

The Impact of Environmental Performance on Environmental Disclosure, moderated by Company Characteristics

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Abstract. Sustainability issues have increased the need for stakeholders toward environmental information disclosure. Environmental information is pivotal for stakeholders to assess a firm's environmental performance. A firm's environmental performance significantly influences a firm's environmental properly. This study examines the influence of a firm's environmental performance on Firm environmental disclosure, moderated by the firm's characteristics. The study involved fifty listed firms on Indonesia Stock Exchange (IDX) and PROPER participants (Company Performance Rating Program in Environmental Management) from 2017 to 2020. The firm's characteristics in this study refer to size, profitability, and leverage. The estimated Generalized least square panel regression test indicated that firm environmental performance significantly explains the variance of environmental disclosure. The influence of firm environmental performance on firm environmental disclosure is significantly moderated by profitability and firm size.

1 Introduction

Environmental conservation and environmental values are receiving a lot of attention these days. Consumers in today's modern world are more conscious and alert when it comes to the prosperity of their society and environment and how firms operating in their surroundings handle it (Braam et al.). In recent years, the public's need for information regarding investment decisions has grown in financial statements and sustainability reports. The community needs information on how the corporation pays attention to social and environmental actions to ensure the people's rights to live securely and peacefully, employee welfare, and food security are all met (Solikhah et al.).

World economic development has environmental impacts that result in global warming, natural disasters, and pollution. Consequently, many firms take as much responsibility for environmental concerns as economic issues. One argument for this is that firms increasingly reflect rising social expectations and stakeholder concerns. (Suttipun and Stanton), (Hidayat et al.). As the public becomes more aware of "sustainable development," such concerns have arisen. They want to ensure that corporations conduct their operations more environmentally friendly and responsible. (Yusoff et al.). While environmental reporting is becoming more common in industrialized nations, the situation is not the same in developing countries like Indonesia, although the practice has improved (Kiswanto et al.).

Environmental disclosure is a method for businesses to reveal information about their operations and how they affect the social community and the environment. Social and environmental disclosure procedures are

managerial techniques used by corporations to prevent social and environmental conflicts. They may also be considered company accountability to the public in explaining the social and environmental consequences created by the firms, including positive and negative ones, with both good and bad impacts (Kiswanto et al.). Environmental disclosure is a manifestation of the intensity of the industry in tackling environmental problems. The theoretical disclosure of liability is divided into two, namely mandatory disclosure and voluntary disclosure. Disclosure is based on the provision of compulsory disclosure standards. Mandatory disclosure is a disclosure that can be slightly required by the authorized institution(OJK). Environmental disclosure represents an industry's commitment to addressing environmental issues. However, many companies in Indonesia have yet to make this disclosure. Numerous rules require firms to perform social and environmental responsibility disclosure, such as the regulations requiring environmental information to be included in the company's annual report and sustainability reports (Irfansyah et al.).

The issue of industrial firms causing environmental damage in Indonesia is currently the focus of attention. Waste generated by industrial businesses' operational activities causes environmental damage and has created much resentment among the nearby people. Environmental pollution caused by company activities puts pressure on companies to provide transparent information about their environmental activities from various sources, including the public (Kiswanto et al.). Through the Directorate General of Law Enforcement in

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2017-2020, the Ministry of Environment and Forestry has managed public complaints regarding cases of environmental damage through direct and indirect complaints, with a total of 2,787 cases. Meanwhile, a survey conducted by the Indonesian Forum for the Environment (WALHI) states that environmental cases are the cause of the lack of reporting on social and environmental responsibility.

Firms have significant environmental obligations due to persistent demands from corporate social responsibility (CSR) and corporate sustainable development strategies. As a result, companies must improve their ecological impacts and demonstrate their commitments and accomplishments to stakeholders (Baalouch et al.). Corporate environmental disclosure (CED) has become critical to facilitating such communication and has grown in popularity (Doan and Sassen). Recent research analyzed the influence of Corporate Environmental Performance (CEP) on CED. However, some research shows that companies with better environmental performance voluntarily report more data (Clarkson et al.), (Latriadis). Others show that firms with lower performance have more incentive to improve their reports (Braam et al.); On the other hand, others describe a weak or insignificant relationship (Doan and Sassen). Aside from the criteria mentioned earlier, several studies demonstrate that a company's internal factors such as profitability, size, and leverage also play a role. However, the outcomes reveal inconsistency.

This study develops a model which combines the independent variables of previous research (environmental performance, profitability, company size, and leverage) in a new model to obtain empirical evidence as factors influencing a company's environmental disclosure. Some of the studies mentioned above reveal that study results still have gaps (inconsistencies). This research instead uses company characteristics as moderation variables to see whether its influence strengthens or weakens the impact of CEP on CED. Thus, the impact of CEP on CED is seen based on variations in the company's characteristics. The Research objectives are to analyze the impact of CEP on CED; to analyze the moderation effect of companies' characteristics (company size, profitability, and leverage) on the effect of CEP on CED.

2 Literature Review

2.1 Legitimacy Theory

Legitimacy theory is a concept that deals with environmental disclosure. According to this view, a company's commercial operations are constrained by social contracts imposed by interactions between the government, businesses, and the community. This study employs the legitimacy theory because it serves as a foundation for corporations to pay attention to what the community expects and fit with the prevalent social norms in the areas where they conduct business (Boshnak). The legitimacy hypothesis drives businesses to ensure that their actions and results are acceptable to the public. It is believed that the company's value would

rise because of the community's approval, allowing it to raise earnings. The more firms engage in their environmental operations, the more information they must include in their annual reports regarding their environmental performance. Companies utilize their annual reports to demonstrate environmental responsibility to gain community acceptance. According to legitimacy theory, companies operate in a continually changing external context, and they strive to guarantee that their actions are consistent with society's limits and standards (Nguyen et al.).

