The Moderating Role of Corporate Governance on the Effect of Earnings Management on Environmental Disclosure

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Abstract. The goal of this research is to test whether earnings management is a motivation for companies to make environmental disclosures (ED), corporate governance (CG) has an effect on environmental disclosure, and corporate governance weakens riil earnings management (REM) on environmental disclosures.

The study's sample consists of the energy companies of all companies on the IDX in 2019–2021. ED is measured using GRI standard 2018. Earnings quality is measured by REM [1], while CG is measured using the CG aggregate index developed by the OECD [2]. The analysis tool uses OLS regression with eviews 13.

The study's findings founds that real management earnings do not affect environmental disclosure, the corporate governance variable has a positive and significant effect on environmental disclosure, and the corporate governance variable in this study moderate the effect of real management earnings on environmental disclosure.

Keywords: Corporate Governance · Environmental Disclosure · Earnings Quality

1 Introduction

Companies, in addition to aiming for profit, must be attentive as well to social and environmental responsibility aspects. Along with the increasing public demand for corporate responsibility for the environment. Corporate environmental responsibility is reported in environmental disclosures. Environmental Disclosure (ED) includes environmental data in a company's annual report. From the 1990s onwards, the company has voluntarily complied with environmental regulations [1]. Companies that make environmental disclosures are expected to build a positive reputation, improve negotiations and reduce the cost of capital [2]. Capital market research confirms this belief by recording beneficial correlations between environmental initiatives and performance [3]. In Indonesia, disclosure of the environment which was initially voluntary, has now become mandatory. Public companies are required to publish a sustainability report in 2020 [4].

T. Suryanto et al. (Eds.): ICOSTELM 2022, ASSEHR 770, pp. 162–174, 2023.
https://doi.org/10.2991/978-2-38476-112-8_16

The accounting literature puts forward two propositions regarding the practice of environmental activities. First, companies may participate in environmental disclosure initiatives to live up to various stakeholder groups' expectations of ethical behavior in society and to demonstrate "socially and environmentally responsible" financial and non-financial reporting to the public [5]. A second alternative motivation for corporate involvement in environmental disclosure actions is that managers try to "opportunistically" use these activities for self-interested purposes, such as covering up mismanagement. The results of research on environmental disclosure and earnings quality have been widely carried out, which show contradictory results [6, 7] found that environmental disclosure had a negative effect on earnings management. [8] found that companies with environmental initiatives have lower management levels characterized by lower discretionary accruals. Meanwhile [9] discovered a substantial correlation between the quality of environmental disclosures and earnings quality. [5] found that there is no significant effect between discretionary accruals and disclosure. This research tries to test the second proposition of whether environmental disclosure is an opportunistic management behavior by testing whether earnings management motivates managers to make environmental disclosures. The difference between this research and the previous one is that this research measures earnings management using discretionary accruals, while this research measures earnings management as a proxy for real earnings management (REM). REM measures earnings quality because managers prefer Earnings Management through REM rather than discretionary activity, even though REM requires high costs. In addition, REM is getting less attention from auditors and regulators [10].

Environmental disclosure is also the implementation of one of the principles of corporate governance (CG), transparency. CG procedures must be followed to maintain public trust in modern business structures [11] Through ethical principles that satisfy the owner's long-term strategic objectives and increase shareholder value and a commanding market position, corporate governance can assist in bringing people, businesses, and society's interests into alignment [12]. Implementation of CG will lead to increased stakeholder trust in the company. Corporate governance has several important aspects, such as the existence of formal ethical rules, anti-corruption and bribery policies, insider trading policies, largest shareholders, minority shareholders, stock option policies, CSR disclosure in the annual report, wish-blowing, sanctions, auditors, disclosure of the ultimate beneficiary shareholders, independence of directors, independence of commissioners, number of boards of directors, number of commissioners [13]. With the implementation of CG principles, it is hoped that transparency, including transparency regarding environmental disclosure, will increase.

