



**Peranan Kinerja Lingkungan Untuk Mewujudkan *Green Economy Development* Dampaknya Terhadap Kinerja Keuangan Perusahaan Pertambangan**

***THE ROLE OF ENVIRONMENTAL PERFORMANCE TO REALIZE GREEN ECONOMY DEVELOPMENT EFFECT ON MINING COMPANIES' FINANCIAL PERFORMANCE***

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ABSTRAK

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Penelitian ini bertujuan untuk menganalisis pengaruh biaya lingkungan terhadap kinerja keuangan perusahaan dengan kinerja lingkungan sebagai variabel *intervening*. Data yang digunakan adalah data sekunder. Adapun jumlah perusahaan pertambangan yang menjadi sampel penelitian sebanyak 20 perusahaan dari total 49 perusahaan yang terdaftar di Bursa Efek Indonesia. Teknik analisis data yang digunakan yaitu analisis jalur dengan bantuan program SEM-AMOS. Hasil penelitian memperlihatkan biaya lingkungan berpengaruh dan tidak signifikan terhadap kinerja lingkungan dan kinerja keuangan perusahaan. Kinerja lingkungan berpengaruh dan tidak signifikan terhadap kinerja keuangan perusahaan. Selain itu, hasil penelitian juga memperlihatkan kinerja lingkungan belum mampu memediasi pengaruh antara biaya lingkungan dan kinerja keuangan.

**Kata kunci:** Biaya Lingkungan; Kinerja Lingkungan; Kinerja Keuangan

**ABSTRACT**

*This study aimed to analyze the effect of environmental costs on the company's financial performance with environmental performance as an intervening variable. The data used were secondary data. The number of mining companies that became the research sample were 20 companies out of a total of 49 companies listed on the Indonesia Stock Exchange. The data analysis technique used was path analysis with using the SEM-AMOS program. The results of the study show that environmental costs have no significant effect on environmental performance and company financial performance. Also, environmental performance has no significant effect on the company's financial performance. Furthermore, the results of the study show that environmental performance has not been able to mediate the effect between environmental costs and financial performance*

**Keywords:** Environmental Costs; Environmental Performance; Financial Performance

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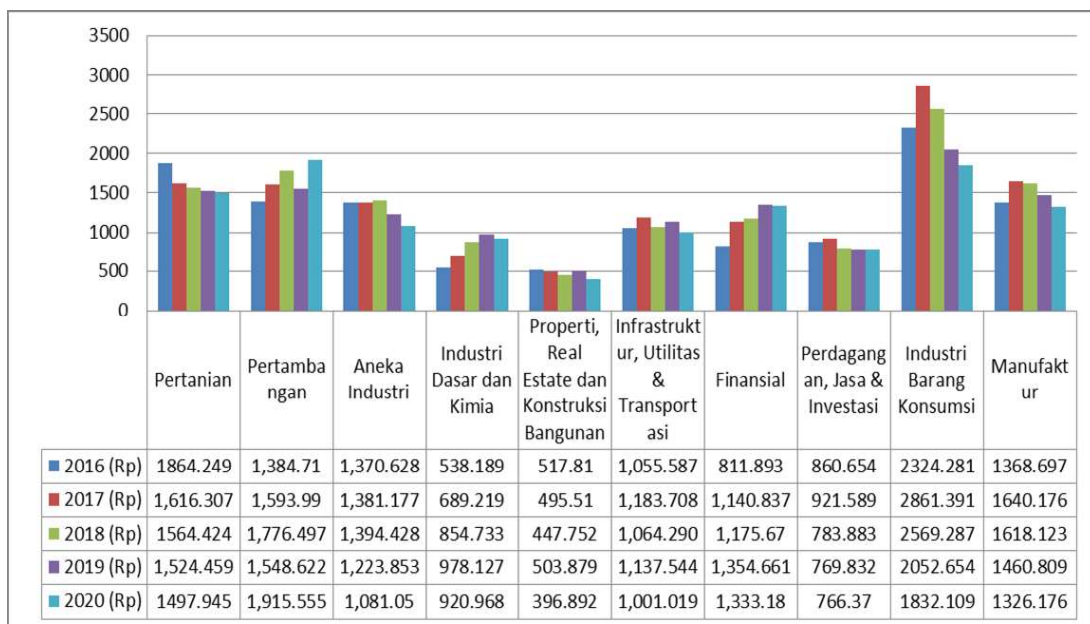
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**INTRODUCTION**

Indonesia is rich of natural resources and has abundant mineral reserves such as coal, nickel, gold and so on, that are managed by mining companies. However, based on the desire to generate maximum profits and obtain capital intake, some companies still ignore the environmental impact and social impact due to their operational activities. This is following (Hastawati & Sarsiti, 2020)’s study that the principle of profit maximization to achieve optimal profit is violated by

many companies such as through low environmental management, low environmental performance and low interest in environmental conservation.

