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THE INFLUENCE OF ENVIRONMENTAL COST, ENVIRONMENTAL PERFORMANCE, AND CARBON EMISSION DISCLOSURE ON FINANCIAL PERFORMANCE

Qinaya Azahra Kamila[1], Putu Prima Wulandari[2]

[1,2]*Accounting Department, Faculty of Economics and Business, University of Brawijaya, Indonesia*

Abstract. The study aims to examine the influence of environmental cost, environmental performance, and carbon emission disclosure on a company's financial performance. The population in this study included the mining companies listed on the Indonesia Stock Exchange from 2020 to 2022. The samples were determined using the purposive sampling technique with several predetermined criteria, resulting in 60 samples. The data used in this study is secondary data obtained from the company's financial reports, annual reports, and sustainability reports. The data analysis technique used is multiple linear regression using SPSS to test each hypothesis in this study. The results of this study demonstrate that including environmental costs in the company's business strategy can improve the company's financial performance. Additionally, a company with good environmental performance can also enhance the company's financial performance. However, a company that discloses its carbon emissions information does not affect the company's financial performance.

Keywords: Carbon Emission Disclosure; Environmental Cost; Environmental Performance; Financial Performance

I. INTRODUCTION

The financial performance of mining companies listed on the Indonesia Stock Exchange has shown a significant increase after the COVID-19 pandemic. According to the data obtained from the financial statements of the mining companies listed on the Indonesia Stock Exchange, the average financial performance of mining companies, as measured by the Return on Asset (ROA) ratio, decreased by 0.77% in 2020, reaching its lowest point of 0.87%. However, in 2021 and 2022, the financial performance of mining companies increased by 8.80% and 8.18%, respectively. This phenomenon showed that the financial performance of mining companies has improved after the COVID-19 pandemic hit.

A company's financial performance is a key indicator that investors focus on as it reflects its ability to generate profits and its prospects for continuous operation (Majidah and Aryanty, 2023). Financial performance measurement using the Return on Asset ratio can measure how effectively a company uses its assets to generate profits from its core operations. Companies that are consistently profitable tend to be more financially stable resulting in a good financial performance. Therefore, it can attract investors to provide the capital required for a company to carry out its operations. However, some companies continue to prioritize generating maximum profits and obtaining capital intake over considering the environmental impacts caused by their operations (Meiyana and Aisyah, 2019).

The mining sector is an industry that is directly linked to nature due to its operational activities, such as excavation, drilling, and blasting processes, in order to obtain rock fragments for mineral extraction. In January 2020, the government established Presidential Regulation No. 18 of 2020 on the National Medium-Term Development Plan 2020-2024 that incorporates the Sustainable Development Goals (SDGs) into the implementation strategy for the development of the Indonesian economy. One of the aims is to rebuild and strengthen the environment's resilience to disasters and climate change along with supporting the sustainability of Indonesia's economic growth (Halimatussadiah, 2020). This regulation requires companies to adhere to the environmental policies outlined in carrying out its operations.

Companies can contribute to environmental conservation by including the environmental cost in their business strategy implementation. This in accordance with the Sustainable Development Goals established by the United Nations, which focus on five key areas, including planet, people, partnership, prosperity, and peace (United Nations, 2023). However, in 2022, it was reported that Indonesia accounted for 58.2% of tropical rainforest destruction caused by the mining industry (Arif A, 2022). Despite their strong financial performance, most Indonesian mining companies continue to pay little attention to the environmental impact of their operations. It can lead to public protests because the companies have failed to comply with environmental regulations and standards.

Implementing environmental costs in business strategies is a form of a company's accountability to stakeholders and its compliance with prevailing norms regarding environmental regulations. This strategy may raise the company's financial performance by showing that the company is concerned about the operation's impacts on the environment. This can lead to an enhancement of the company's reputation among its stakeholders. This is in line with the Stakeholder Theory, which states that when carrying out a business, companies must pay attention not only to the interests of the company itself but also to the interests of stakeholders in carrying out their business (Angelina and Nursasi, 2021).