Stakeholders, particularly investors, value CSR policies, including environmental disclosure, as a tool for analyzing a company's prospects for economic sustainability and profitability. Many studies on CG practices on CSR have been carried out but have not found consistent results. [1] Stakeholders, especially investors, appreciate CSR practices, including environmental disclosure as an analytical material to assess the potential for business sustainability and business profitability of a company. Many studies on CG practices on CSR have been carried out but have not found consistent results. [14] testing foreign ownership, membership in industry associations positively affects the quality of CSR disclosure. In contrast, institutional ownership and state ownership do not affect the quality of social disclosure. CG in this study is measured by the CG index that the OECD has developed. The measurement of CG uses an index developed by the company to provide a comprehensive picture of the Company's CG practices.

One of the things that trigger companies to make environmental disclosures is earnings management activities. [5, 15] argues that when managers are opportunistic in managing earnings, managers will tend to carry out CSR activities. [5, 15] states that agency conflicts arise. When managers act opportunistically by carrying out earnings manipulation activities to divert the attention of shareholders, managers are motivated to create a positive image by making voluntary disclosures such as environmental disclosures. The implementation of CG elements will encourage the fulfillment of the interests of all stakeholders. Even though the company carries out earnings management, the CG elements will still encourage companies to make environmental disclosures. As a monitoring and monitoring system, CG is a mechanism to strengthen or improve the organization's legitimacy. Companies that carry out CSR practices due to earnings management activities will be reduced by implementing CG elements. So CG will moderate the influence of EM on environmental disclosure.

Size and leverage are used as control variables in this study. Following [5], CG is not a unique factor in influencing earnings manipulation, and size has been proven to affect environmental disclosure. Variable leverage is also used in this study because it is an indicator of the financial structure of the company.

2 Literature Review

2.1 Agency Theory

[16] states that the company is a agreement between the principal and agent. In this contract, the owner (principal) entrusts the resources owned to the agent to be managed; in this case, the employer or principal will delegate his decision to the agent. In this study, it is assumed that managers are opportunistic in performing earnings management so that to cover earnings management activities carried out by managers will make environmental disclosures.

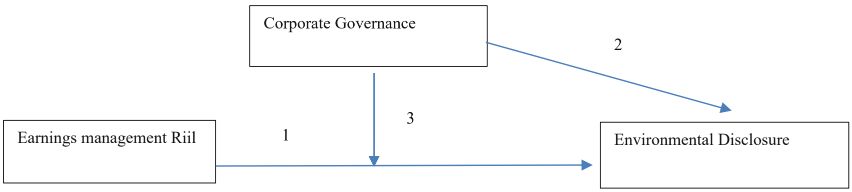
2.2 Signaling Theory

Signal theory was first proposed by [17] that the sender of information gives a signal in the form of information that reflects the company's condition that is beneficial to the recipient of the information (investor). Signals can be in the form of information that explains management's efforts in realizing owners (investors). This information is considered an essential indicator for investors and business people because the information will be utilized as a foundation for determining decisions. The signal that the company can give can be in the form of disclosures in the financial statements, one of which is the disclosure of the company's environmental disclosures.

2.3 Stake Holder Theory

The theory related to environmental disclosure is stakeholder theory. [18] states that companies must be accountable to all stakeholders. Stakeholders are all parties those that are involved with the business. Stakeholders include investors, creditors, government, employees, suppliers, and the community. Stakeholders are contributors to creating added value/value added as a result of these business activities and are therefore entitled to receive the added value. One way to create added value with stakeholders is to make environmental disclosures.

3 Research Mode



3.1 Earnings Management Has a Positive Effect on Environmental Disclosure

According to agency theory, a firm is a contract between a principle and an agent. In this contract, the owner (principal) entrusts the managed resources to the agent. In this case, the employer or principal will delegate his decision to the agent. Information asymmetry characterizes the connection between the agent and the principle., so the agent can perform moral hazard by carrying out earnings management activities**.** [15] said that CSR is viewed as a tool for enforcing support from stakeholder groups. [5] The majority of managers with experience in EM are aware that voluntary environmental disclosure can be utilized to uphold organizational credibility, particularly with regard to social and political stakeholders. Initiatives for environmental disclosure offer a route for informing stakeholders about the company's larger interests and its duty to act ethically. According to the description given above, our hypothesis is:

H1: Earnings Management has a positive effect on Environmental Disclosure.

