

THE EFFECT OF ENVIRONMENTAL ACCOUNTING AND ENVIRONMENTAL DISCLOSURE ON FINANCIAL PERFORMANCE WITH ENVIRONMENTAL PERFORMANCE AS A MODERATOR

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Abstract. This research empirically determines the effect of environmental accounting and environmental disclosures on financial performance with environmental performance as a moderator. The samples include 11 energy, basic material, and industrial sector companies listed on the Indonesia Stock Exchange and participating in PROPER for the 2020–2022 period, selected through purposive sampling. The secondary data used in this research were analyzed using multiple regression and moderated regression with SPSS 25. The research results show that environmental disclosure has a significant effect on financial performance, while environmental accounting has no effect on financial performance. Environmental performance weakens the relationship between environmental accounting and financial performance, while environmental performance is unable to moderate the relationship between environmental disclosure and financial performance.

Keywords: Environmental Accounting; Environmental Disclosure; Financial Performance; Environmental Performance.

I. INTRODUCTION

The success of a company can be assessed in terms of its financial performance using financial performance benchmarks. Financial performance is a measure of a company's ability to achieve its objectives, namely to generate maximum profits and ensure the company's survival. Good financial performance will attract investors to invest their capital. Currently, investors are not only concerned with a company's financial performance but also with the social activities carried out by the company in the environment surrounding its operations (Putra, 2018).

In 2020, PT Energi Mega Persada (ENRG) earned a profit of Rp 826,452,163,355. In addition, PT Energi Mega Persada also supported the surrounding environment through corporate social responsibility (CSR) costs of Rp 3,247,944,245. In 2021, PT Energi Mega Persada also spent Rp 8,498,744,821 on CSR. This means that the expenses incurred by PT Energi Mega Persada increased from the previous year. Meanwhile, the profit earned by PT Energi Mega Persada was Rp 566,684,545,296, which represents a decrease from the previous year. In 2022, PT Energi Mega Persada incurred CSR expenses of Rp 11,377,382,826. This indicates that the expenses incurred by PT Energi Mega Persada have consistently increased from previous years.

Meanwhile, the profit earned by PT Energi Mega Persada was Rp 1,049,832,274,775, indicating that PT Energi Mega Persada's profit has once again increased significantly from the previous year.

Several industrial sectors that have a direct impact on the environment include mining companies, which are classified by the IDX as belonging to the energy, raw materials, and manufacturing sectors. These sectors use raw materials for production processes that are taken directly from nature. This means that mining companies have a high level of environmental risk. Excessive exploitation of nature will cause serious environmental damage if it is not balanced with prevention, management, and restoration measures.

Every company must fulfill its environmental responsibility by implementing environmental accounting, also known as green accounting. Environmental accounting is part of conventional accounting. Environmental accounting is the recording, measuring, and identifying of environmental costs incurred as a result of a company's operational activities that have an impact on the environment. Environmental accounting can be described as a recording system that is not only focused on financial recording but also on the recording of environmental activities and costs. Environmental accounting is the integration of financial activities with environmental activities (Prena, 2021).

In addition to implementing environmental accounting, companies should disclose environmental information in their sustainability reports. Environmental disclosure is the disclosure of information related to the environment in a company's sustainability report as a form of responsibility to society and the surrounding environment. Environmental conservation programs created by companies can increase public or consumer trust in the company. This trust will encourage consumers to become loyal customers of the company, which can lead to increased product sales.

The government must consider and formulate policies related to environmental management. Therefore, in 2002, the government, through the Ministry of Environment (KLH), established a program in the field of environmental control. This program is known as PROPER, which stands for Program Penilaian Peringkat Kinerja Perusahaan dalam Pengelolaan Lingkungan Hidup (Company Performance Rating Program in Environmental Management). The program is expected to enhance the role of companies in environmental management and conservation. Through this program, the government will assess the environmental performance of companies. Environmental performance is a form of company performance in managing the environment to achieve Green Company status (Ethika et al 2019).

Much literature has been published on the relationship between environmental performance and financial performance of companies from various perspectives. However, the results of these studies have not shown a consistent relationship between the research variables (Putra, 2018). Research conducted by Prena (2021) and Suhendra, Faisal, and Soleha (2022) states that environmental performance, as measured by the PROPER indicator, has a significant effect on financial performance. However, this is not the case with the research conducted by Setyaningsih and Asyik (2016) and Putra (2018), which states that environmental performance measured using the PROPER indicator does not affect financial performance. These studies indicate inconsistency in the relationship between environmental performance and financial performance.