Enhancing the company's reputation can also be facilitated by having good environmental performance. PROPER (Public Disclosure Program for Environmental Compliance) initiated by the Ministry of Environment and Forestry of the Republic of Indonesia can be used as a benchmark for assessing the company's environmental performance. According to the PROPER ranking in 2021, there are still 645 companies that are rated red, indicating that a significant number of companies continue to perform poorly in terms of environmental performance (Reliantoro et al., 2022). Furthermore, companies that disregard environmental standards risk losing the trust of the public and can face several legal challenges, such as the imposition of fines and stricter regulatory oversight.

By meeting the PROPER criteria regulated by the government, the company can achieve positive assessment results, demonstrating to the stakeholders that they are accountable for the impact on the environment due to their operations. As a result, this can enhance the company's reputation, allowing it to gain the confidence of its stakeholders, which can lead to an improvement in the company's financial performance. This aligns with Stakeholder Theory, which states that the success of a company is determined by their stakeholders, hence companies must consider the impact on them (Prena, 2021).

Furthermore, global warming brought on by carbon emissions is another environmental issue that is constantly becoming a global concern. According to the Global Carbon Project (2021), Indonesia produced the most carbon emissions worldwide in 2020 and 2021, placing it ninth and tenth, respectively. In 2021, the mining industry in Indonesia contributed approximately 9 million tons of carbon dioxide emissions (Firdaus, 2023). Company efforts related to carbon emissions management can be achieved by disclosing the carbon emissions reduction initiatives of the company. The carbon emission disclosure is based on OJK RI Regulation No. 51/POJK.03/2017 on the Implementation of Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies, as well as Article 68 Law No. 32 of 2009 on Environmental Protection and Management.

If companies do not disclose their environmental protection efforts, it will be difficult for them to gain public confidence due to the unavailability of information to assess the company's compliance with environmental standards. One of the ways to increase the company's transparency and responsibility to stakeholders is by disclosing its carbon emissions management information. This aligns with the Stakeholder Theory, which asserts that all stakeholders have the right to obtain information about company activities that affect them (Nastiti and Hardiningsih, 2022).

Prior studies have examined the causal relationship between financial performance and environmental factors in this study, which consisted of environmental cost, environmental performance, and carbon emission disclosure, with varying results. Numerous studies found that environmental cost has a positive effect on financial performance (Amalya et al., 2023; Cletus et al., 2022; Ramadhani et al., 2022; Oraka, 2021; Shabbir and Wisdom, 2020). However, other studies found otherwise, that environmental cost has a negative effect on financial performance (Setiawan and Honesty, 2021; Riyadh et al., 2020). In line with this, more studies discovered that environmental cost has no effect on financial performance (Cahyani and Puspitasari, 2023; Khairunisa and Pohan, 2022).

Furthermore, numerous studies have indicated that environmental performance has a positive effect on financial performance (Cahyani and Puspitasari, 2023; Majidah and Aryanty, 2023; Ramadhani et al., 2022; Dita and Ervina, 2021; Setiadi, 2021). Other studies, however, discovered that environmental performance has a negative effect on financial performance (Septiavin et al., 2023; Wiraguna et al., 2023). More studies, meanwhile, revealed that environmental performance has no effect on financial performance (Nurfaidah et al., 2023; Anggara et al., 2021).

In addition, numerous studies demonstrated that carbon emission disclosure has a positive effect on financial performance (Emmanuel et al., 2023; Nyahuna and Doorasamy, 2023; Khairunisa and Pohan, 2022; Kristari and Teruna, 2022; Choiriah and Ria, 2021). On the other hand, other studies found that carbon emission disclosure has a negative effect on financial performance (Siddique et al., 2021). Additional research supported this finding and revealed that the disclosure of carbon emissions has no effect on financial performance (Safutri et al., 2023; Ladista et al., 2023).