The corporation must be concerned about the social environment of the surrounding area since this attention will earn the community's confidence. In addition, the corporation must align its values with those of society. When a company's values disagree with society's values, the company's credibility is endangered. These discrepancies are known as the legitimacy gap, and they can impact a company's ability to continue operating (Hummel and Schlick).

2.2 Agency Theory

The relationship between the principal and the agent is explained by agency theory. The owner (principal) is a shareholder or investor, whereas the agent is the company's management. According to agency theory, agency connections are formed when one or more persons (principals) hire another person (agent) to deliver a service and then transfer decision-making authority to the agent. Because the agent has more information about the firm than the principle, the relationship between the principal and the agent may lead to an asymmetrical information situation (Kipnetich et al.). Several aspects might influence corporate social responsibility disclosure in an agency partnership. They are the expenses of monitoring and the costs of contracts. According to agency theory, organizations with high contract and low supervision costs report lower earnings. To put it another way, they will spend certain expenses for the sake of management (Welbeck et al.), (Michael C. Jensen and Meckling), (Boshnak).

2.3 Stakeholder Theory

The stakeholder theory describes how social and environmental responsibility disclosure is a reporting effort to offer comprehensive information to all parties involved (stakeholders). Employees, consumers, suppliers, the community, the government as a regulator, shareholders, creditors, rivals, and others are among the company's stakeholders (Naseer and Rashid). Stakeholder support is essential to the company's existence, and the company's job is to seek that support. The conversation between the firm and its stakeholders includes social and environmental disclosure (Welbeck et al.). The business is a component of a social value system that operates on a local, national, and worldwide scale. The corporation is a member of the larger community. Stakeholder management aims to provide techniques for managing numerous groups and interactions that emerge from corporate strategy.

2.4. Environmental Disclosure

Environmental disclosure include environmental information in a company's annual report (Andrikopoulos and Krikilani). Environmental disclosure or disclosure of environmental information intends to serve as a conduit between businesses, communities, and investors for economic, social, and political decision-making. (Cho et al.) indicate that disclosure is divided into voluntary and mandatory categories. Environmental information disclosure is voluntary without standardized environmental reporting guidelines (Kiswanto et al.). Companies must declare their social and environmental responsibilities under the obligatory disclosure law. The government has regulated corporate social and environmental responsibility implementation by Law No. 40 of 2007 on social and environmental responsibility. However, the regulations do not mention the requirements for the form, manner, or substance of the social and environmental responsibility report.

Environmental disclosure exhibits social responsibility. The public can evaluate the company's operations through environmental disclosure in the annual report. Corporations extensively utilize the Global Reporting Initiative (GRI) standard in making environmental disclosures (Baalouch et al.). GRI is an international non-profit organization whose purpose is to standardize the issuance of sustainability reports. The GRI advises that numerous environmental elements be included in the annual report and recommends thirty items with has nine parts. Material, energy, water, biodiversity, emissions and waste, goods and services, compliance and regulations, transportation, and total expenditures associated with environmental protection are the nine components (Manokaran et al.).

2.5. Environmental Performance

Environmental performance is a mechanism for companies to voluntarily integrates concern for the environment into their operations and interactions with stakeholders beyond the organization's legal responsibilities. The causes of environmental pollution problems in Indonesia need to be studied in depth so that preventive and corrective actions can be taken properly. One of the steps taken by the government to unite and protect the environment is through the PROPER (the Company Performance Rating Program in Environmental Management) (Irfansyah et al.). PROPER is one of the government's efforts to unify and safeguard the environment. PROPER is also an environmental program that promotes and enforces environmental regulation, in compliance with pollution control standards, and pollution reduction. It provides a platform for enterprises to establish environmental excellence based on their specifications (Angela and Handoyo). This program is done to assess the environmental performance of the companies and encourage companies to be better in their efforts to care.

Meeting environmental performance is one aspect of corporate social and environmental responsibility. Environmental performance refers to a company's efforts to protect the environment and minimize the

negative impact of its operations on the environment (Baalouch et al.). Environmental disclosure is frequently the result of good environmental performance. This condition guarantees that the company's stakeholders are aware of the company's environmental responsibilities. Communities, investors, governments, and others are examples of stakeholders. Once these parties are satisfied that the firm has met its environmental commitments, it will be regarded as legitimate and accountable (Busch and Friede).

Environmental performance has a significant positive impact on environmental disclosure (Irfansyah et al.). The firm considers environmental success to be a government achievement or reward. As a result, the public must have access to this information. Furthermore, solid environmental performance implies that environmental data is readily available and cannot be concealed. Environmental performance is an essential step for the company to achieve success. Environmental performance can be measured through an environmental management system. (Cho et al.). More companies play a role in the environment, and more companies will have to disclose their environmental performance in their annual report. This matter will reflect that the company is interest in and is responsible for what it has done. The public will also know how significant the company's contribution to the environment is.

the more companies play a role in environmental activities, the more the company has to disclose about environmental performance in its annual report. This condition will reflect the company that the company's transparency and that the company is also interested in and responsible for what it has done. The community will also know how significant the company's contribution is to the environment. Several empirical studies show that CEP has a significant positive effect on CED (Doan and Sassen), (Rahmatika). In contrast, several other studies prove that there is no effect of CEP on CED (Kipngetich et al.), (Angela and Handoyo) (Suttipun and Stanton).

