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THE EFFECT OF GREEN ACCOUNTING AND ENVIRONMENTAL PERFORMANCE ON COMPANY PROFITABILITY

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Abstract

This study aims to analyze the effect of green accounting and environmental performance on company profitability (a survey of mining companies listed on the IDX for the 2018-2021 period). This is a quantitative research. Purposive sampling was utilized to choose 12 mining companies trading on the Indonesia Stock Exchange as the data source for this study. Secondary data sources used in this study include information from the annual reports of mining companies traded on the Indonesia Stock Exchange. Descriptive statistics, tests for normality and multicollinearity and heteroscedasticity and autocorrelation, as well as multiple linear regression analysis, followed by the F test, and t tests, were all utilized to analyze the data for this study. The study found that mining companies listed on the Indonesia Stock Exchange benefited financially from Green Accounting and Environmental Performance between 2018 and 2021.

Keywords: *Company Profitability, Environmental Performance, Green Accounting*

1. INTRODUCTION

The world economy that has improved after the global crisis has had a positive impact on every company in Indonesia, resulting in an unavoidable tight competition. This competitive industry competition requires them to improve their performance in order to maintain viability and achieve the company's goal of making a profit (Murniati & Sovita, 2021). Profitability is a natural thing to see the sustainability of the company (Kholmi & Nafiza, 2022).

The important role of profitability is as one of the important information for investors, (Hasibuan et al., 2023). Investors can analyze the development of company profits. Every company will expect a large profitability every year. Ilyas & Hertati (2022) said that "the higher the company's profit, the more it will give a positive signal to investors that they will also benefit from their investment". The number of industrial companies in Indonesia today proves that Indonesia is rich in natural resources, especially for the mining industry sector. Abundant mining natural resources make companies take advantage of these natural resources to be used as jobs and sources of income (Ningtyas & Triyanto, 2019).

However, the existence of the industry also has an unfavorable impact on the surrounding environment where companies carry out environmental exploitation actions which, if not controlled, will have a severe impact on environmental pollution (Sari et al., 2022). As such, companies need to make environmental conservation policies to improve long-term financial performance. Companies that are environmentally responsible will be

appreciated by stakeholders and enhance the company's image (Ningsih et al., 2021). But in fact, not all companies are willing to spend a certain amount of money on environmental costs, because these costs will automatically reduce the amount of profit earned. Therefore, environmental accounting is present as a solution to encourage accountability for environmental sustainability (Hertati, Asmawati, et al., 2022).

Europe is where the concept of "green accounting" first emerged in the 1970s. When it comes to keeping track of business activities, traditional accounting practices have traditionally centered on things like money and business deals. However, the advent of green accounting has shifted the emphasis to environmental objects. Whenever improving environmental management effectiveness via a cost benefit analysis of environmental operations is a priority, it is necessary to apply environmental accounting (Utami & Nuraini, 2020). According to the findings of Hertati, Puspitawati, et al. (2022), users of financial statements (investors, management, creditors) will obtain information that can aid them in making policy decisions if the company engages in environmental activities and discloses these activities in the annual report. organizations dedicated to protecting the environment in the long run.

Based on the background described above, this research was conducted with the aim of analyzing the Effect of Green Accounting and Environmental Performance on Company Profitability (Survey of Mining Companies Listed on the IDX for the 2018-2021 Period).

2. LITERATURE REVIEW

2.1. Green Accounting

Green accounting is an accounting field that tries to link environmental budgeting aspects with business operating costs (Putri et al., 2019a). Green accounting as a means of communication between companies and the public shows the seriousness of improving environmental performance. Hertati.L (2022), states that “the application of green accounting is very important in order to know the changes that occur in environmental accounting by reporting comprehensive information about financial, social and environmental aspects, therefore decision makers can receive complete information related to the environment, so that they can make better decisions”.

2.2. Environmental Performance

A company's environmental performance focuses on reducing the negative impact of company activities and protecting the environment (Maryanti & Hariyono, 2020). The results of research by Hertati, et, all, (2022) state that “environmental performance refers to how much impact and damage is caused as a result of carrying out company operational activities, seeing how companies handle waste, dispose of waste and process waste to reduce environmental damage that occurs”. To improve the company's environmental performance, the level of environmental damage that may occur must be kept as low as possible. Chasbiandani et al. (2019) said that “the greater the environmental damage that occurs as a result of the impact of the company's business processes, the company's environmental performance will be assessed as poor”.