Based on the explanation above, this study is conducted with the title "The Influence of Environmental Cost, Environmental Performance, and Carbon Emission Disclosure on Financial Performance". The result of this study is expected to provide insights regarding how

environmental aspects can affect a company's financial performance. In addition, it is expected that the management will reorient their priorities from a sole focus on wealth maximization to a recognition of the necessity of environmental stewardship for the company's continued success. Furthermore, it is expected to provide an evaluation to the government regarding the effectiveness of environmental regulations implementation.

II. LITERATURE REVIEW

A. Stakeholder Theory

Stakeholder theory, invented by Robert Edward Freeman in 1984, is a theory related to the relationship between companies and stakeholders who have particular interests, and how these stakeholders might influence companies to meet their expectations (Deegan, 2014: 372-373). According to Stakeholder Theory's moral and ethical perspective, every stakeholder has rights that should not be violated by the company, including the right to be treated fairly and held accountable for the impact that the company has on the stakeholders in achieving its goals (Deegan, 2014:374). Furthermore, Stakeholder Theory also states that the sustainability of the company requires the support of stakeholders, not only from their shareholders (Mahajan et al., 2023). Stakeholders have the right to obtain information about the company's activities that may affect them (Nastiti and Hardiningsih, 2022).

B. Financial Performance

Financial performance is an indicator to measure the success of a company based on the financial sector, allowing them to evaluate the results of the benefits obtained for the sustainability of the company (Dita and Ervina, 2021). This includes the measurement of the financial health, the operational efficiency, and the ability of the company to meet its financial goals. Financial performance is important not only for company management but also for investors, who use it as a basis for consideration in making investment decisions. A good financial performance will attract investors to invest their capital in the company. Financial performance is measured through data derived from the company's financial statements, which describe the company's financial condition in the preceding period and are used as a reference to predict the company's finances in the future. One of the ways to evaluate the company's financial performance is by using Return on Asset to measure how effectively a company uses its assets to generate profits from its core operations (Ross et al., 2013).

C. Environmental Cost

Environmental cost is a cost that arises because poor environmental quality exists or has to be prevented, reduced, or remedied (Shabbir and Wisdom, 2020). Siagian (2021) stated that environmental cost refers to the expenses incurred due to the low quality of the environment resulting from the company's operations. According to Hansen and Mowen (2007:780), environmental costs are expenses incurred as a result of poor environmental quality or of the potential of poor environmental quality. The allocation of environmental costs in the long term can lead to energy savings, increased productivity, sustainable environmental improvements, minimized environmental damage, and a positive environmentally friendly image (Dewi, 2014). Hansen and Mowen (2007: 780) explained that environmental costs are divided into four types, namely environmental prevention cost, environmental detection cost, environmental failure cost, and environmental external failure cost. According to Dewi (2014), companies need to

perform several steps in environmental cost allocation, including identification, recognition, measurement, and presentation.

D. Environmental Performance

Environmental performance is all company activities that demonstrate efforts in environmental conservation to lower the environmental impact of the company's operational activities and report these activities to stakeholders as a form of accountability and transparency to the public (Dita and Ervina, 2021). With information about environmental performance, the company will publish the amount of effort the company has put into fulfilling its responsibilities to overcome the environmental impacts caused by its operations. Information related to the company's environmental performance is published in the company's annual and sustainability report.