2.6 Firm Characteristics influencing environmental disclosures

1. Firm Size

According to legitimacy theory, larger corporations must respond with more disclosures to substantially influence societal expectations since they have more stakeholders than small ones (Volberda et al.). Many previous studies such as in ((Nguyen et al.), (Kiswanto et al.), (Boshnak), (Suttipun and Stanton), (Welbeck et al.), (Solikhah et al.) shows that size significantly influenced environmental disclosure in corporate annual reports; However (Yusoff et al.) and (Angela and Handoyo) find that the size of a corporation has no impact on corporate environmental disclosure.

2. Profitability

According to legitimacy theory, profitability demonstrates that a corporation with a significant source of funds would respond to public pressures and requests

to be more concerned about environmental issues by making environmental disclosures. The more the company's profits, the easier it is to gain legitimacy in society. Profitability has a significant impact on environmental disclosure (Nguyen et al.), (Yusoff et al.). Meanwhile, research undertaken by (Boshnak) and (Verawaty et al.) shows that corporate environmental disclosure is unaffected by profitability.

Companies will use environmental information disclosure to demonstrate their stance to investors, financial institutions, and other stakeholders (Nguyen et al.). Environmental information disclosure will assist businesses in gaining market advantages as well as generating profits from environmental improvement operations. As a result, firms prefer to include more environmental data in their annual reports. Some researchers presented evidence of information disclosure related to expected future earnings (Nguyen et al.), (Yusoff et al.) and found a positive association between environmental information disclosures and company profitability.

3. Leverage

Leverage is a crucial characteristic of a corporation that is frequently used for corporate environmental disclosure. The capital structure has a two-fold impact on environmental reporting. First environmental disclosure informs creditors on how the firm uses non-contractual resources, such as the environment, throughout the manufacturing phase of the business, which is financed with a mix of loan and equity capital (Kipngetich et al.). Companies with a high level of debt are more cautious in disclosing their financial performance because it may be subject to creditors' scrutiny. On the other hand, excessively leveraged companies may lack the resources required for mostly

discretionary communication with stakeholders, such as environmental reporting.

Furthermore, empirical evidence in the literature has shown that financial leverage negatively influences the degree of CSR and environmental reporting.

Conversely, leverage is thought to impact environmental disclosure. Some researchers found that leverage has a considerable influence on environmental disclosure (Kipngetich et al.), (Nguyen et al.), (Angela and Handoyo). While others concluded that it does not influence environmental disclosure (Boshnak).

Furthermore, empirical evidence in the literature has shown that financial leverage has a negative influence on CSR and environmental reporting (Kipngetich et al.), (Nguyen et al.), (Angela and Handoyo). According to the findings, corporate environmental disclosure practices enable corporations to lower their equity costs. Firms with more robust environmental disclosure performance have lower equity funding costs. Similarly, disclosing environmental information might increase ownership costs for highly leveraged enterprises, making loan negotiations more difficult and expensive (Naseer and Rashid). Furthermore, because highly leveraged enterprises are more likely to comply with environmental standards, they have fewer environmental issues to disclose. As a negative relationship between financial leverage and environmental disclosure volume is expected. Figure 1 shows the research framework of this study.

- H1: CEP significantly influences CED
- H2: Size significantly moderates the influence of CEP on CED
- H3: Profitability significantly moderates the influence of CEP on CED
- H4: Leverage significantly moderates the influence of CEP on CED

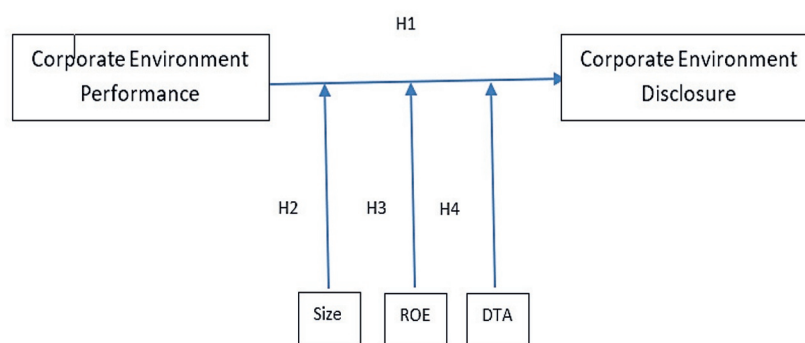


Fig. 1. Research Framework

3 Methods

The selection of quantitative analysis techniques measures the strength of the relationship between this study's dependent and independent variables. Quantitative technical analysis is research based on collecting the research systematically about the facts and properties of the object under study. This technique combines the relationships between the variables involved therein. Then, interpreted based on theories

and literature related to environmental disclosure. The panel generalized regression model was used in this study. When there is a certain degree of correlation between the residuals in a regression model, generalized least squares (GLS) are used to estimate the unknown parameters in a linear regression model. Ordinary least squares and weighted least squares can be statistically inefficient or even lead to false conclusions in these situations (Aitken). Classical assumption tests

performed on the GLS model are normality, multicollinearity, autocorrelation and heteroscedasticity (Squares and Errors). The following is the research model:

$$CED_{it} = \alpha + \beta_1 CEP_{it} + \beta_2 Size_{it} * CEP_{it} + \beta_3 ROE * CEP_{it} + \beta_4 DTA_{it} * CEP_{it} + \epsilon_{it}$$

Measurement variables:

Dependent Variable

CED = Corporate Environmental Disclosure

Disclosure criteria are used to evaluate environmental disclosures. Environmental information disclosure guidelines are based on GRI (Global Reporting Initiative) recommendations in creating the CSR index.