From the explanation above, it is considered necessary for companies to implement environmental accountability in the form of environmental accounting, environmental

disclosure, and environmental performance, which are reported in the company's annual report and sustainability report. This is aimed at improving financial performance, which will also have an impact on the sustainability of the company. Additionally, this can enhance the company's reputation, thereby increasing stakeholder trust.

This research serves as a means of applying theoretical knowledge gained in lectures to practical situations in the field, with the hope that conducting this research will increase knowledge in the field of accounting. In addition, based on stakeholder theory, this research is expected to contribute to maintaining the relationship between the company and its stakeholders. This research is also expected to assist in analyzing company behavior and its limitations in relation to social norms and values in considering the company's surrounding environment so that there is harmony between social values and applicable norms because if these two things are in harmony, the company will be seen as legitimate (Anggraeni, 2017). Meanwhile, this study is expected to serve as a consideration for management in maintaining sustainability. Corporate sustainability has become a business and investment strategy that can improve business operational practices by balancing the needs of stakeholders in the present and future (Pamer et al., 2020).

The purpose of this study is to determine the effect of environmental accounting on financial performance, to determine the effect of environmental disclosure on financial performance, to determine the effect of environmental accounting on financial performance with the moderator of environmental performance, and to determine the effect of environmental disclosure on financial performance with the moderator of environmental performance in energy, raw material, and industrial companies listed on the IDX and participants of PROPER in 2020-2022.

II. LITERATURE REVIEW

A. Stakeholder theory

Stakeholder theory is a collection of policies and practices related to stakeholder interests, values, community and environmental rewards, and the business world's commitment to contributing to sustainable development. Stakeholder theory assumes that companies operate not only for their own interests but also for the interests of stakeholders such as investors, creditors, suppliers, customers, employees, and even the government and society, including the environment as part of the social life around them (Setyaningsih and Asyik, 2016).

The stakeholder theory has become one of the strategies employed by companies to maintain their relationships with stakeholders by disclosing sustainability reports that cover economic, social, and environmental performance (Tahu, 2019). If a company's social and environmental disclosures are well conducted or disclosed, the quality of the company's performance will also improve. This is because if stakeholders' trust in the company improves, it will lead to increased sales of goods/services, thereby increasing profits (Anggraeni, 2017).

B. Legitimacy theory

Legitimacy can be considered as aligning views or assumptions that an action taken by an entity towards a desired outcome is appropriate or consistent with a system of norms, values, beliefs, and definitions that have developed socially. Legitimacy is considered important for companies because legitimacy from the community towards companies is a strategic factor for the growth and development of companies in the future (Rahman et al., 2019).

Companies must obtain legitimacy from various parties with an interest in the company, known as stakeholders, in order to increase the company's value and maintain its survival. Essentially, companies strive to create harmony between the social values inherent in every company activity and the restrictions or norms that apply in the community surrounding the company's operations. If these two value systems are in harmony, this can be viewed as legitimacy for the company. Conversely, if there is a lack of alignment between the two systems, there will be a threat to the company's legitimacy (Anggraeni, 2017).

C. Sustainability theory

$$ENV_COST_{i,t} = \frac{Cost_{i,t}}{Net\ Profit_{i,t}}$$

Sustainability theory, as proposed by Meadows et al. (1972), explains society's efforts to prioritize social responses to economic and environmental issues surrounding a company. Sustainability refers to a company's ability to maintain a state that has been achieved previously. Corporate sustainability has become a business and investment strategy that can enhance operational practices by balancing the needs of stakeholders in the present and future (Pamer et al., 2020). Therefore, the interests and needs of stakeholders must be balanced with the Triple Bottom Line (TBL) dimensions of economic, social, and environmental performance of the company.

The concept of sustainability is divided into three aspects, namely economic, environmental, and social sustainability. Economic sustainability refers to a company's ability to continuously produce goods and services to maintain the sustainability of the economic chain. Environmental sustainability means that a company must be able to maintain resources in a stable manner and avoid the exploitation of natural resources. Meanwhile, social sustainability refers to a company's ability to provide social services to stakeholders and the community surrounding the company.

D. Environmental Accounting

Environmental accounting is part of conventional accounting that focuses on social and environmental issues within a company. Environmental accounting involves recording, measuring, and identifying environmental costs incurred as a result of a company's operational activities that have an impact on the environment. According to Ethika et al. (2019), one of the objectives of environmental accounting is to provide relevant environmental cost information to those who need it (stakeholders).