PROPER (Public Disclosure Program for Environmental Compliance) is one of the programs initiated by the Ministry of Environment and Forestry of the Republic of Indonesia in 2002 as an effort to improve the company's environmental management performance by following the criteria regulated in the law. The PROPER program is regulated through the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 1 of 2021 concerning the Company Performance Rating Assessment Program in Environmental Management. A good rating obtained from the government assessment will help in improving the company's image by showing a strong commitment to environmental awareness PROPER rating assessment results are divided into 5 colors, namely:

Table 1 Description of PROPER Rating

Rating	Description
Gold	Consistently demonstrating environmental excellence in production processes and services, as well as conducting ethical and responsible business toward society.
Green	Conducting environmental management beyond compliance through the implementation of an environmental management system, utilizing resources efficiently, and implementing social responsibility properly.
Blue	Conducting environmental management efforts required in accordance with applicable laws and regulations.
Red	Carrying out environmental management efforts but not yet in accordance with the requirements as stipulated in the legislation.
Black	Deliberately committing acts or negligence resulting in environmental pollution or damage, as well as violating applicable laws and regulations and/or not implementing administrative sanctions.

Source: Regulation of the Minister of Environment and Forestry of the Republic of Indonesia (2022)

E. Carbon Emission Disclosure

Carbon emission disclosure is a narrative explanation of how a company manages carbon emissions, their associated impacts, and the reasonable expectations and interests of its stakeholders (GSSB, 2016). Carbon emission disclosure is included in the environmental report or sustainability report prepared by the company, which contains information about the measurement, recognition, and presentation of the company's carbon emissions as well as the company's historical and prospective carbon performance (Ladista et al., 2023). Carbon

emissions are caused by deforestation, industrial processes, and other activities that involve the combustion of hydrocarbon products such as petroleum, natural gas, and coal, which produce carbon dioxide gases (Emmanuel et al., 2023).

Carbon emission disclosure is also crucial non-financial information for the investor when making investment decisions because it reduces the risks faced by investors and protects the investor's interests (Lu et al., 2021). Regulations that govern carbon emissions are stipulated in Presidential Regulation No. 98 of 2021 concerning the Implementation of Carbon Economic Value for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development. Based on research conducted by Bae Choi et al. (2013), carbon emission disclosure can be measured through the criteria as follows:

Table 2 CDP Indicators for Carbon Emission Disclosure

No	Indicator	Item	Description
1	Climate Change: Risks and Opportunities (CC)	CC1	Description of climate change risks and measures taken
		CC2	Description of the financial and business implications and opportunities of current or future climate change
2	Carbon Emission (CE)	GHG1	Description of Greenhouse Gas emission calculation method
		GHG2	External verification of greenhouse gas emission calculations
		GHG3	Total Greenhouse Gas emission production
		GHG4	Scope presentations 1 and 2, or 3 Greenhouse Gas emissions
		GHG5	Presentation of the origin or source of Greenhouse Gas emissions
		GHG6	Presentation of facility or segment-level Greenhouse Gas emissions
		GHG7	Presentation of Greenhouse Gas emissions compared to previous periods
3	Energy Consumption (EC)	EC1	Total energy consumption
		EC2	Total renewable energy consumption
		EC3	Presentation of energy consumption by type, facility, or segment
4	Greenhouse Gas Reduction and Cost (RC)	RC1	Detailed Greenhouse Gas emission reduction plan
		RC2	Detailed emission reduction target
		RC3	Reduction in emissions and current costs due to emission reduction efforts
		RC4	Future emission costs
5	Accountability of Emission Carbon (AEC)	ACC1	Executive responsibility for climate change mitigation
		ACC2	Description of mechanism by which executives monitor company progress on climate change

Source: Research Data from Bae Choi et al. (2013)

III. RESEARCH METHODOLOGY

A. Type of Research

This study uses quantitative methods in hypothesis testing. This type of research is causal research which aims to test the effect of independent variables on the dependent variable (Bougie and Sekaran, 2020). This study aims to analyze the influence of environmental cost, environmental performance, and carbon emission disclosure on financial performance.