GRI discloses 79 CSR components, including the economics (9 points) and environment (30 points), labor practices (14 points), human rights (9 points), society (8 points), and product management (9 points). Only environmental indicators were employed in this research (30 items). Environmental indicators include indicators for biodiversity, compliance with environmental rules, and other relevant data (such as environmental waste and the impact of products and services)

Table 1. PROPER Criteria

Color	Explanation	Score
Gold	Environmental excellence in manufacturing and service operations and ethical and socially responsible company practices have been consistently proved.	5
Green	Conduct environmental management more than required by regulations (beyond compliance) by implementing an environmental management system, utilizing resources efficiently, and fulfilling social responsibilities properly.	4
Blue	Conduct the required environmental management efforts under applicable laws and regulations.	3
Red	Attempting to manage the environment but not in compliance with the legislation's standards	2
Black	Deliberately performing acts or omissions that cause pollution or harm to the environment, as well as breaking applicable rules and regulations and/or failing to comply with administrative consequences	1

Source: PROPER Assessment by Ministry of Environment RI

Independent Variables

1. CEP = Corporate Environmental Performance

The criteria for determining a company's environmental performance are based on the PROPER use of the color gold, green, blue, red, and black (see Table 1). Compliance criteria are to determine whether the company complies with environmental regulations. The following rules are used for evaluation: application of environmental documents, control of air pollution,

disposal of B3 waste, and control of environmental damage.

2. Firm Size

The total assets possessed by the sample are used to calculate firm size. The total assets obtained are reported in the annual report of the firm. Because the company's total assets are considerably greater than the other variables in this research, the total assets are transformed into a logarithmic natural form to equalize it with other variables.

Firm Size = Ln (Total Assets)

3. Profitability

The return on equity (ROE) measures how efficiently a company generates profit; the ratio shows the rate of return received by the owners on their investment.

ROE = Net Income/Total Equity

4. Leverage

The debt-to-assets ratio (DTA) is used to measure leverage in this study.

DTA = Total Debt/Total Assets

4 Data Collection

The population in this study were all companies listed on the Indonesia Stock Exchange from 2017 to 2020. The determination of the sample used the purposive sampling method, namely the determination of the sample from the population-based on criteria. The criteria are as follows:

1. A public company listed on the IDX from 2017 to 2020.
2. Companies operating in the mining, energy, chemical, pharmaceutical, cosmetic and food and beverage (F&B)
3. The company prepares and publishes social responsibility reports both in annual reports and sustainability reports for 2017-2020.
4. The company has participated in the Company Performance Rating Program (PROPER) from 2017 to 2020.
5. The company has complete data related to the variables used.

The criteria that have been determined in this study are as stated in Table 2.

Table 2. Description of Research Sample withdrawal

No.	Criteria	Total
1	Company listed on IDX in period of 2020	709
2	Company in the industry of mining, energy, chemical, pharmacy, cosmetics, F&B in 2020	150
3	PROPER participating company in 2017-2020	48
4	The company does not have complete data for 2017-2020	8
	Number of observations	40x4=160

Source: Secondary data processed

5 Results and Discussion

5.1 Descriptive Statistics

This study used descriptive statistical analysis to describe the research data using minimum, maximum, average (mean), and standard deviation. The findings of the descriptive statistical analysis test of environmental disclosure, firm size, profitability, and leverage are presented in Table 3. Table 4 shows the number of samples of companies based on environmental performance in the study period. Environmental performance is determined based on PROPER, a

company performance appraisal program issued by the Ministry of the Environment. Most companies in the research sample have environmental performance with blue criteria. However, the number of companies with lower environmental performance, namely blue and red, shows a declining trend. On the other hand, the number of companies with higher performance, namely gold and green, shows an increasing trend. So, it looks like the company is trying to improve its environmental performance.

Table 3. Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std Deviation
CED	160	0.0854	0.8698	0.4256	0.1678
CEP	160	2.0000	5.0000	3.1866	0.6345
Firm Size	160	11.9802	14.9078	12.8902	0.5679
Profitability	160	0.9289	2.0932	0.1328	0.2917
Leverage	160	0.1400	1.2300	0.4314	0.2040

Source: Secondary Data Processed

Table 4. Corporate Environmental Performance 2017 – 2020

Corporate Environmental Performance	2017	2018	2019	2020
Gold	6	6	7	8
Green	5	7	8	10
Blue	24	25	17	17
Red	6	2	8	5
Black	0	0	0	0
Number of samples	40	40	40	40

Source: PROPER

5.2 Classic Assumptions

Before the data is analyzed, the data must be distributed normally. Therefore, a normality test should be carried out. The Kolmogorov Smirnov normality test shows that data is normally distributed if (Sig) > 0.05. Table 5 shows that the Asymp. Value Sig. of 0.321 with a significance level of = 0.05. Asymp Value. Sig. greater than the level of sig. (0.321 > 0.05). So, it is concluded that the data used meets the normal distribution.

Table 5. Normality Test

	Unstandardized Residual
N	160
Kolmogorov-Smirnov Z	0,818
Asymp. Sig. (2-tailed)	0,321

Source: Secondary Data Processed

Based on Table 6, the values of VIF (variance inflation factor) obtained on variable CEP, Company Size, Profitability, and leverage consecutively are 1.324, 1.233, 1.089, and 1.234. The results of this test show that all independent variables have a tolerance value higher than 0.10 and a VIF value smaller than 10. So, it is concluded that there is no multicollinearity between independent variables in the regression model.

The autocorrelation test showed that the Durbin-Watson value of 1.995. Score it is between $du=1,735 < DW=1,995 < 4-du= 2,270$ so that concluded that there is no autocorrelation on the regression model.