Environmental accounting is a term related to the inclusion of environmental costs in the accounting practices of companies or government agencies. Environmental costs are the financial and non-financial impacts that companies must bear as a result of activities or operations that affect the quality of the surrounding environment (). With the existence of environmental costs, corporate financial management utilizes an environmental management accounting system to assist in saving money while improving both environmental performance and financial performance simultaneously (Suhendra et al., 2022).

This study uses environmental costs as a measure of environmental accounting variables by comparing all environmental costs incurred by a company in relation to its corporate social responsibility (CSR) activities with the company's net profit. The environmental accounting measurement formula used is:

Explanation:

ENV_COST = Environmental costs

Cost = Reported costs related to CSR activities

Net Profit = Net profit

i = Sample company (1, 2, 3,...N)

t = Year period (1, 2, 3,...T)

E. Environmental Disclosure

$$ROA_{i,t} = \frac{N_{\text{aftertaxi,t}}}{\text{Total Asset}_{i,t}}$$

Environmental disclosure is the disclosure of information related to the environment in a company's sustainability report as a form of responsibility to the surrounding social and environmental communities. The benchmark used in environmental disclosure is the Global Reporting Initiative (GRI) Standards. The selection of GRI as the benchmark for the scope of environmental disclosure is based on the consideration that GRI is the most widely used sustainability reporting framework worldwide.

Environmental disclosure is measured using a checklist method, where a score of 1 (one) is assigned if an item is disclosed and 0 (zero) if an item is not disclosed. The scores are then formulated as follows:

Notes:

ENV_DISC = Disclosure of environmental accounting information

X = Number of items disclosed in the annual report and/or sustainability report

N = Total number of disclosure items

i = Sample company (1, 2, 3,...n)

t = Year period (1, 2, 3,...T)

F. Financial Performance

$$ENV_DISC_{i,t-1} = \frac{\sum X_{i,t-1}}{N}$$

Financial performance is a measure of a company's ability to achieve its objectives, namely to generate maximum profits and maintain the company's survival. The success of a company can be assessed in financial terms using the company's financial performance benchmarks. When reviewing a company's financial statements, investors focus on profitability ratios because they want to see the company's ability to allocate its funds to generate significant profits, thereby ensuring their confidence in investing capital in the company. Therefore, this study uses profitability ratios to measure the financial performance of companies (Tahu, 2019).

This study uses a profitability ratio measurement, namely Return On Assets (ROA), because this ratio better reflects a company's operational performance in utilizing assets to generate profits. ROA is obtained from the company's financial statements. The higher the ROA, the higher the company's profits, and the better the company's financial performance. The profitability measurement formula used is:

Explanation:

ROA = Return on assets

NI_{aftertax} = Net Income or net profit after tax

Total Assets = Total assets

i = Sample company (1, 2, 3,...N)

t = Year period (1, 2, 3,...T)

G. Environmental Performance

Environmental performance is a company's performance that focuses on the company's activities in preserving the environment and reducing the environmental impact of its activities. A company's environmental responsibility can be assessed from its environmental performance. Stakeholders can assess the extent of a company's environmental performance by looking at the color rating obtained by the company through the Company Performance Rating Program (PROPER) organized by the Ministry of Environment (Putra, 2018). PROPER is a government policy aimed at improving companies' environmental management performance in accordance with regulations established by law.

In this study, environmental performance was measured using PROPER assessment scores, which are based on rankings. A score of 5 is given to companies that receive a gold ranking, 4 for a green ranking, 3 for a blue ranking, 2 for a red ranking, and 1 for a black ranking.

H. The Influence of Environmental Accounting on Financial Performance

Research conducted by Niandari and Handayani (2022) shows that green accounting has a positive effect on profitability (company performance). This can be concluded that when a company implements environmental accounting, the recording of costs associated with environmental activities will be properly documented and provide stakeholders with information about the company's financial condition, which can serve as a benchmark for investment decisions. Companies that effectively implement environmental accounting will gain legitimacy from the surrounding community. This aligns with stakeholder theory and legitimacy theory.

Companies that have environmental activities and implement good environmental accounting will increase stakeholder trust, thereby impacting financial performance. The implementation of environmental accounting also contributes to maintaining corporate sustainability. Based on the above description, the researcher proposes the following hypothesis:

H1 : Environmental accounting has a positive effect on financial performance

I. The Effect of Environmental Disclosure on Financial Performance

Research conducted by Dewi and Yasa (2017) shows that there is a positive relationship between information disclosure and environmental performance. Environmental disclosure in a company's annual report provides stakeholders with information regarding the company's responsibility towards the surrounding environment. This is in line with stakeholder theory. In addition, environmental disclosure also gives a positive image of the company, which will have an impact on consumer loyalty, which in turn will increase company profits. This increase will have an impact on financial performance. Thus, the researchers propose the following hypothesis:

H2: Environmental disclosure has a positive effect on financial performance.