B. Population and Sample

The population used in this study are all mining companies listed on the Indonesia Stock Exchange from 2020 to 2022. The sampling technique used in this research is purposive sampling. The use of purposive sampling was chosen based on the objectives of the research to be carried out. The sampling criteria are as follows:

Table 3 Sample Criteria

No	Description	Quantity
1	Mining companies listed on the Indonesia Stock Exchange from 2020 to 2022 consecutively.	67
2	Mining companies that do not publish audited financial statements from 2020 to 2022 consecutively.	(1)
3	Mining companies that do not participate in PROPER from 2020 to 2022 consecutively.	(43)
4	Mining companies that do not publish annual/sustainability reports from 2020 to 2022 that contain environmental costs and company carbon emissions information.	(3)
Total Sample		20
Research Period		3
Final Sample		60

Source: Data processed by researcher (2023)

C. Type and Sources of Data

The data used in this study is secondary data. The data collection technique used is the documentation technique where the researcher collects the data from the audited financial reports, annual reports, and sustainability reports obtained from the Indonesia Stock Exchange website (www.idx.co.id) as well as the website of each company. The type of data used in this research is panel data, also known as a longitudinal dataset or simply a panel, which is a combination of cross-sectional and time series data. In this study, the researcher uses more than one research object in several specific periods, which are the mining companies listed on the Indonesia Stock Exchange from 2020 to 2022.

D. Operational Definition and Variable Measurements

The dependent variable of this research is financial performance. The independent variables of this research are environmental cost, environmental performance, and carbon emission

disclosure. The operational definition and variable measurements are described in the table 4 below:

Table 4 Operational Definition and Variables Measurement

Variables	Operational Definition	Measurements	References
Financial Performance (Y)	The company's ability to generate profit for the capital invested in its assets	ROA = $\frac{\text{Net Profit After Tax}}{\text{Total Asset}}$	Budi and Zuhrohtun (2023), Dita and Ervina (2021).
Environmental Cost (X1)	Total environmental costs incurred by the company in one year	Environmental Cost = Total Environmental Costs	Amalya et al. (2023), Riyadh et al. (2020).
Environmental Performance (X2)	Company performance in performing environmental protection	PROPER Rating: 1. Score 5: Gold (Very Good) 2. Score 4: Green (Good) 3. Score 3: Blue (Enough) 4. Score 2: Red (Poor) 5. Score 1: Black (Very Poor)	Putri and Arsjah (2023), Ramadhani et al. (2022).
Carbon Emission Disclosure (X3)	Information disclosed by the company regarding carbon emissions, energy consumption, and climate change	CED = $\frac{\text{Total CDP Indicators disclosed}}{\text{Total CDP Indicators}}$	Safutri et al. (2023), Khairunisa and Pohan (2022).

Source: Research Data (2023)

E. Data Analysis Technique

The statistical package for social science software (SPSS) 26 will be employed for processing the quantitative data that has been gathered. The tests that will be performed on the data include descriptive statistics, classical assumption tests, and multiple linear regression.

IV. RESULT AND DISCUSSION

A. Descriptive Statistics

Descriptive statistics were the initial series of processing steps performed to illustrate or describe the data. The results of the descriptive statistics are shown in the following table:

Table 5 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Environmental Cost - in million Rupiah (X1)	60	462.73	1,179,312.07	127,581.45	266,018.18
Environmental Performance (X2)	60	3.00	5.00	3.6500	0.7552

Carbon Emission Disclosure (X3)	60	0.00	0.61	0.3333	0.1804
Financial Performance (Y)	60	-0.26	0.62	0.1361	0.1915
Valid N (listwise)	60				

Source: Data processed by the researcher using SPSS 26 (2024)

The analytical results presented in Table 5 show the number of data samples (N) used in this study is 60 samples, within three years of research, namely from 2020 until 2022, with 20 companies sampled each year. The environmental cost variable in million Rupiah ranges from a minimum of IDR 462,37 to a maximum of IDR 1.179.312,07, with an average of IDR 127.581,45 and a standard deviation of IDR 266,018.18.