Table 6. Multicollinearity Test

Variable	Tolerance	VIF
CEPN	0.756	1.324
Ln (TA)*CEP	0.766	1.233
ROE*CEP	0.950	1.089
DTA*CEP	0.989	1.234

Source: Secondary Data Processed

The Glejser test is used to test the existence of heteroscedasticity in this study. If the significance value of the independent variable is greater than 0.05, it can be concluded that there is no heteroscedasticity in the model study. Based on table 7 obtained, the value of all independent variables has a significance value greater than 0.05. So that, it can be concluded heteroscedasticity did not happen in the independent variables of the research model.

Table 7. Heteroscedasticity Test

Variable	Sig.
CEPN	0.165
Ln (TA)*CEP	0.657
ROE*CEP	0.466
DTA*CEP	0.845

Source: Secondary Data Processed

5.3 The impact of CEP on CED

Corporate environmental performance has a positive impact on corporate environmental disclosure. The influence of CEP on CED yielded a coefficient value of 0.5419 with a significance level of 0.0442, as shown in table 8. The environmental performance of a good

corporation tends to reveal more environmental data. This is an attempt to distinguish themselves from firms with poor environmental performance. Companies that care about the environment feel that reporting their environmental performance will benefit them. The level of corporate environmental disclosure is influenced by the PROPER rating obtained by the company. This also implies that the company's PROPER grade impacts the extent of environmental disclosure. The PROPER rating has demonstrated its impact on environmental information disclosure based on the Global Reporting Initiative (GRI) score. This study's results supported some research (Kiswanto et al.), (Welbeck et al.), (Latridis).

In line with legitimacy theory, a corporation with a high degree of environmental management conducts important environmental disclosure because the company's principles are aligned with societal ideals. The firm has adequate environmental management to gain community goodwill and legitimacy. Companies that do well in environmental performance are more likely to take proactive measures to address environmental issues. As a result, firms are more likely to submit voluntary environmental disclosures. Good environmental performance tends to expose more environmental data.

5.4 The impact of Size as a moderating variable on the influence of CEP on CED

The second hypothesis states that company size has a significant moderation positive impact on the influence of CEP on CED. The analysis results show that the coefficient value of the company size as a moderation variable is 0.2917 in a positive direction, with probability 0.0000. This research in line with (Suttipun and Stanton) and (Nguyen et al.) that show company size positively affects environmental disclosure. Large companies have more stakeholders than small companies; then, large companies will provide the information regarding environmental disclosure with the best possible transparency to be more responsible and satisfy their stakeholders. The larger the company, the more financial and technical resources they have to conduct environmental information disclosure; as a result, it is simpler for corporations to adopt changes in environmental accounting operations and disclose environmental information to build the enterprise's image and reputation.

Large, publicly traded corporations will be more exposed to public scrutiny. Large businesses gain more public exposure when opposed to small businesses since their influence on stakeholders is more pronounced. As a result, larger companies will be more concerned with societal existence and environmental responsibility than smaller companies. Because large corporations focus on stakeholders' attention, they are more likely to be cautious regarding sensitive matters like the environment. The influence of company operations on environmental quality is one of the most sensitive concerns in industrialization. Large-scale businesses are criticized for degrading environmental quality far more

than small businesses. Large-sized companies are anticipated to have higher quality environmental information disclosure than small businesses. CEP's influence on the CED is more substantial for larger firms than for smaller firms.

5.5 The impact of Profitability as a moderating variable on the influence of CEP on CED

According to the test findings, the data supports the third hypothesis. With a probability value of 0.0001 and a coefficient value of 0.8648, the test findings demonstrate that profitability has moderated the impact of CEP on CED. Even though environmental disclosure is voluntary, high-profit corporations may have high environmental disclosures. Compulsory disclosure is mandated under relevant legislation, and the corporation emphasizes mandatory disclosure over voluntary disclosure. If the advantages outweigh the expenses, the corporation will voluntarily share the information.

As measured by profitability, a higher degree of financial performance is frequently linked to a higher level of authority, resulting in more stakeholder pressure. Being in solid financial health increases the ability and flexibility to absorb expenditures associated with sustainability activities, such as sustainability reporting, and costs associated with disclosing potentially harmful information. As a result, companies with better financial performance will be more willing to publish environmental information to differentiate themselves and reduce the risk of adverse selection. Low-profit businesses are hesitant to invest in environmental management systems since they reduce their net profit. When it comes to investments in sustainability practices, small and medium-sized profit firms frequently report a decrease in profits or, at most, a break-even scenario (Geerts et al.).

Profitability is a performance metric used by management to manage the company's wealth, as measured by the profits earned. The legitimacy theory of the community continually applies pressure on businesses to care about environmental issues. Companies with high profitability will find it simpler to respond to these demands since they have more resources to deploy to avert these pressures. (Nguyen et al.), (Yusoff et al.). The impact of CEP on CED is stronger in more profitable firms than in lower ones.

5.6 The impact of Leverage as a moderating variable on the influence of CEP on CED

Unsurprisingly, environmental activities are viewed as secondary activities by most businesses. Because financial resources are limited for companies with significant financial leverage, environmental program activities are reduced, influencing environmental information disclosure in annual reports and sustainability reports. Low financial leverage suggests that the company is financially healthy. Financially healthy firms can satisfy their duties to owner-stakeholders more effectively and allocate the financial resources available for environmental protection actions more efficiently. Meanwhile, because the agency costs of corporations with such a capital structure are higher,

Agency theory predicts that organizations with larger leverage ratios will reveal more information (Michael C Jensen and Meckling). Companies with high leverage ratios are required to disclose more information than those with lower leverage ratios. However, the result shows that leverage does not moderate the impact of CEP on CED. The probability value shown in table 7, is 0.3564 higher than 0.05.