3.2 Corporate Governance Has Positive Effect on Environmental Disclosure

According to [17], The primary objective of disclosure is to provide details regarding the value and quality of the company. [19] states that corporate disclosure helps analysts and investors to predict future earnings. Disclosure made by the company is a signal to stakeholders about the condition of the company. This causes companies to make disclosures by providing relevant information about the company. Companies that implement corporate governance will ensure the fulfillment of the rights and obligations of all stakeholders, including providing the information needed by stakeholders.

Therefore, implementing CG elements will encourage disclosure, including environmental disclosure. Based on the description above, the hypothesis that we formulated is as follows:

H2: Environmental Disclosure is influenced positively by corporate governance.

3.3 Corporate Governance Moderates the Effect of Earnings Management on Environmental Disclosure

According to Stakeholder Theory, companies must pay attention to all stakeholders and create added value for their stakeholders. This added value creation can be done by issuing environmental disclosures. Previous research found that the Company's CSR activities are more than just for accountability to stakeholders but for symbolic CSR, where companies carry out CSR to manage earnings [20]. As a supervisory mechanism, CG will try to ensure the fulfillment of all stakeholder rights. Even though the company carries out earnings management, the elements of CG will still encourage companies to make environmental disclosures. The implementation of CG elements will reduce companies that make environmental disclosures as a consequence of earnings management activities. Based on the description above, the hypothesis that we formulated is as follows:

H3: Corporate Governance moderates the effect of earnings management on environmental disclosure.

4 Research Methods

This study will use a quantitative paradigm approach with an explanatory type of research using ordinary least square regression with analysis tools eviews 13. The information is gathered from the Indonesian stock exchange between 2019 and 2021. The sample was drawn using purposive sampling with the following criteria: companies listed on the Indonesia Stock Exchange in the energy sector, reported financial and annual reports, were not delisted during the study period, and had complete data. The sample obtained is 47 companies for three years, with 141 observations. The sample was selected from companies from the energy sector because the energy sector is the most significant contributor to the company's greenhouse gas emissions in Indonesia.

4.1 Dependent Variable

Environmental disclosure is measured using the GRI standard for the year GRI Standards Index in 2018, which consists of 32 disclosures with contains sub-indicator Materials, Energy, Water and Effluents, Biodiversity, Emissions Effluent, and waste, Environmental Compliance, Supplier Environmental Assessment. The GRI Standard index 2018 is used because this indicator is the latest indicator after the GRI 4 indicator, namely 2013, presenting important information related to organizational sustainability. Environmental disclosure by content analysis: When the company discloses the item, it is given a value of 1; if not revealed, it is given a value of 0. Furthermore, each item adds up the whole, then divide by the total number.

4.2 Independent Variables

Corporate Governance

Corporate governance is measured using the disclosure index developed by the OECD. [13] CG element is dichotomous variable with "1" if the company fulfills the requirement of governance compliance and "0" otherwise, the CG score varies between 0 to 1. Sub indicator is as follows:

Sub Indexes	Acronym	Description
1. Code of Ethics	ETHIC	values of 1 when a company has a codified code of ethics and 0 when it doesn't
2.Anti-corruption	ANTICOR	If a company has an anti-corruption and anti-bribery policy, the dummy variable is 1, otherwise it is 0.
3. Insider trading	INSIDER	values variable is set to 1 if a company has an anti-insider trading policy and 0 otherwise
4. Largest shareholder	LSHARE	If a company has a policy prohibiting insider trading, the dummy variable will be 1; otherwise, it will be 0
5. Free float	PUBLIC	Values variable is 1 if public investors (minority shareholders) own more than 7.5% of the voting rights overall and 0 otherwise.
6. Shared ownership by employees	ESOP	values variable that is set to 1 if a company offers employee stock options and 0 otherwise.
7. CSR	CSR	Values of 1 is set to 1 if a company publishes their CSR initiatives in its annual report and 0 otherwise
8. Whistleblowing	WSB	values of 1 when a company has an internal whistleblower mechanism and 0 when it doesn't
9. Sanctions	SANCTION	Values 1 if a company provides information about a violation of any laws or regulations governing the stock market and 0 otherwise.
10. Big 4 auditors	AUDIT	If a company engages one of the Big Four international auditing firms, the dummy variable will be 1; otherwise, it will be 0.
11. Disclosure of the ultimate beneficiary shareholders	DISCLOSURE	values equivalent to 1 when a company discloses the ultimate beneficiary share owner and 0 otherwise