In contrast, the environmental performance variable ranges from a minimum of 3.00 to a maximum of 5.00, with an average of 3.6500 and a standard deviation of 0.7552. The carbon emission disclosure variable ranges from a minimum of 0.00 to a maximum of 0.61, with an average value of 0.3333 and a standard deviation of 0.1804. Meanwhile, the financial performance variable ranges from a minimum of -0.26 to a maximum of 0.62 with an average value of 0.1361 and a standard deviation of 0.1915.

B. Classical Assumption Test

The classical assumption test consists of a normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. The results of this test in this research are explained further below:

1. Normality Test

The normality test aims to test whether, in the regression model, confounding variables or residual values have a normal distribution (Anderson et al., 2011: 610). The result of the Normality Test is presented in the following table:

Table 6 Normality Test

Significance	Description
0.072	Normal

Source: Data processed by the researcher using SPSS (2024)

According to the normality test results presented in Table 6, the significance (p-value) obtained is 0.072, which is greater than 0.05. This result implies that the residual values are normally distributed.

2. Multicollinearity Test

The multicollinearity test is conducted to determine whether the independent variables used in this study show indications of multicollinearity or not and to ensure that the independent variables are not interrelated (Anderson et al., 2011: 662). The result of the multicollinearity test is presented in the table below:

Table 7 Multicollinearity Test

Variable	Collinearity Statistics		Description
	Tolerance	VIF	
Environmental Cost (X1)	0.576	1.736	No multicollinearity

Environmental Performance (X2)	0.604	1.654	No multicollinearity
Carbon Emission Disclosure (X3)	0.886	1.131	No multicollinearity

Source: Data processed by the researcher using SPSS (2024)

According to the multicollinearity test results presented in Table 7, it shows that the tolerance value of all variables is greater than 0.1. Thus, it can be concluded that there is no multicollinearity between independent variables. Additionally, the VIF value of all variables is smaller than 10, which means that there is no multicollinearity between independent variables.

3. Heteroscedasticity Test

The heteroscedasticity test is conducted to determine whether, in the regression research model, there is an inequality of variance from the residual values of one observation to the residual values of another observation (Cahyani and Puspitasari, 2023). The result of the heteroscedasticity test is shown in the following table:

Table 8 Heteroscedasticity Test

Variable	Significance	Description
Environmental Cost (X1)	0.085	No heteroscedasticity
Environmental Performance (X2)	0.639	No heteroscedasticity
Carbon Emission Disclosure (X3)	0.292	No heteroscedasticity

Source: Data processed by the researcher using SPSS (2024)

According to the heteroscedasticity test results presented in Table 8, it shows that the significance of all variables is greater than 0.05. Therefore, it can be concluded that there are no symptoms of heteroscedasticity or that the residual values have a constant variance.

4. Autocorrelation Test

The autocorrelation test aims to test whether or not the residual in period t correlates with the residual in the preceding period in a linear regression model (Anderson et al., 2011: 750). Based on the Durbin-Watson table for n = 60 (number of samples) and k = 3 (number of independent variables), it is known that the dl value is 1.480, the du value is 1.689 and 4-du is 2.311 (4-1.689). The result of the autocorrelation test is presented in the following table:

Table 9 Autocorrelation Test

Durbin-Watson	dU Value	4-dU Value
1.735	1.689	2.311

Source: Data processed by the researcher using SPSS (2024)

The autocorrelation test results presented in Table 9 show that the Durbin-Watson test value is 1.735, which falls between 1.689 and 2.311. As a result, it can be concluded that there is no autocorrelation between the residuals, or the assumption of no autocorrelation is fulfilled.