Table 8. Hypothesis Testing Results of Data Panel Regression

Variable	Coefficient	t-stat	Prob
C	1.2005	-0.7662	0.4525
CEP	0.5419	2.0495	0.0442**
Ln (TA)*CEP	0.2917	5.2505	0.0000***
ROE*CEP	0.8648	4.0194	0.0001***
DTA*CEP	-0.5256	-1.5932	0.1157
Ln (TA)	0.0211	2.9693	0.0076***
ROE	0.019	2.030	0.044
DTA	0.017	0.346	0.755

Source: Secondary Data Processed
 ***, **, * significant at level alpha 1%, 5%, 10%

Leverage does not moderate the effect of CEP on CED; this is because leverage does not affect Corporate Environment Disclosure (Kiswanto et al.), (Kapitan and Ikram). The information in the annual report does not contribute much to the company's environmental program. Investors are only interested in the company's financial performance and are not interested in the company's environmental activities. As long as the company has good economic performance and a good relationship with debt, it can cause investors not to pay too much attention to the company's leverage ratio (Kalantonis et al.). The influence of leverage on CED is highly dependent on the awareness of the company's management. The company has the primary goal of maximizing the stakeholders' benefits, which is realized by reducing costs, including operating environmental costs, to increase company efficiency and profits (Martin et al.).

6 Conclusion

This research aims to determine the impact of environmental performance on environmental disclosure, moderated by firm characteristics. The research samples are companies listed in mining, energy, chemical, pharmacy, cosmetics, and F&B industries from 2017 to 2020. Based on the results obtained, the conclusions that can be drawn from this study are as follows: Environmental performance has a significant effect on environmental disclosure, which means that companies with good environmental performance can disclose environmental information adequately; The firm size and profitability significantly strengthen the influence of firm environmental performance on firm environmental disclosure; Leverage does not moderate the influence of firm environmental performance on firm environmental disclosure.

7 Research Implications

Environmental performance has a significant positive effect on the disclosure of environmental information. Thus, the better a company's environmental performance, the more it will disclose environmental information. The company's environmental performance describes how much effort is being made to carry out its environmental responsibilities and the company's sensitivity to the environment. Companies with high environmental performance are sensitive to the environment. Companies that are sensitive to the environment will be motivated to report their environmental aspects and achievements.

Various achievements and awards companies receive for managing the environment serve as good incentives for companies to increase their environmental disclosures. The Ministry of Environment encourages companies to participate in the Company Performance Assessment Program (PROPER). PROPER oversees the company's environmental management based on the criteria set out in government regulations related to water pollution control, air pollution, waste management, environmental impact assessment, and marine pollution control. Effective communication on environmental performance strengthens and differentiates the company's position through the positive effect of a good reputation (Ajayi and Mmutle, 2020; Hart, 1995)

Good environmental performance will encourage companies to disclose environmental information because good environmental performance is 'good news, where the company wants the 'good news to be known by the public and its stakeholders. Disclosure of the environment is one of the company's communications to legitimize the company's operations and existence and gain the public's trust. The public trust that the company gets is a success in meeting the community's expectations and convincing the public that the values adopted by the company are in line with the values that exist in society (Dewi and Situmorang), (Maharantika and Fuad). Companies with optimal environmental performance will tend to disclose information related to environmental activities to gain the public's trust and sympathy.

The findings of this study strengthen the stakeholder theory that companies are responsible to stakeholders. Stakeholder engagement influences the adoption of social and environmental practices and how much resources are allocated to efforts that satisfy stakeholders (Parmar et al.), (Freeman and Dmytriyev). Environmental disclosure is the answer to stakeholder demands. The good environmental performance will influence stakeholder perceptions and reduce uncertainty by reporting detailed environmental information. Thus, good environmental performance will encourage environmental disclosure. This research also strengthens the theory of legitimacy, which is the point of how company management will react to people's expectations.

Companies need to use environmental performance to gain legitimacy in society. Companies must carry out social activities to emphasize and prove their existence in the community. Public recognition through the company's environmental activities positively impacts the company's image in society. Thus, implementing environmental performance by utilizing environmental disclosure media will increase investor confidence and company value.

8 Limitations and Recommendations for Further Research

The community's response is reflected in the company's actions to pay attention to its stakeholders. Legitimacy theory becomes the point of how company management will react to society's expectations. Environmental performance can be used as a legitimate tool to change public perceptions of the impact of a company's destructive operations by highlighting achievements in addressing environmental issues. Investors are attracted to stocks that prefer environmental attributes (Yusoff et al.). If the company aims to increase the share price (company value), it can use environmental and social responsibility by paying attention to environmental performance (Solikhah et al.).

This study has not linked environmental disclosure with firm value. Further research can consider environmental disclosure as a mediating variable. Several studies have found that environmental performance does not provide many benefits for the compensation received, so there is no need to provide too much environmental disclosure (Deswanto and Siregar), (Muslichah). The company's participation in the Environmental Performance Rating Program (PROPER) is sufficient to gain community legitimacy so that companies do not need to disclose detailed environmental activities. Or conversely, the better the environmental performance, the company will be encouraged to make disclosures to stakeholders regarding the company's responsibilities to the environment. Therefore, by making the environmental disclosure a mediating variable, it is analyzed whether environmental performance can directly affect the company's value or must through environmental disclosure.

Further research also needs to consider environmental performance measurement, in addition to PROPER scores such as ISO 14031 and ISO 14001. Future research also needs to consider environmental disclosure measurements, in addition to the GRI index. The GRI index is less reliable because few companies in Indonesia still publish sustainability reports.