2.3. Profitability

According to Lestari et al. (2019), "profitability is the ability achieved by a company in a certain period". Investors place a high value on information relating to profitability. Investors can monitor the growth of their returns and reap the rewards of their prudent spending. The company's profitability is crucial to ensuring its continued existence. Investors will not withdraw their capital if the company's conditions are favorable and companies that have increased profit growth have the potential to provide greater benefits to stakeholders. The company will pay attention to the factors that affect profitability, the results of research by Hertati, et, all, (2021). Therefore management in a company will issue policies aimed at creating and increasing profit growth.

2.4. The Effect of Green Accounting and Environmental Performance on Profitability

Pintea et al. (2019) explain that "environmental performance is an important value for most successful economic entities around the world. Incorporating environmental aspects into their strategy ensures the economic success of the company's sustainability and is called sustainable management". Measuring company profitability uses green accounting and environmental performance to provide comprehensive information regarding the performance of all operations carried out by the company, the results of research by Hertati, et, all, (2019). Consistently positive and statistically significant relationships are found between green accounting and environmental performance factors and firm profitability (Nisa et al., 2020).

H1: Effect of Green Accounting and Environmental Performance on Profitability

2.5. The Effect of Green Accounting on Profitability

An example of the legitimacy theory in action is the social compact between businesses and their surrounding communities over the usage of business resources. The Chinese Ministry of Ecology and Environment has instituted Net Production Standards, which have been the basis of a number of studies evaluating green accounting (Hertati et al (2022). Profitability studies conducted on Chinese manufacturing firms using data collected in China. The findings indicate that green accounting has a bearing on the financial health of businesses (Sun et al., 2021). The trust of investors and customers in the company will rise with the introduction of competent environmental accounting (Kholmi & Nafiza, 2022). As a result, the brand identity of the organization will be shaped. as a result, the company's bottom line will see a boost. According to studies conducted on the topic, "green accounting" can increase business profits (Chasbiandani et al., 2019). This accords with findings from studies by Putri, H. idayati, and Amin (2019) that show green accounting can boost profits.

H2: Effect of Green Accounting on Profitability

2.6. Effect of Environmental Performance on Profitability

The magnitude of the award given by the government for the environmental performance that has been carried out by the company will have an impact on the magnitude of investor perceptions. If the company gets great appreciation from the aspect of environmental management, then the perception of investors and customers towards the company's products is high, in maintaining environmental balance is high (Chasbiandani et al., 2019). Profitability and financial performance are thus affected by the company's environmental performance. The profitability of a company has been found

to be affected by its environmental performance in several studies. According to Putri et al. (2019b) found that "there is a significant influence between environmental performance and profitability". Cluster analysis is used to examine the environmental, social, and governance (ESG) practices of BIST-listed companies. Findings show that organizations with better ESG ratings may not always excel in all ESG metrics. is the group whose enterprises are the most notable in terms of size but the least profitable, but which has the best performance in terms of return on assets despite receiving low marks for environmental and social policies (Sariyer & Taskin, 2022).
H3: Effect of Environmental Performance on Profitability

3. RESEARCH METHODS

All Mining Sub-Sectors traded on the Indonesia Stock Exchange (IDX) between 2018 and 2021 make up the population for this analysis. The limitations in this study include the limitation of green accounting variables which are limited by environmental costs, environmental performance variables are limited by using PROPER and profitability is limited by Return On Equity (ROA). According to Ratusasi (2021) "the sampling technique used in this research is purposive sampling technique. Purposive sampling is a sample determination technique based on certain criteria".

Table 1. Research Sample Data

No	Research Data Criteria	Number of Sample
1.	Mining sector companies listed on the Indonesia Stock Exchange for the 2018-2021 period	47
2.	Samples were excluded due to incomplete data	(3)
3.	Companies that do not follow PROPER	(32)
	The final sample size is 12 companies × 4 years = 48 samples	48

From a population of 47 mining companies listed on the Indonesia Stock Exchange (IDX) during the 2018-2021 period, a sample of 12 mining companies was obtained with a period of 4 years (2018-2021), so there were 48 research samples.