C. Multiple Linear Regression Analysis

Multiple regression analysis is used to determine how a dependent variable y is related to two or more independent variables (Anderson et al., 2011: 664). This study uses multiple

regression analysis because it consists of three independent variables, namely environmental cost, environmental performance, and carbon emission disclosure. This test includes:

1. Determination Coefficient (R2)

The determination coefficient is used to determine the amount of the contribution or the influence of the independent variables, namely environmental cost, environmental performance, and carbon emission disclosure, to the dependent variable, namely financial performance. The result of the determination coefficient is presented in the following table:

Table 10 Determination Coefficient (R^2)

R	R Square	Adjusted R Square
0.668	0.447	0.417

Source: Data processed by the researcher using SPSS (2024)

According to the determination coefficient results presented in Table 10, it shows that the Adjusted R Square is 0.417. Therefore, it can be concluded that the independent variables in this study, namely environmental cost, environmental performance, and carbon emission disclosure, can influence the dependent variable, namely financial performance, by 41.7%. In contrast, 58.3% of the financial performance variable is influenced by other variables not discussed in this study.

2. Simultaneous Test (F-test)

The simultaneous test (F-test) is used to determine whether the regression model used is feasible or not, as well as to determine the simultaneous influence significance of the independent variables on the dependent variable (Anderson et al., 2011: 662). The result of the F-test is shown in the following table:

Table 11 Simultaneous Test (F-test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	170.476	3	56.825	15.062	0.000
Residual	211.269	56	3.773		
Total	381.745	59			

Source: Data processed by the researcher using SPSS (2024)

The F-test results presented in Table 11 show that the significance obtained is 0.000. Therefore, it can be concluded that the regression model used is feasible. In other words, environmental cost, environmental performance, and carbon emission disclosure can simultaneously affect the company's financial performance.

3. Partial Test (t-test)

The partial test (t-test) aims to determine the individual significance level of the independent variable on the dependent variable (Anderson et al., 2011: 661). The result of the t-test is presented in the following table:

Table 12 Partial Test (t-test)

Dependent Variable	Independent Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		

Y	(Constant)	-20.783	2.726		-7.625	0.000
	X1	0.439	0.149	0.386	2.948	0.005
	X2	3.764	1.641	0.293	2.294	0.026
	X3	2.297	1.886	0.129	1.218	0.228

Source: Data processed by the researcher using SPSS (2024)

According to Table 12 and the regression model equation presented above, the following conclusions can be made:

1) The regression coefficient (β_1) between environmental cost and financial performance is 0.439, indicating a positive relationship between the two variables. The significance value between environmental cost and financial performance is 0.005 < 0.05. Thus, it can be concluded that environmental cost has a significant positive effect on financial performance, hence H1 is accepted while H0 is rejected.

2) The regression coefficient (β_2) between environmental performance and financial performance is 3.764, indicating a positive relationship between the two variables. The significance value between environmental performance and financial performance is 0.026 < 0.05. Thus, it can be concluded that environmental performance has a significant positive effect on financial performance, hence H2 is accepted while H0 is rejected.

3) The regression coefficient (β_3) between carbon emission disclosure and financial performance is 2.297, indicating a positive relationship between the two variables. The significance value between carbon emission disclosure and financial performance is 0.228 > 0.05. Thus, it can be concluded that carbon emission disclosure does not affect financial performance, hence H0 is accepted while H3 is rejected.

D. Discussion of the Research Results

1. The Effect of Environmental Cost on Financial Performance

The first hypothesis in this study is that environmental cost has a positive effect on financial performance. The testing results revealed that environmental cost has a significant positive effect on the company's financial performance of the company. This finding implies that the first hypothesis of this study is accepted. The result of this study is consistent with the results of previous research which found that environmental cost has a positive effect on financial performance (Amalya et al., 2023; Cletus et al., 2022; Ramadhani et al., 2022; Oraka, 2021; Shabbir and Wisdom, 2020).