References

1. Aitken, A. C. "On Least-Squares and Linear Combinations of Observations." *Proceedings of the Royal Society of Edinburgh* 55, 1986, pp. 42–48.
2. Ajayi, Oyindamola Abiola, and Tsietsi Mmutle. "Corporate Reputation through Strategic

Communication of Corporate Social Responsibility." *Corporate Communications An International Journal*, vol. 26, no. 5, 2020, pp. 1–15.

3. Andrikopoulos, Andreas, and Nikoleta Krikliani. "Environmental Disclosure and Financial Characteristics of the Firm: The Case of Denmark." *Corporate Social Responsibility and Environmental Management*, vol. 20, no. 1, 2013, pp. 55–64, doi:10.1002/csr.1281.
4. Angela, Pricilia, and Sofik Handoyo. "The Determinants of Environmental Disclosure Quality: Empirical Evidence from Indonesia." *Journal of Accounting Auditing and Business*, vol. 4, no. 1, 2021, p. 41, doi:10.24198/jaab.v4i1.31489.
5. Baalouch, Fatma, et al. "A Study of the Determinants of Environmental Disclosure Quality: Evidence from French Listed Companies." *Journal of Management and Governance*, vol. 23, no. 4, Springer US, 2019, doi:10.1007/s10997-019-09474-0.
6. Boshnak, Helmi A. "Determinants of Corporate Social and Environmental Voluntary Disclosure in Saudi Listed Firms." *Journal of Financial Reporting and Accounting*, no. February, 2021, doi:10.1108/JFRA-05-2020-0129.
7. Braam, G. J., et al. "Determinants of Corporate Environmental Reporting: The Importance of Environmental Performance and Assurance." *Journal of Cleaner Production*, vol. 129, 2016, pp. 724–34.
8. Busch, Timo, and Gunnar Friede. "The Robustness of the Corporate Social and Financial Performance Relation: A Second-Order Meta-Analysis." *Corporate Social Responsibility and Environmental Management*, vol. 25, no. 4, 2018, pp. 583–608, doi:10.1002/csr.1480.
9. Cho, C. H., et al. "The Language of US Corporate Environmental Disclosure." *Accounting, Organizations and Society*, vol. 35, no. 4, 2010, pp. 431–43.
10. Clarkson, P. M., et al. "Revisiting the Relation between Environmental Performance and Environmental Disclosure: An Empirical Analysis." *Accounting, Organizations and Society*, vol. 33, no. 4, 2008, pp. 303–27.
11. Deswanto, Refandi Budi, and Sylvia Veronica Siregar. "The Associations between Environmental Disclosures with Financial Performance, Environmental Performance, and Firm Value." *Social Responsibility Journal*, vol. 14, no. 4, 2018.
12. Dewi, Rosiyana, and Rulianto Situmorang. "The Influence of Corporate Environmental Performance on Environmental Disclosure with Environmental Risk as a Moderating Variable." *Accounting Research Journal of Sutaatmadja (ACCRUALS)*, vol. 5, no. 1, 2021, pp. 146–62.
13. Doan, My Hanh, and Remmer Sassen. "The Relationship between Environmental Performance and Environmental Disclosure: A Meta-Analysis."