3.1. Variable Operational Definitions

3.1.1. Green Accounting (X1)

Green accounting refers to the cost components of environmental responsibility, environmental restoration, environmental management and environmental rehabilitation in annual reports or in a company's statement of financial position (Kuraesin et al., 2022). Green Accounting can be measured by the following formula:

$$\textbf{Environmental Costs} = \frac{\textbf{Cost}}{\textbf{Profit}}$$

3.1.2. Environmental Performance (X2)

Environmental performance is the company's performance in maintaining the company's environmental sustainability due to damage caused by the company itself (Lestari et al., 2019). Environmental performance can be measured using PROPER. The PROPER assessment is divided into several color levels, namely 5 (Gold), 4 (Green), 3 (Blue), 2 (Red), and 1 (Black).

3.1.3. Profitability (Y)

The company's ability to generate profits over a certain period (Ningtyas & Triyanto, 2019). Green Accounting can be measured by the following formula:

$$\textbf{Inventory turnover} = \frac{\textbf{Net profit}}{\textbf{Total assets}}$$

4. RESULTS AND DISCUSSION

4.1. Research Result

This research was carried out by testing data taken from the Indonesia Stock Exchange as many as 48 research samples from 12 mining companies. Data processing in this study used SPSS Version 26 and the results obtained were as follows.

4.1.1. Descriptive Analysis

Using tabular format, descriptive analysis seeks to provide a thorough description of the study's variables. Company Profitability is the dependent variable, whereas Green Accounting and Environmental Performance are the independent variables. The results of descriptive statistics obtained from data processing in the study can be seen in table 2 below:

Table 2. Descriptive Statistical Test Results

Descriptive Statistics

	N	Minimum	Maximum	Means	std. Deviation
Green_Accounting	48	17.29	55.03	26.4625	9.57786
Performance_Environment	48	3	5	3.92	.794
Profitability_Company	48	-32.00	29.00	3.4096	9.25888
Valid N (Listwise)	48				

Source: Data processed using SPSS 26.0.

Based on the table above, the results of the analysis using descriptive statistics are explained as follows:

1) Measured by the descriptive statistical test of the Green Accounting variable (X1), the minimum value is 17,29 and the maximum value is 55,03, the mean is 26,46 and the standard deviation is 9,577.
2) The Environmental Performance Variable (X2) is tested using descriptive statistics and is measured based on evaluations at the Ministry of Environment and Forestry (KLHK), resulting in a maximum score of 5, minimum score of 3, and an average of 3,92 and a standard deviation of 0,794. The highest score is 5, which means that the sample companies get a “Gold” rating which indicates that the company

consistently shows excellent environmental performance and has paid attention to environmental management in its business processes. Companies that make money regularly. Even though a drink rating of 3 means it has a “blue” rating, it indicates that the company is not providing the necessary leadership and accountability. The average score is 3,92 and if converted to a good rating category, it is included in the “green” criteria, which means that the companies tested on average practice more environmental management and responsibility than required by the government.

3) Company Profitability Variable (Y) gives an average test value of 3,409, a maximum value of 29,00, a drink value of -32,00 and a standard deviation value of 9,258.

4.1.2. Classic assumption test

1) Kolmogorov Normality Test Table

The Kolmogorov-Smirnov (KS) test is a statistical method for verifying whether or not a sample represents the population's actual data distribution or statistical pattern. However, the KS test is most commonly used to examine the Normal Distribution (whether a normal distribution).

Table 3. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residuals
N		48
Normal Parameters, b	Means	.0000000
	std. Deviation	1.28138989
Most Extreme Differences	absolute	096
	Positive	096
	Negative	-.065
Test Statistics		096
asymp. Sig. (2-tailed)		.200c,d

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Source: Results of data processing with SPSS Vers. 26.0

From the table above, it is known that the Asymp Sig (2-tailed) value is 0,200 which indicates that the residual research data is normally distributed because the Asymp Sig (2-tailed) value is > 0,05.