(Darmadji & Fakhrudin, 2012) state that stock prices can change up or down very quickly depending on the amount of demand and supply between buyers and sellers of stocks. However, this is not the case with the stock prices of mining sector companies.



Source : Data Processed, 2021

**Figure 1.** IHS BEI

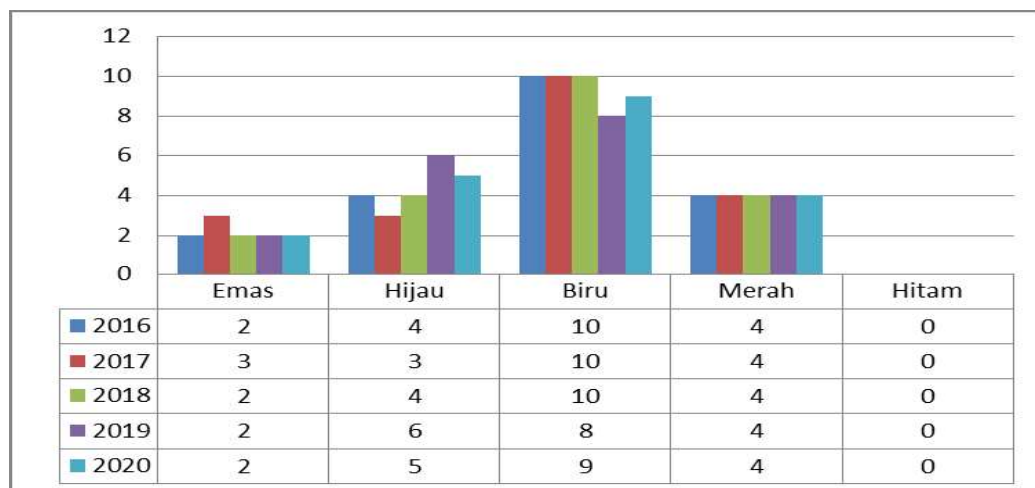
The figure shows that apart from the industrial and consumer goods sectors, the mining sector is one of the sectors with a fairly competitive stock price index. Apart from environmental damage caused by mining companies, the stock price

index of the mining sector actually tends to increase during the 2016-2020 period. Although there was a decline in stock prices in 2019, but in only 1 year, namely in 2020, the mining sector's stock prices experienced a significant increase

again. This is contrary to data on the environmental performance of mining companies in Indonesia.

In Indonesia, the implementation of company environmental performance is facilitated by PROPER (Program for Pollution Control, Evaluation and Rating) as an instrument used by the Ministry of Environment and Forestry (KLHK) to assess and rank companies' compliance with

environmental performance. Through this program, a company's environmental performance can be measured using colors ranging from the best to the worst, namely gold, green, blue, red to black which will be announced to the public on a regular basis. By just looking at the color, the public can know the level of arrangement of a company's environmental management (Hadi, 2017).