(*continued*)

(*continued*)

Sub Indexes	Acronym	Description
12. Independent director	IDIR	If a company has more than one independent director, the dummy variable will be 1; otherwise, it will be 0.
13. Independent commissioner	ICOM	a dummy variable that is 0 otherwise and 1 if the number of independent commissioners on the board is greater than 30%
14. The number of board directors	BODSIZE	Values 1 when a company has 5 to 9 directors on its board and 0 when it doesn't
15. Board of Commissioners' size	BOCSIZE	If a company has 4 to 8 commissioners on the board, values is equal to 1, otherwise it is equal to 0.

4.3 Real Earnings Management Variables

Real Earnings Management is calculated by the approach used [20] as follows:
Abnormal CFO

$$\mathrm{CFOt/At} - 1 = \alpha 0 + \alpha 1(\mathrm{A/At} - 1) + \alpha 2(\mathrm{St/At} - 1) + \alpha 3(\Delta \mathrm{St/At} - 1) + \varepsilon \mathrm{t}$$

CFO: Cash Flow from operating activities (operating cash flow) of Company I in year t
At−1: The company's total assets as of year t−1
St−1: The company's overall sales for year t−1.
For each observation year, abnormal operating cash flow (ABN_CFO) is the residual value of the estimated regression equation model above.

Abnormal Discretionary Expenses

$$\mathrm{DISEXPt/At} - 1 = \alpha 0 + \alpha 1(1/\mathrm{At} - 1) + (\alpha 2(\mathrm{St} - 1/\mathrm{At} - 1) + \varepsilon \mathrm{t}$$

DISEXP: Discretionary expenses are research and development costs plus advertising costs plus selling, administrative and general costs

Discretionary costs include advertising, research, development, and selling, as well as administrative and general expenses. The residuals from the estimation of the regression equation model were used to calculate abnormal discretionary costs (ABN-DISEXP).
Abnormal Production Costs

$$\mathrm{PRODt/At} - 1 = \alpha 0 + \alpha 1(\mathrm{A/At} - 1) + \alpha 2(\mathrm{St/At} - 1) + \alpha 3(\Delta \mathrm{St} - 1/\mathrm{At} - 1) + \varepsilon \mathrm{t}$$

BiPPRODt: Production cost is the cost of goods sold plus changes in inventory

Abnormal production cost (ABN-PROD) is the estimated residual regression equation model's residual value.

The measurement REM is the sum of the values of abnormal production costs with abnormal cash flow values and discretionary expense values that have been multiplied by negative one (R_PROD − R_CFO − R_DISX) [10].

The model that we propose in this study is as follows:

$$ED = \alpha + \beta 1REM + \beta 2CG + \beta 2REM * CG + Size + Leverage\, e$$

ED: environmental disclosure
REM: real earnings management
CG: Corporate governance

5 Research Result

Based on the content analysis of the CG index formulated by the OECD, the results show that the implementation of CG for three years, namely 2019, 2020, and 2021, is the best in energy companies implementing CSR, with a value of 0.96. The lowest independent is 0.00, meaning no energy company has more than one independent director. Chart 1 of CG implementation in energy companies during the research year is based on sub-indicator CG (2019, 2020, 2021).

Meanwhile, overall CG implementation experienced an increase in the CG score of energy companies from 2019, 2021, and 2022, where the CG score for 3 (three) consecutive years was 0.573, 0.580, and 0.601. This indicates that the implementation of CG in energy companies has improved from 2019 to 2022. The overall CG index for 3 (three) years can be seen in Chart 2 (Table 1):