Table 4. One-Sample Kolmogorov-Smirnov Test

		Ln_Green_Accounting	Ln_Performance_Environment	Ln_Profitability_Company
N		48	48	48
Normal Parameters, b	Means	3.2654	1.2863	.6766
	std. Deviation	.33509	.21971	1.62542
Most Extreme Differences	absolute	.138	.345	.163
	Positive	.138	.345	.106
	Negative	-.109	-.197	-.163
Test Statistics		.138	.345	.163
asymp. Sig. (2-tailed)		.122c	.100c	.103c

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: Results of data processing with SPSS Vers. 26.0

The Asymp Sig (2-tailed) value of the Green Accounting variable is 0,122, which suggests that the study residual data are normally distributed because the Asymp Sig (2-tailed) value is more than 0,05 in the table above. The Asymp Sig (2-tailed) value of the Environmental Performance variable is 0,100, indicating that the residual research data is normally distributed because the value is more than 0,05 The Asymp Sig (2-tailed) value of the Company Profitability variable is 0,103, indicating that the research residual data are normally distributed because the value is more than 0,05

2) Multicollinearity Test

Table 5. Multicollinearity Test Results

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients std. Error	Standardized Coefficients Betas	t	Sig.	Collinearity Statistics tolerance	Collinearity Statistics VIF
1	(Constant)	-9,531	2067		-4,611	.000		
	Ln_Green_Accounting	2,198	.570	.453	3,855	.000	.999	1,001
	Performance_Environment	.817	.225	.427	3,633	001	.999	1,001

a. Dependent Variable: LN_PROFITABILITAS_COMPANY

Source: Results of data processing with SPSS Vers. 26.0

Sourced from the table above shows that between the dependent variables there is no multicollinearity, described as follows:

a. Green accounting: Tolerance value of 0,999 ≥ 0,10 and VIF value of 1,001 ≤ 10, multicollinearity does not occur

b. Environmental Performance: Tolerance value of 0,999 ≥ 0,10 VIF value of 1.001 ≤ 10, multicollinearity does not occur

3) Heteroscedasticity Test

The heteroscedasticity test was employed to examine whether or not the regression models in this study had different variances. Figure 1 demonstrates the outcomes of the heteroscedasticity test.

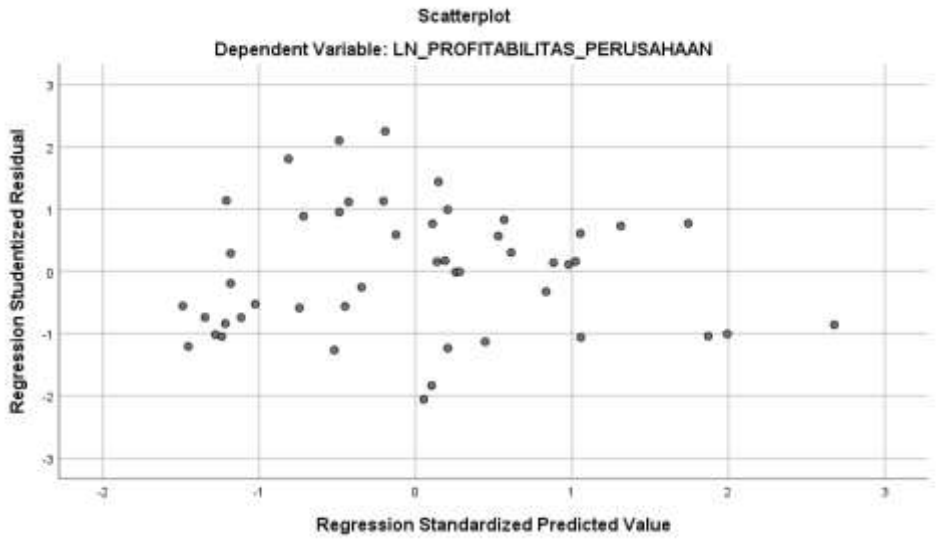

Figure 1. Heteroscedasticity Test Results

From the figure above, since the points in Figure 1 are evenly distributed above and below the 0 on the Y axis, we can infer that there is no heteroscedasticity.