J. The Influence of Environmental Performance on the Relationship between Environmental Accounting and Financial Performance

According to Aniela (2021), when companies implement environmental accounting and are able to demonstrate good environmental performance, this will have an impact on good financial performance. This has been proven in both academic and empirical research, which states that financial performance, in this case the market value of a company, is greatly influenced by environmental performance, where the influence is positive. The implementation of environmental accounting and the disclosure of environmental performance in a company's annual report also align with legitimacy theory and stakeholder theory, aiming to achieve a positive image from the public and enhance the trust of stakeholders.

Previous research conducted by Suhendra, et al., (2022) showed that environmental performance has an influence on financial performance. In addition, there is also a simultaneous influence between environmental accounting and environmental performance on financial performance. Therefore, the researchers propose the following hypothesis:

H3: Environmental performance can moderate the positive influence of environmental accounting on financial performance

K. The Influence of Environmental Performance on the Relationship between Environmental Disclosure and Financial Performance

Environmental performance disclosure aims to provide relevant and accurate information about a company's environmental performance to stakeholders. Companies with good environmental performance will gain a positive image from the surrounding community. Additionally, good environmental performance disclosure impacts the surrounding community and investors, which ultimately affects financial performance. Thus, the legitimacy theory and stakeholder theory have been used to explain the relationship between environmental performance and environmental disclosure. Companies should disclose this information to maintain their relationships with the community.

Previous studies conducted by Tahu (2019) and Evita and Syafruddin (2019) indicate that environmental performance affects financial performance. Therefore, the researchers assume that environmental performance can moderate the relationship between environmental disclosure and financial performance. Thus, the researchers propose the following hypothesis:

H4: Environmental performance can moderate the positive influence of environmental disclosure on financial performance

III. RESEARCH METHODOLOGY

This study is a quantitative research, which is a research method based on positivism philosophy used to examine a specific population or sample, and data collection is statistical in nature with the aim of testing predetermined hypotheses (Sugiyono, 2007:5). The population used in this study is all companies in the energy, raw materials, and industrial sectors listed on the Indonesia Stock Exchange (IDX). The sample used in this study is companies in the energy, raw materials, and industrial sectors listed on the IDX for the period 2020-2022 and participating in or enrolled in the PROPER (Company Performance Rating Program). The companies that constitute the population and sample of this study are companies listed on the main board of the IDX. The sample was selected using purposive sampling, a technique for selecting research samples based on specific considerations. The data sources used in this

study are secondary data obtained from the Indonesia Stock Exchange (IDX) and the Ministry of Environment (KLH). Data collection techniques were conducted through documentation and literature review. Independent and dependent variables were obtained from financial statements, annual reports, and sustainability reports for the period 2020-2022, while the moderating variable, environmental performance, was obtained from PROPER assessment results taken from the website www.menlh.go.id. The analytical methods used in this study include descriptive analysis, classical assumption tests (normality test, heteroskedasticity test, multicollinearity test, and autocorrelation test), and hypothesis testing using multiple linear regression analysis and Moderated Regression Analysis (MRA).

IV. RESULTS AND DISCUSSION

A. Overview of the Research Object

The general description of the research object provides information related to the scope of the research, which includes samples that meet the research criteria. The population used in this study consists of companies in the energy, raw materials, and manufacturing sectors listed on the Indonesia Stock Exchange (IDX) during the period 2020-2022, totaling 261 companies. Of the total population, 11 companies met the research criteria. The following is the list of companies that meet the research criteria:

Table 1. List Of Research Sample Companies

No	Code	Company Name
1	ADRO	PT Adaro Energy Tbk
2	ANTM	PT Aneka Tambang Tbk
3	BRPT	PT Barito Pacific Tbk
4	ENRG	Tbk
5	INCO	PT Vale Indonesia Tbk
6	ISSP	PT Steel Pipe Industry of Indonesia Tbk
7	ITMG	PT Indo Tambangraya Megah Tbk
8	PT Bukit Asam	PT Bukit Asam Tbk
9	PTRO	PT Petrosea Tbk
10	TOBA	PT TBS Energy Utama Tbk
11	UNTR	PT United Tractors Tbk

Source: Processed Data (2024)