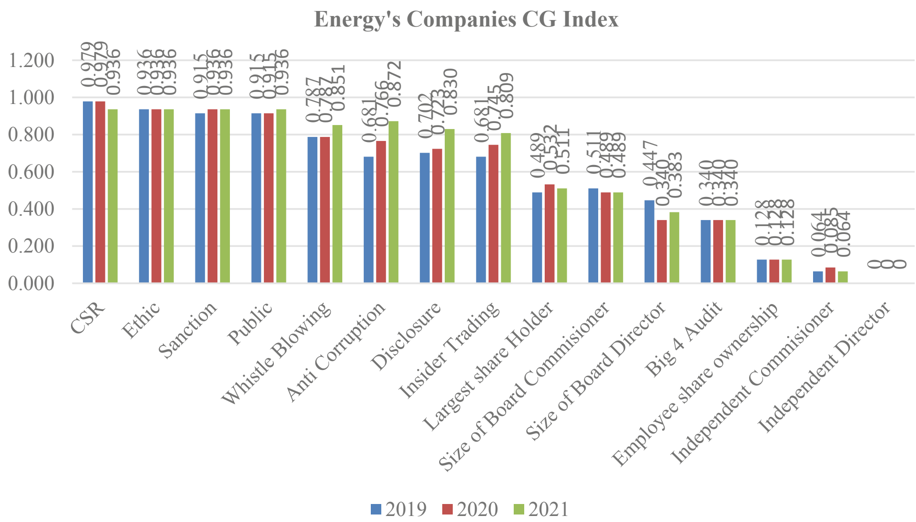


Chart 1. Energy's Companies CG Index

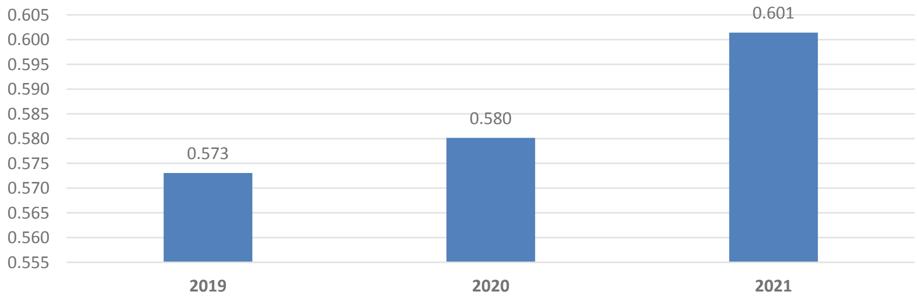


Chart 2. Overall CG Index Energy Companies Index

Table 1. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ED	141	0.003125	0.8347	0.3752	0.195120
CG	141	0.20000	0.800000	0.5861	0.150139
RM	141	−3.15E+19	1.99E+19	−5.96E+16	5.48E+18
SIZE	141	29.07694	32.31671	29.07694	1.679555
LEV	141	0.045810	2.098911	0.562994	0.302815
CG*RM	141	−8.40E+18	1.19E+19	2.19E+15	2.73E+18

Based on Chart 2, the following explanation is possible is The ED variable's value lies between 0.003125 to 0.8347. With a standard deviation of 0.195120, the average (mean) is 0.3752. The variable CG ranges from 0.800000 to 0.20000 as its minimum and maximum values. The average (mean) is 0.5861, with a standard deviation of 0.150139. REM variable has a minimum value of −3.15E+19 and a maximum value of 1.99E+19. The average (mean) is −5.96E+16, with a standard deviation of 5.48E+18. The size variable has a minimum value of 29.07694 and a maximum value of 32.31671, average of 29.07694 with a standard deviation of 1.679555. Leverage variable has a minimum value of 0.045810 and a maximum value of 2.098911, an average of 0.562994 with a standard deviation of 0.302815. Furthermore, the variable CG*RM has a minimum value of −8.40E+18 and a maximum value of 1.19E+19. The average (mean) is 2.19E+15, with a standard deviation of 2.73E+18.

5.1 Data Analysis Technique

Technique Selection for Panel Data Regression Estimation

Three estimate approaches—the Common Effect Model, Fixed Effect Model, and Random Effect Model—are known for the panel data regression estimation methodologies selected in software evaluations that use these panels of data. Three tests—the Chow test, Hausman test, and Lagrange test—were conducted to ascertain the most effective method for panel data regression. The chosen model in this investigation was determined

Table 2. Applying the Fixed Effect model in the MRA test

Variable	Environmental Disclosure		
	coefficient	T-Statistik	Probability
REM	5.56E-21	1.020996	0.3093
CG	0.287465	2.997102	0.0032
RM*CG	−8.05E-21	−0732537	0.0238
LEV	−0.090480	−2.286205	0.0238
SIZE	0,045637	5.619958	0.0000
Adj r square	0.3898		
Prob f statistic	0.0000		

Source: Output reviews 13, 2022

to have a random effect. The traditional presumption of multicollinearity is necessary for the random effect test.