4) Autoclearance Test

Table 6. Autocorrelation Test Results

Run Test

	Unstandardized Residuals
Value test	.06389
Cases < Test Value	24
Cases >= Test Value	24
Total Cases	48
Number of Runs	21
Z	-1,021
asymp. Sig. (2-tailed)	.307

a. Median

Source: Results of data processing with SPSS Vers. 26.0

Based on the table data above, it shows a significance value of Asymp Sig (2-tailed) of 0,307 > 0,05, it can be concluded that there is no autocorrelation.

4.1.3. Hypothesis testing

1) Multiple Regression Analysis

The research that attempts to quantify the impact of multiple independent variables on a single dependent variable is called a multiple linear regression analysis. This research employs multiple linear regression techniques to examine how Green Accounting and Environmental Performance influence the financial success of businesses.

Table 7. Results of Multiple Linear Regression Analysis

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	std. Error	Betas	t	Sig.	tolerance	VIF
1	(Constant)	-9.531	2067		-4.611	.000		
	Ln_Green_Accounting	2.198	.570	.453	3.855	.000	.999	1.001
	Performance_Environment	.817	.225	.427	3.633	001	.999	1.001

a. Dependent Variable: LN_PROFITABILITAS_COMPANY

Source: Data processed with SPSS Vers 26.0.

Following is a format for the multiple regression equation based on the data in the table above.

$$Y = -9.531 + 2.198X_1 + 0.817X2 + e$$

Information :

a. A constant of -9,531 states that if the independent variable Company Profitability is considered constant, then the Company's Profitability is -9,531.
b. Green accounting on Company Profitability: The coefficient value of Green accounting is 2,198 and is positive, illustrating that green accounting has a unidirectional relationship to Company Profitability. This means that every increase in green accounting will also increase Company Profitability by 2,198.
c. Environmental performance on Company Profitability: the environmental performance coefficient value is 0.817 and is positive, this indicates that environmental performance has a direct relationship with Company Profitability. Every increase in environmental performance will increase Company Profitability by 0817.

2) F Test (Simultaneous Test)

Table 8. F Test Results

ANOVA[a]

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	47,001	2	23,500	13,703	.000[b]
	residual	77,172	45	1715		
	Total	124,173	47			

a. Dependent Variable: Ln_Profitabilitas_Company
b. Predictors: (Constant), LN_GREEN_ACCOUNTING, PERFORMANCE_ENVIRONMENT

Source: Results of data processing using SPSS Vers. 26.0.

The table above shows the F value of 13,703 with a probability level of 0,000 and when compared with a significance level of 0,05, it can be concluded that simultaneously green accounting and environmental performance have a significant effect on company profitability.

5) T test (Partial Test)

Table 9. T Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	std. Error	Betas	t	Sig.	tolerance	VIF
1	(Constant)	-9,531	2067		-4,611	.000		
	Ln_Green_Accounting	2,198	.570	.453	3,855	.000	.999	1,001
	Performance_Environment	.817	.225	.427	3,633	001	.999	1,001

a. Dependent Variable: LN_PROFITABILITAS_COMPANY

Source: Results of data processing using SPSS Vers. 26.0.

The table shows that the p-value for the variable X1 in green accounting is 0. demonstrates that green accounting does have an impact on business profits, thus supporting accepted H1 and rejecting H0. The variable of environmental performance has a 0.001 significance level. H2 is accepted and H0 is denied because of the considerable relationship between X2 (environmental performance) and profit for the firm.

5. CONCLUSION

This research conclude that the presence of industry has a negative impact on the surrounding environment because businesses engage in environmental exploitation that, if not controlled, will have a severe impact on environmental pollution based on the phenomena and theories observed and the results of the research analysis conducted. Although companies should implement environmental conservation strategies to boost their long-term financial success, doing so is also good for their reputation among key stakeholders thanks to the positive effect it has on the company's image. A company's CSR efforts and the amount of money it allocates to environmental expenditures have a direct and positive effect on the environment. Accounting for the environment is a problem that needs fixing, and environmental accounting is one possible answer.

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