B. Descriptive Statistical Analysis

Table 2. Descriptive Statistical Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BL	33	.0004	.9719	.060158	.1679545
GRI	33	.1333	.9677	.521921	.2571154
ROA	33	.0035	.4543	.099242	.0980802
PROPER	33	3.00	5.00	3.7576	.75126
Valid N (listwise)	33				

Source: Processed SPSS Output (2024)

The dependent variable in this study is financial performance, measured using the Return on Assets (ROA) ratio. Based on the results of the descriptive statistical analysis in Table 2, it is shown that ROA with a sample size (N) of 33 has a minimum value of 0.0035 obtained from PT Barito Pacific Tbk in 2022, while the maximum ROA value of 0.4543 was obtained from PT Indo Tambangraya Megah Tbk in 2022. The average (mean) ROA value is 0.099242, with a standard deviation of 0.0980802.

The first independent variable in this study is environmental accounting, measured using environmental costs (EC). Based on the results of the descriptive statistical test in Table 2, it shows that BL with a sample size (N) of 33 has a minimum value of 0.0004 obtained from PT Steel Pipe Industry of Indonesia Tbk in 2021, while the maximum value of BL is 0.9719 obtained from PT Vale Indonesia Tbk in 2020. The mean value of EC is 0.060158, with a standard deviation of 0.1679545.

The second independent variable in this study is environmental disclosure, measured using the Global Reporting Initiative (GRI). Based on the results of the descriptive statistical test in Table 2, it shows that GRI with a sample size (N) of 33 has a minimum value of 0.1333, while the maximum value of GRI is 0.9677. The mean value of GRI is 0.521921 and the standard deviation is 0.2571154.

The moderating variable in this study is environmental performance, measured using PROPER assessment results. Based on the results of descriptive statistical tests in Table 2, PROPER with a sample size (N) of 33 has a minimum value of 3.00, while the maximum PROPER value is 5.00. The mean value of PROPER is 3.7576, with a standard deviation of 0.75126.

C. Classical Assumption Test

Normality Test

Table 3. Results of the Normality Test

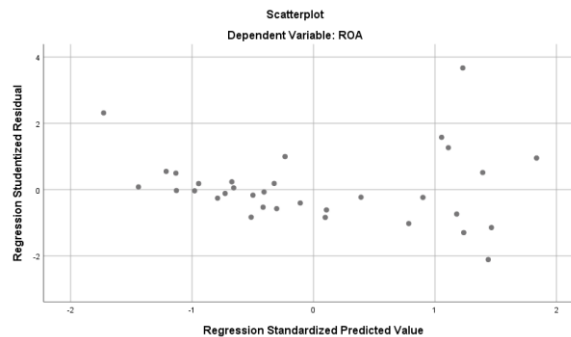
One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		33
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.07734010
Most Extreme Differences	Absolute	.140
	Positive	.140
	Negative	-.080
Test Statistic		.140
Asymp. Sig. (2-tailed)		.099 ^c
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

Source: Processed SPSS output (2024)

Based on Table 3 above, the significance value (Asymp. Sig.) is > 0.05 , specifically 0.099. Therefore, it can be concluded that the data used in this study is normally distributed.

Heteroskedasticity Test

Figure 2. Results of the Heteroscedasticity Test - Scatterplot



Source: Processed SPSS output (2024)

The graph above shows that the research data does not exhibit heteroscedasticity, or in other words, the data is homoscedastic. This is because the points are scattered above and below or around the number 0 and their distribution does not form a clear pattern.

Multicollinearity Test

Table 4. Results of Multicollinearity Test

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics
	B	Std. Error	Beta				
1	(Constant)	-.119	.075		-1.586	.124	
	BL	-.096	.088	-.164	-1.087	.286	.939
	GRI	.155	.062	.407	2.492	.019	.804
	PROPER	.038	.022	.292	1.774	.087	.789

a. Dependent Variable: ROA

Source: Processed SPSS output (2024)

From Table 4 above, it can be seen that the BL variable has a tolerance value of > 0.01 , namely 0.939, and a VIF value of < 10 , namely 1.065. Therefore, it can be stated that the BL variable does not exhibit multicollinearity.

The GRI variable has a tolerance value > 0.01 , specifically 0.804, and a VIF value < 10 , specifically 1.244. Therefore, it can be stated that the GRI variable does not exhibit multicollinearity.

The PROPER variable obtained a tolerance value of > 0.01 , namely 0.789, and a VIF value of < 10 , namely 1.267. Therefore, it can be stated that the PROPER variable does not exhibit multicollinearity.

Thus, it can be concluded that there is no multicollinearity among the independent variables.