The implementation of environmental cost can improve environmental efficiency by reducing material purchase and environmental impacts simultaneously through more efficient resource utilization. This can be accomplished by investing more in environmental protection efforts, namely using renewable resources, pollution control devices, and the development of environmental management systems. In addition, this study selected a sample of mining companies whose operational activities, such as excavation, directly impact the environment so that they can have a more significant impact than other sectors. Additionally, environmental cost is a form of corporate responsibility to the environment in which profits are used to support environmental conservation efforts. By paying attention to the interests of the

stakeholders, it can become the company's selling point in the competitive environment, so that the company's image can be increased in the eyes of its stakeholders. It also makes it easier for companies to export products to other countries, especially developed countries, that have a high concern for sustainability ethics.

2. The Effect of Environmental Performance on Financial Performance

The secondary hypothesis of this study is that environmental performance has a positive effect on financial performance. Following the testing, the result showed that environmental performance as measured by the PROPER rating, initiated by the Ministry of Environment and Forestry of the Republic of Indonesia, has a significant positive effect on the financial performance of the company. Therefore, we can conclude that the second hypothesis is accepted. The study's findings align with previous research which found that environmental performance has a positive effect on financial performance (Cahyani and Puspitasari, 2023; Majidah and Aryanty, 2023; Ramadhani et al., 2022; Dita and Ervina, 2021; Setiadi, 2021).

According to Table 4.1, the average environmental performance resulting from the PROPER program is 3.65, which indicates that most of the companies already have good environmental performance. It can be concluded that some of the mining companies in Indonesia are responsible for the impact it has on the environment as well as complies with government regulations regarding environmental protection. Receiving a high rating award from the government can enhance the company's reputation thereby making it easier for the company to conduct its operations as well as obtaining governmental approvals. It can also prevent legal challenges, such as the imposition of fines which can disrupt the operational activities of the company. It can also improve the efficiency of resource utilization, resulting in less waste and lower costs for purchasing materials and processing waste. Furthermore, good environmental performance can help the company in lowering operational risks such as environmental pollution and prevent protests from stakeholders.

3. The Effect of Carbon Emission Disclosure on Financial Performance

The third hypothesis of this study is that carbon emission disclosure has a positive effect on financial performance. According to the testing result, carbon emission disclosure, as measured by Carbon Disclosure Project (CDP) indicators, has no effect on the company's financial performance. Therefore, the third hypothesis is rejected. The findings of this study align with the results of the previous research which found that carbon emission disclosure does not affect financial performance (Safutri et al., 2023; Ladista et al., 2023; Ramadhan et al., 2023; Lu et al., 2021).

According to Table 4.1, the average disclosure of carbon emission is 33.33%, indicating that the level of disclosure of carbon emission information by companies is low, particularly in 2020. Even though the companies that have implemented environmental conservation activities, if they do not disclose their efforts, it will be difficult for them to gain confidence from the stakeholders. This is the result of the lack of information available regarding the company's carbon emission management that can be used as the basis to assess the company's compliance with environmental standards. The reason for this could be that the regulations for the specific management of carbon emissions were not issued until October 2021. The regulation being referred to is Presidential Regulation No. 98 of 2021 concerning the

Implementation of Carbon Economic Value for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development. With this new law, companies have just recently been encouraged to manage their carbon emissions better and disclose their efforts to do so.

V. CONCLUSION

This study aims to determine the influence of environmental cost, environmental performance, and carbon emission disclosure on the financial performance of mining sector companies listed on the Indonesian Stock Exchange from 2020 to 2022. Based on the results of statistical data analysis, the results of this study indicate that environmental cost and environmental performance influence financial performance positively. However, carbon emission disclosure does not influence financial performance. Considering this study's results, the implication of this study is the need for companies to consider more about their operational impacts on their stakeholders and shift their focus from wealth maximization to an understanding that success also depends on environmental stewardship. Investors also need to be more cautious in making investment decisions by considering more the non-economic aspects, such as the environment. Furthermore, the study provides an evaluation for the government regarding the effectiveness of regulations implementation related to environmental protection and the extent to which companies adhere to these regulations.

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