- Journal of Industrial Ecology*, vol. 24, no. 5, 2020, pp. 1140–57, doi:10.1111/jiec.13002.
14. Freeman, R. Edward, and Sergiy D. Dmytriyev. “Corporate Social Responsibility and Stakeholder Theory: Learning From Each Other.” *Symphony Emerging Issues in Management*, 2017, doi:DOI: 10.4468/2017.1.02freeman.dmytriyev.
 15. Geerts, Magali, et al. “Determinants of Sustainability Reporting in the Present Institutional Context: The Case of Port Managing Bodies.” *Sustainability (Switzerland)*, vol. 13, no. 6, 2021, doi:10.3390/su13063148.
 16. Hart, Oliver. “Corporate Governance: Some Theory and Implications.” *The Economic Journal*, vol. 105, no. 430, 1995, pp. 678–89.
 17. Hidayat, Z., et al. “Impact of Information Technology, Leadership Communication, Protection Facility, and Local Wisdom Practice on Social Readiness for Disaster in Krakatoa.” *Journal of Theoretical and Applied Information Technology*, vol. 100, no. 1, 2022, pp. 192–208.
 18. Hummel, K., and C. Schlick. “The Relationship between Sustainability Performance and Sustainability Disclosure: Reconciling Voluntary Disclosure Theory and Legitimacy Theory.” *Journal of Accounting and Public Policy*, vol. 35, no. 5, 2016, pp. 455–76.
 19. Irfansyah, Irfansyah, et al. “The Influence of Environmental Performance, Environmental Disclosure and Environmental Cost on Economic Performance.” *Economics & Accounting Journal*, vol. 1, no. 2, 2018, p. 87, doi:10.32493/eaj.v1i2.y2018.p87-94.
 20. Jensen, Michael C., and William H. Meckling. “Theory of The Firm: Managerial Behavior, Agency Cost, and Ownership Structure.” *Journal of Financial Economics*, vol. 3, no. July, 1976, pp. 305–360., https://uclafinance.typepad.com/main/files/jensen_76.pdf.
 21. Jensen, Michael C., and William H. Meckling. “THEORY OF THE FIRM: MANAGERIAL BEHAVIOR, AGENCY COSTS AND OWNERSHIP STRUCTURE Michael.” *Journal of Financial Economics*, vol. 3, 1976, pp. 305–60, doi:10.1117/0018726718812602.
 22. Kalantonis, Petros, et al. “Leverage and Firm Performance: New Evidence on the Role of Economic Sentiment Using Accounting Information.” *Journal of Capital Markets Studies*, vol. 5, no. 1, 2021.
 23. Kapitan, Valendra Smaut, and Syafrizal Ikram. “The Influence of Profitability and Leverage on Corporate Social Responsibility Disclosure.” *Journal of Accounting Auditing and Business*, vol. 2, no. 2, 2019, p. 14.
 24. Kipngetich, Tarus John, et al. “Determinants of Environmental Disclosure. Does Leverage Matter? Reflection from Firms Listed in the Nairobi Security Exchange.” *Journal of Accounting, Business and Finance Research*, vol. 7, no. 2, 2019, pp. 107–14, doi:10.20448/2002.72.107.114.
 25. Kiswanto, et al. “Determinants of Environmental Disclosure in Indonesia.” *Journal of Environmental Management and Tourism*, vol. 11, no. 3, 2020, pp. 682–91, doi:10.14505/jemt.v11.3(43).22.
 26. Latridis, G. E. “Environmental Disclosure Quality: Evidence on Environmental Performance, Corporate Governance and Value Relevance.” *Emerging Review*, vol. 14, 2013, pp. 55–75.
 27. Maharantika, Saskia Febby, and Fuad Fuad. “The Influence of Environmental Performance, Environmental Management Systems and Corporate Responsibility Disclosure on The Financial Performance.” *Diponegoro Journal of Accounting*, vol. 11, no. 01, 2022.
 28. Manokaran, Khartie Rao, et al. “The Impact of Corporate Social Responsibility on Financial Performance: Evidence from Insurance Firms.” *Management Science Letters*, vol. 8, no. 9, 2018, pp. 913–32, doi:10.5267/j.msl.2018.6.016.
 29. Martin, John D., et al. “Shareholder Value Maximization-Is There a Role for Corporate Social Responsibility?” *Journal of Applied Corporate Finance*, vol. 21, no. 2, 2009, pp. 110–1018.
 30. Muslichah. “The Effect of Environmental, Social Disclosure, and Financial Performance on Firm Value.” *Jurnal Akuntansi Dan Auditing Indonesia*, vol. 24, no. 1, 2020.
 31. Naseer, Mehwish, and Kashif Rashid. “The Relationship between Environmental Reporting and Corporate Governance: Empirical Evidence from Pakistan.” *Intech*, 2012, p. 13, <http://dx.doi.org/10.1039/C7RA00172J%0Ahttps://www.intechopen.com/books/advanced-biometric-technologies/liveness-detection-in-biometrics%0Ahttp://dx.doi.org/10.1016/j.colsurf.a.2011.12.014>.
 32. Nguyen, Thi Le Hang, et al. “The Determinants of Environmental Information Disclosure in Vietnam Listed Companies.” *Journal of Asian Finance, Economics and Business*, vol. 7, no. 2, 2020, pp. 21–31, doi:10.13106/jafeb.2020.vol7.no2.21.
 33. OJK. *Checklist Pengungkapan Laporan Keuangan Untuk Seluruh Industri Di Pasar Modal Di Indonesia*. 2018, <https://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK>.
 34. Parmar, Bobby, et al. “Stakeholder Theory: The State of the Art.” *The Academy of Management Annals*, vol. 3, no. 1, 2010, pp. 403–45.
 35. Rahmatika, Dien Noviany. *Exploring the Relation of Environmental Disclosure, Environmental Performance and Company Characteristics in Indonesia: An Empirical Analysis*. Vol. 4, no. 1, 2021, pp. 1–23.
 36. Solikhah, Badingatus, et al. “Improving Understanding on Determinant of Environmental Disclosure and Moderating Effect of Corporate Governance.” *Academy of Strategic Management Journal*, vol. 20, no. SpecialIssue2, 2021, pp. 1–9.
 37. Squares, Generalized Least, and Autocorrelated Errors. *Multiple Regression : Model Assumptions*.

- 2000.
38. Suttipun, Muttanachai, and Patricia Stanton. "Determinants of Environmental Disclosure in Thai Corporate Annual Reports." *International Journal of Accounting and Financial Reporting*, vol. 2, no. 1, 2012, p. 99, doi:10.5296/ijafr.v2i1.1458.
 39. Verawaty, et al. *Determinants of Environmental Disclosure in Indonesia*. Vol. 117, no. Gebme 2018, 2020, pp. 217–26, doi:10.2991/aebmr.k.200131.047.
 40. Volberda, Henk W., et al. "Contingency Fit, Institutional Fit, and Firm Performance: A Metafit Approach to Organization-Environment Relationships." *Organization Science*, vol. 23, no. 4, 2012, pp. 1040–54, doi:10.1287/orsc.1110.0687.
 41. WALHI. *Tinjauan Lingkungan Hidup 2015: Menagih Janji Menuntut Perubahan*. 2018, pp. 1–48, <http://www.walhi.or.id/2016/12/22/outlook-2015-menagih-janji-penuntut-perubahan/>.
 42. Welbeck, Emerald Edem, et al. "Determinants of Environmental Disclosures of Listed Firms in Ghana." *International Journal of Corporate Social Responsibility*, vol. 2, no. 1, International Journal of Corporate Social Responsibility, 2017, doi:10.1186/s40991-017-0023-y.
 43. Yusoff, Haslinda, et al. "Environmental Reporting Practices of Top Public Listed Companies: Analyzing Pre-Post Corporate Social Responsibility Framework." *Indonesian Journal of Sustainability Accounting and Management*, vol. 2, no. 1, 2018, p. 50, doi:10.28992/ijSAM.v2i1.48.