Autocorrelation Test

Table 5. Results of the Autocorrelation Test

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.615 ^a	.378	.314	.0812420	1.764

a. Predictors: (Constant), PROPER, BL, GRI

b. Dependent Variable: ROA

Source: Processed SPSS output (2024)

From Table 5, the results of the autocorrelation test using the Durbin-Watson test show that the DW value is 1.764. Meanwhile, based on the DW table, the values of $dL = 1.258$ and $dU = 1.651$, while $(4-dL) = 2.742$ and $(4-dU) = 2.349$. Therefore, since the DW statistic is 1.764, it can be concluded that $dU < DW < (4-dU)$, i.e., $1.651 < 1.764 < 2.349$. Thus, the data used in this study does not exhibit autocorrelation.

D. Multiple Linear Regression Test

Table 6. Results of Multiple Linear Regression Test

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	.001	.034		.974
	BL	-.132	.089	-.225	.149
	GRI	.203	.058	.533	.001

a. Dependent Variable: ROA

Source: Processed SPSS output (2024)

Based on Table 6 above, the relationship between the independent and dependent variables can be formulated in the following equation:

$$ROA = 0.001 - 0.132 BL + 0.203 GRI + e$$

From the regression equation, the following interpretation can be made:

1. Constant (α)
The constant value of 0.001 indicates that BL and GRI increase ROA by 0.001
2. Variable BL (X1)
The regression coefficient value for BL is 0.132, meaning that if the environmental accounting variable (BL) increases by 1 unit, financial performance (ROA) will decrease by 0.132
3. Variable GRI (X2)
The regression coefficient value for GRI is 0.203, meaning that if the environmental disclosure variable (GRI) increases by 1 unit, financial performance (ROA) will also increase by 0.203

E. Hypothesis Testing

Determination Coefficient Test

Table 7. Results of the Coefficient of Determination Test (Adjusted R²)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.557 ^a	.311	.265	.0840968

a. Predictors: (Constant), GRI, BL

Source: Processed SPSS output (2024)

Based on Table 7, the coefficient of determination or adjusted R² in this study is 0.265 or 26.5%. This indicates that the ability of environmental accounting variables (BL) and environmental disclosure (GRI) to influence financial performance (ROA) is 26.5%, while the remaining 73.5% is influenced by other variables not used in this study.

F-Test (Simultaneous)

Table 8. Results of the F Test (Simultaneous)

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	.096	2	.048	6.763	.004 ^b
Residual	.212	30	.007		
Total	.308	32			
a. Dependent Variable: ROA					
b. Predictors: (Constant), GRI, BL					

Source: Processed SPSS output (2024)

Based on Table 8, the F test (simultaneous) shows that the F statistic is 6.763 with a significance value of 0.004 < 0.05. Thus, it can be concluded that there is a simultaneous influence of environmental accounting (BL) and environmental disclosure (GRI) on financial performance (ROA).

t-test (Partial)

Table 9. Results of the t-test (partial)

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
(Constant)	.001	.034		.032	.974
BL	-.132	.089	-.225	-1.480	.149
GRI	.203	.058	.533	3.498	.001
a. Dependent Variable: ROA					

Source: Processed SPSS output (2024)

Based on Table 9 above, the results of the t-test (partial) can be summarized as follows:

1. Testing H1

The t-test for the environmental accounting variable (BL) yielded a t-value of -1.480 with a significance level of 0.149. From the results, since the calculated t-value is smaller than the critical t-value ($-1.480 < 2.04227$) and the significance level is greater than 5% ($0.149 > 0.05$), it can be concluded that, partially, the environmental accounting variable (BL) does not have a significant effect on the financial performance variable (ROA).

2. Testing H2

The t-test for the environmental disclosure variable (GRI) yielded a calculated t-value of 3.498 with a significance level of 0.001. From the results, since the calculated t-value is greater than the critical t-value ($3.498 > 2.04227$) and the significance level is less than 5% ($0.001 < 0.05$), it can be concluded that the environmental disclosure variable (GRI) has a significant effect on the financial performance variable (ROA).