The premise of multicollinearity has not been violated by the data in this investigation (Table 2).

5.2 Effect of Earnings Management on Environmental Disclosure

It has been determined through statistical data analysis that the significant value is 0.3093 and with a negative direction. Hypothesis 1 is rejected. It can be concluded that real earnings management does not affect environmental disclosure. Environmental disclosures made by managers are non-symbolic, not cover earnings management carried out by the company. This also indicates that managers in energy companies do not make environmental disclosures because they do earnings management. The results of this study support the stakeholder theory that managers make environmental disclosures to fulfill information to all stakeholders especially information about the environment. The results of this study are consistent with the research [5]. The results of this study are not in line with [21, 22]. The difference between this research and research [21, 22] is that previous research uses accrual earnings management proxies while this study uses real earnings management.

5.3 Effect of CG on Environmental Disclosure

It can be concluded that corporate governance affects environmental disclosure. Hypothesis 2 is accepted. It has been determined by statistical data processing that the significant value is 0.032 with a positive direction. Hypothesis 2 is accepted. This indicates that the greater the CG score, the better the CG implementation in a company will encourage companies to make environmental disclosures. This result also supports the stakeholder theory that the implementation of CG can guarantee the fulfillment of the rights of all stakeholders. The results of this study are consistent with [1, 23] found that institutional ownership and board of director size are positive significantly associated with CSR, indicating that a higher portion of institutional ownership and board of director size, as well as a larger board, can increase CSR disclosure in the Indonesian market and managerial ownership, audit committee size and independent board of commissioner members have no significant explanatory power on CSR.

5.4 The Impact of Earnings Management on Environmental Disclosure with Corporate Governance as the Moderating Variable

The results of the data analysis showed that the interaction of REM and CG variables showed a negative coefficient with a significance value of 0.0238. Hypothesis 3 is accepted. This means that the CG mechanism weakens the influence of EM on earnings management. The CG mechanism can encourage company managers not to disclose environmental motives because doing earnings management. This research is consistent with [5], which states that the audit committee moderates the negative relationship between earnings management and environmental disclosure. The difference between this study and the previous one is that this study uses the CG index developed by the OECD to measure CG proxies comprehensively. In contrast, [5] uses audit committee proxies to measure CG.

5.5 Control Variable Test

The size coefficient is shown to be positive with a probability level of significance of 0.000 in the test findings for the control variables size and leverage. This demonstrates that size has a favorable positive on environmental disclosure. Leverage affects environmental disclosure negatively, as evidenced by the leverage test results, which reveal a negative coefficient with a significance level of 0.0238.

5.6 R2 Test and F Test

According to data processing results, the adjusted R Square value is 0.3898, or 38.98%.

This demonstrates that only 38.98% of the variation in environmental disclosure (ED) magnitude can be accounted for by differences in earnings management, corporate governance, and the relationship between earnings management and governance (EM*CG). In contrast, other factors outside the model account for the remaining 61.02% of the explanation. The F test results indicate that the model can considerably affect the financial performance factors because the F value is 0.000 below 0.05.

5.7 Conclusion, Restrictions, and Recommendations

Based on the study's findings, it was concluded that real earnings management does not impact environmental disclosure. This indicates that environmental disclosures made by managers in mining companies in Indonesia are not opportunistic to cover up earnings management activities carried out but because environmental disclosures are the company's responsibility. to all stakeholders. Corporate governance has a significant positive impact on environmental disclosure, this indicates that the CG mechanism can encourage managers to make environmental disclosures. The impact of real earnings management on environmental disclosure can be moderated by corporate governance. This indicates that the CG mechanism can prevent environmental disclosures motivated by earnings management activities. This paper also provides additional evidence regarding the implementation of CG in energy companies where the overall average value of the CG index is above the average of 0.5.

This study comprehensively examines CG using the CG index developed by the OECD. This study has limitations, including earnings management which is measured only by real earnings management. Further research can combine the measurement of real earnings management and accruals. Further research can examine the elements of CG formulated by the OECD to see which CG indicators have the most dominant influence on environmental disclosure.

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