclosure Perusahaan Manufaktur. *E-Jurnal Akuntansi*, *28*, 613. https://doi.org/10.24843/eja.2019.v28.i01.p24

Faisal, F., Andiningtyas, E. D., Achmad, T., Haryanto, H., & Meiranto, W. (2018). The content and determinants of greenhouse gas emission disclosure: Evidence from Indonesian companies. *Corporate Social Responsibility and Environmental Management*, *25*(6), 1397–1406. https://doi.org/10.1002/csr.1660

Gantyowati, E., & Nugraheni, R. L. (2014). The impact of financial distress status and corporate governance structures on the level of voluntary disclosure within annual reports of firms (case study of non-financial firms in Indonesia over the period of 2009-2011). *Journal of Modern Accounting and Auditing*, *10*(4).

Ikhsan, A. (2008). *Akuntansi Lingkungan Dan Pengungkapannya*. Graha Ilmu.

Irwhantoko, I., & Basuki, B. (2016). Carbon emission disclosure: Studi pada perusahaan manufaktur Indonesia. *Jurnal Akuntansi Dan Keuangan*, *18*(2), 92–104.

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)*. Fakultas Ekonomika dan Bisnis.

Lindblom, C. K. (1994). The implications of organizational legitimacy for corporate social performance and disclosure. *Critical Perspectives on Accounting Conference, New York, 1994*.

Luo, L., Tang, Q., & Lan, Y. (2013). Comparison of propensity for carbon disclosure between developing and developed countries: A resource constraint perspective. *Accounting Research Journal*, *26*(1), 6–34.

Luo, W., Guo, X., Zhong, S., & Wang, J. (2019). Environmental information disclosure quality, media attention and debt financing costs: Evidence from Chinese heavy polluting listed companies. *Journal of Cleaner Production*, *231*, 268–277.

Mahadewi, I., Ayu, A., Made, N., Erawati, A., Ayu, G., Budiasih, N., & Sudana, I. P. (2023). *Carbon Emission Disclosure Pengaruh Kinerja Lingkungan , Jenis Industri , Dan Ukuran Perusahaan Terhadap*. *4*(6), 9565–9576.

Maulidiavitasari, J., & Yanthi, M. D. (2021). Pengaruh Kinerja Lingkungan Terhadap Carbon Emission Disclosure Dengan Dewan Komisaris Independen Sebagai Variabel Moderasi. *Akuntabilitas*, *15*(1), 1–18. https://doi.org/10.29259/ja.v15i1.11849

Permatasari, & Khoirunnisa. (2020). Tinjauan Keuangan Terhadap Pengungkapan Emisi Karbon Pada Negara-Negara Di Asia Tenggara. *Seminar Nasional Dan Call For Paper 2020 : "Paradigma Pengembangan Ekonomi Kreatif Di Era 4.0,"* 149–162.

Platt, H. D., & Platt, M. B. (2002). Predicting corporate financial distress: Reflections on choice-based sample bias. *Journal of Economics and Finance*, *26*(2), 184–199. https://doi.org/10.1007/bf02755985

Poluan, G., & Nugroho, P. I. (2015). Pengaruh Mekanisme Corporate Governance Dan Kondisi Financial Distress Terhadap Luas Pengungkapan Sukarela. *Dinamika Akuntansi, Keuangan Dan Perbankan*, *4*(1), 39–56.

Pratiwi, L., Maharani, B., & Sayekti, Y. (2021). Determinants of Carbon Emission Disclosure: An Empirical Study on Indonesian Manufacturing Companies. *The Indonesian Accounting Review*, *11*(2), 197–207. https://doi.org/10.14414/tiar.v11i2.2411

Priliana, Sadira Ashia & Ermaya, H. N. L. (2023). Carbon Emission Disclosure: Kinerja Lingkungan, Carbon Performance Dan Board Diversity. *JAK (Jurnal Akuntansi) Kajian Ilmiah Akuntansi*, *10*(2), 216–233. https://doi.org/10.30656/jak.v10i2.4482

Rahmadhani, S., & Indriyani, R. (2019). Impact of Emissions Intensive Industries And Financial Distress On Voluntary Carbon Emission Disclosure. *AKRUAL: Jurnal Akuntansi*, *11*(1), 1. https://doi.org/10.26740/jaj.v11n1.p1-8

Rahmawati, M. I., & Subardjo, A. (2017). Pengaruh pengungkapan lingkungan Dan kinerja lingkungan terhadap kinerja ekonomi yang dimoderasi good corporate governance. *Jurnal Buletin Studi Ekonomi*, *22*(2), 200–226.

Retno, R. D., & Priantinah, D. (2012). Pengaruh good corporate governance dan pengungkapan corporate social responsibility terhadap nilai perusahaan (studi empiris pada perusahaan yang terdaftar di Bursa Efek Indonesia periode 2007-2010). *Nominal: Barometer Riset Akuntansi Dan Manajemen*, *1*(2), 99–103.

Sari, D. A. (2016). Analisis Faktor-Faktor Yang Mempengaruhi Carbon Emission

Disclosures di Indonesia (Studi Empiris pada Perusahaan Manufaktur dan Jasa Transportasi yang Terdaftar di Bursa Efek Indonesia). *JAB Jurnal Akuntansi & Bisnis*, *2*(2), 1–15.

Suganda, P., Sinarwati, N. K., Atmadja, A. T., & SE, A. (2015). Penilaian Kinerja Badan Usaha Milik Negara Berdasarkan Aspek Finansial dan Non Finansial Pada PT. PLN (Persero) AREA Bali Utara. *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha*, *3*(1).

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)*. Fakultas Ekonomika dan Bisnis.

Ulfa, F. N. A., & Ermaya, H. N. L. (2019). Effect of exposure media, environmental performance and industrial type on carbon emission disclosure. *Jurnal Ilmiah Akuntansi Universitas Pamulang*, *7*(2), 149–158.

Zulaikha, & Prafitri, A. (2016). Analisis Pengungkapan Emisi Gas Rumah Kaca. *Jurnal Akuntansi & Auditing*, *13*(2), 155–175.