F. Moderated Regression Analysis (MRA) Test

Table 10. Results of MRA Test

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
(Constant)	-.128	.202		-.631	.533
BL	3.686	1.150	.6312	3.204	.003
GRI	.039	.353	.101	.109	.914
PROPER	.043	.055	.328	.773	.446
MODERAT1	-1.248	.379	-.6461	-3.290	.003
MODERAT2	.040	.091	.500	.439	.664
a. Dependent Variable: ROA					

Source: Processed SPSS output (2024)

Based on Table 10 above, the MRA test results can be formulated into the following equation:

$$ROA = -0.128 + 3.686 BL + 0.039 GRI + 0.043 PROPER - 1.248 MODERAT1 + 0.040 MODERAT2 + e$$

From the regression equation, the following interpretation can be made:

1. Constant (α)
The constant value of -0.128 means that if all variables remain constant, the ROA value decreases by 0.128
2. Variable BL (X1)
The regression coefficient value for BL is 3.686, meaning that if the environmental accounting variable (BL) increases by 1 unit, the financial performance (ROA) will increase by 3.686, assuming that all other independent variables remain constant.
3. GRI variable (X2)
The GRI regression coefficient value is 0.039, which means that if the environmental disclosure variable (GRI) increases by 1 unit, financial performance (ROA) will increase by 0.039, assuming that other independent variables remain constant.
4. PROPER variable (Z)
The regression coefficient value for PROPER is 0.043, meaning that if the environmental performance variable (PROPER) increases by 1 unit, financial performance (ROA) will increase by 0.043, assuming all other independent variables remain constant.
5. MODERAT1 variable (X1.Z)
The regression coefficient values for BL and PROPER are -1.248, which means that if the interaction between environmental accounting (BL) and environmental performance (PROPER) increases by 1 unit, financial performance (ROA) will decrease by 1.248, assuming that other independent variables remain constant.
6. Moderator variable MODERAT2 (X2.Z)
The regression coefficient values for GRI and PROPER are 0.040, meaning that if the interaction between environmental information disclosure () and environmental performance (PROPER) increases by 1 unit, financial performance (ROA) will increase by 0.040, assuming all other independent variables remain constant.

Hypothesis Test for Moderated Regression 1

Table 11. Results of Moderated Regression Test 1, Stage 1

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.128	.082		-1.574	.126
	BL	-.055	.094	-.094	-.585	.563
	PROPER	.061	.021	.471	2.925	.007
a. Dependent Variable: ROA						

a. Dependent Variable: ROA

Source: Processed SPSS output (2024)

Table 12. Results of Moderated Regression Test 1 Stage 2

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-.202	.083		.244
	BL	2.952	1.313	.504	.032
	PROPER	.087	.023	.668	.001
	MODERAT1	-.991	.432	-.513	.029

a. Dependent Variable: ROA

Source: Processed SPSS output (2024)

From Tables 11 and 12, it can be seen that the coefficient value of the moderating variable (MODERAT1) is -0.991, the t-value is -2.296, and the significance is $0.029 < 0.05$. This means that PROPER is significantly able to moderate the relationship between BL and ROA. The coefficient value of -0.991 (negative) indicates that PROPER weakens the relationship between BL and ROA.

Moderated Regression Hypothesis Test 2

Table 13. Results of Moderating Test 2 Stage 1

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-.139	.073		.069
	GRI	.143	.061	.374	.027
	PROPER	.043	.021	.333	.047

a. Dependent Variable: ROA

Source: Processed SPSS output (2024)

Table 14. Results of Moderating Effect Test 2, Stage 2

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-.010	.232		.967
	GRI	-.091	.403	-.240	.822
	PROPER	.008	.063	.065	.894
	MODERAT2	.061	.104	.769	.587

a. Dependent Variable: ROA

Source: Processed SPSS output (2024)

From Tables 13 and 14, it can be seen that the coefficient value of the moderating variable (MODERAT2) is 0.061, the t-value is 0.587, and the significance level is $0.587 > 0.05$. This indicates that PROPER is unable to moderate the relationship between GRI and ROA.

1. The Influence of Environmental Accounting on Financial Performance

The first hypothesis (H1) of this study states that environmental accounting has a positive effect on financial performance. Based on the results of data analysis and hypothesis testing, for the environmental accounting variable (BL), a t-value of -1.480 was obtained with a significance level of 0.149. From these results, since the t-value is less than the critical t-value ($-1.480 < 2.04227$) and the significance level is greater than 5% ($0.149 > 0.05$), it can be concluded that the environmental accounting variable (BL) does not have a significant effect on the financial performance variable (ROA). Therefore, H1 is rejected.

The results of the first hypothesis testing indicate that environmental accounting has no effect on financial performance. The environmental costs incurred by the companies in the

sample () for environmental conservation and maintenance may not necessarily be felt during the period in question, so the level of environmental costs does not significantly affect financial performance. This is consistent with previous research conducted by Suhendra, et al. (2022), who stated in their study that environmental accounting does not affect financial performance.

2. The Impact of Environmental Disclosure on Financial Performance

The second hypothesis (H2) of this study states that environmental disclosure has a positive effect on financial performance. Based on the results of data analysis and hypothesis testing, for the environmental disclosure variable (GRI), a t-value of 3.498 with a significance level of 0.001 was obtained. From these results, since the t-value is greater than the critical t-value ($3.498 > 2.04227$) and the significance level is less than 5% ($0.001 < 0.05$), the environmental disclosure variable (GRI) has a significant effect on the financial performance variable (ROA). Therefore, H2 is accepted.

The results of the second hypothesis test show that environmental disclosure has a significant effect on financial performance variables. Companies that disclose environmental information in their sustainability reports will gain the trust of stakeholders because they are considered to have paid attention to the environment, which will have an impact on improving the company's financial performance. This is not in line with previous research conducted by Anggraeni (2017), which states that environmental disclosure has no effect on financial performance.

3. The Influence of Environmental Performance on the Relationship between Environmental Accounting and Financial Performance

The third hypothesis (H3) of this study states that environmental performance can moderate the positive influence of environmental accounting on financial performance. Based on the results of data analysis and hypothesis testing, it was found that the coefficient value of the moderating variable (MODERAT1) was -0.991, the t-value was -2.296, and the significance was $0.029 < 0.05$. This means that PROPER significantly moderates the relationship between BL and ROA. The coefficient value of -0.991 (negative) indicates that PROPER weakens the relationship between BL and ROA. Therefore, H3 is rejected.

The results of the third hypothesis test indicate that environmental performance can weaken the relationship between environmental accounting and financial performance. Companies that receive a good PROPER rating have certainly incurred environmental costs for conservation and maintenance, so they are considered to have paid attention to the surrounding environment. However, the environmental costs incurred by companies reduce profits and impact financial performance. This is inconsistent with the findings of Setyaningsih and Asyik (2016) and Putra (2018), who stated that environmental performance measured using PROPER indicators does not influence financial performance.

4. The Effect of Environmental Performance on the Relationship between Environmental Disclosure and Financial Performance

The fourth hypothesis (H4) of this study states that environmental performance can moderate the positive influence of environmental disclosure on financial performance. Based on the results of data analysis and hypothesis testing, it was found that the coefficient value of the moderating variable (MODERAT2) was 0.061, the t-value was 0.587, and the significance level () was $0.562 > 0.05$. This indicates that PROPER is unable to moderate the relationship between GRI and ROA. Therefore, H4 is rejected.

The results of the fourth hypothesis test indicate that environmental performance is unable to moderate the relationship between environmental disclosure and financial performance. The PROPER assessment has its own criteria, so the PROPER ranking results do not influence the relationship between environmental disclosure and financial performance. This is inconsistent with the research conducted by Anggraeni (2017), which states that environmental performance has a significant positive influence on financial performance, and environmental performance also has a significant positive influence on environmental disclosure.

V. CONCLUSION

To determine the influence of environmental accounting and environmental disclosure on financial performance with environmental performance as a moderator. The research population consists of companies in the energy, raw materials, and manufacturing sectors listed on the Indonesia Stock Exchange (IDX) and participating in the Program for Company Performance Evaluation and Rating (PROPER) during the period 2020–2022. The research sample comprises 11 companies over three years, resulting in a total sample of 33. Based on data analysis and testing using multiple regression and moderation regression tests, it was found that environmental accounting does not affect financial performance because the environmental costs incurred by companies to conserve and maintain the environment may not necessarily be felt during that period, so that high or low environmental costs do not significantly affect financial performance. Meanwhile, environmental disclosure significantly affects financial performance because companies that disclose environmental information in their sustainability reports gain the trust of stakeholders. Companies are perceived as being environmentally conscious, which leads to improved financial performance.

Environmental performance can weaken the relationship between environmental accounting and financial performance because companies that receive good PROPER ratings have certainly incurred environmental costs for conservation and maintenance, so they are considered to have paid attention to the surrounding environment. However, the environmental costs incurred by companies will reduce profits and have an impact on the company's financial performance. Meanwhile, environmental performance is unable to moderate the relationship between environmental disclosure and financial performance because the PROPER assessment has its own criteria, so the PROPER ranking results do not influence the relationship between environmental disclosure and financial performance.

Recommendations for further research include that researchers should use or replace the variables used in this study with other variables or add more variables. In addition, further research should use other moderating variables that are consistent with the existing phenomenon. Future researchers are also encouraged to use other measurement tools in collecting data for the research variables, and researchers may use samples from other sectors or extend the time period of the sector to increase the sample size beyond that of this study.

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