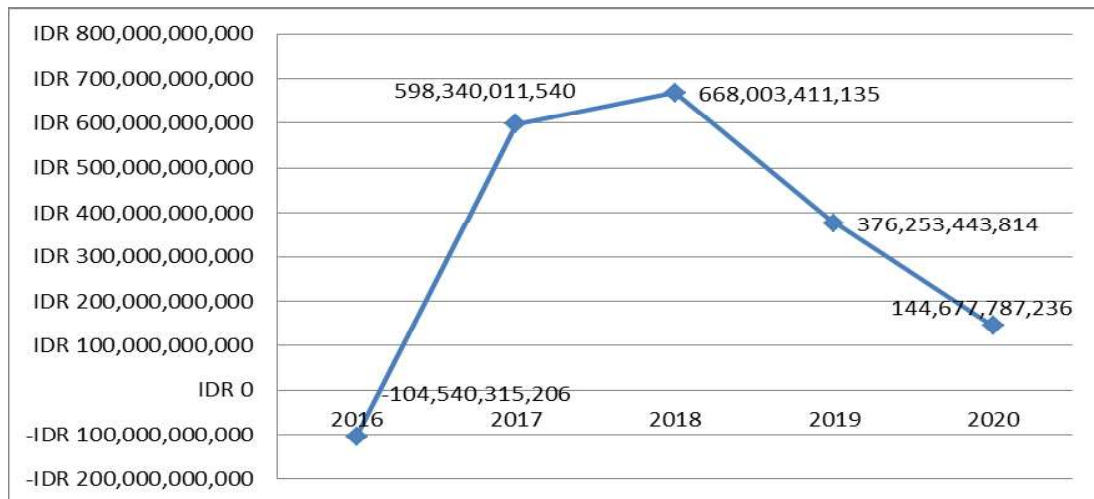


Source : PROPER MENLHK, 2021

Figure 2. List Company PROPER

Based on the picture, it can be seen that not all mining companies participate in PROPER. There are only around 20 companies in the mining sector participating in PROPER. Most of the companies are still in the blue predicate, which is the third rank of the PROPER predicate, while the companies that are very persistent in applying the PROPER criteria so that

they get gold ratings are only 2 to 4 companies. This happens due to the high environmental costs that must be incurred by the company to meet all environmental standards set out in PROPER, so if all these environmental standards are met, they can affect the financial performance of mining companies.



Source : BEI, 2021

**Figure 3.** Average Profit Mining Companies

Based on the figure, it can be seen that the average profit of mining companies has increased during the 2016-2018 period before experiencing a significant decrease until 2020. This, of course, becomes a big consideration for mining companies in incurring costs outside of operational costs such as environmental costs. Thus, management of environmental performance in these companies becomes less than optimal.

Environmental performance is a company's performance in creating a good environment (*green*). Good environmental performance can provide added value to the company in the eyes of stakeholders in order to increase company profitability (Fitriani, 2013). (Shofia & Anisah, 2020; Tjahjono & Eko, 2013) studies reveal that environmental performance has a significant positive effect on financial performance. On the contrary,

(Asjuwita & Agustin, 2020)'s study reveal that environmental performance has no positive effect on profitability. This study aimed to analyze the effect of environmental costs on the company's financial performance with environmental performance as an intervening variable.

Signaling theory emphasizes the importance of information issued by the company to investment decision-making by parties outside the company. Information published as an announcement will provide a signal for investors in making investment decisions. If the announcement contains a positive value, the market will react when the announcement is received by the market. When the information is announced and all market participants have received the information, market participants will first interpret and analyze the

information as a good signal or a bad signal (Chandra, 2015).

Legitimacy is a situation where the concern between the community and the environment has been met. Legitimacy is a psychological state in favor of people and groups who are very sensitive to the symptoms of the surrounding environment, both physical and non-physical. (Bahri & Cahyani, 2016) explain that legitimacy is a company's efforts to continue to ensure that they operate within the framework and norms that exist in the community or environment in which the company is located. The impact of this is that the company will get a positive image in the eyes of the community or stakeholders as well as gain legitimacy. When the community's opinion of the company is good, the company's position in the eyes of the community will also be good (Maya et al., 2018). Therefore, this legitimacy theory emphasizes that companies in carrying out their activities need to consider harmony and norms as well as social values so that they can be recognized and accepted by their environment. This is important to maintain the existence of those companies.

The Ministry of Environment and Forestry (KLKH) has implemented the Company Performance Assessment Rating Program in Environmental Management through PROPER

(Program for Pollution Control, Evaluation and Rating). This program aims to encourage companies to comply with environmental regulations and achieve environmental excellence through the integration of sustainable development principles in production and service processes by implementing a 3R (reuse, reduce and recycle) environmental management system, energy efficiency, resource conservation and business implementation that is ethical and responsible for the community through community development programs (KLKH, 2011). Through the PROPER awards list, the good or bad environmental performance of a company can be measured by looking at the colors obtained by the company, ranging from the best to the worst, namely gold, green, blue, red to black. PROPER awards are announced regularly every year to the public so that the public can know the level of environmental management of the company. Environmental performance is the overall achievement of the company in managing environmental problems as a result of the implementation of the company's operational activities. The explanation of the PROPER predicate issued by the Ministry of Environment and Forestry (KLKH) is as follows:

**Table 1.** PROPER Predicate

No	Color Predicate	Criteria & Score	Information
1	Gold	Very Good (5)	Businesses and/or activities that have consistently demonstrated environmental excellence in production and service processes, and have carried out ethical and responsible business towards the community.
2	Green	Good (4)	Businesses and/or activities that have carried out environmental management more than what is required in the regulations (beyond compliance) through the implementation of an environmental management system and have utilized resources efficiently through the 4R (reduce, reuse, recycle and recover) efforts and made social responsibility efforts (CSR) well also carried out social responsibility well.
3	Blue	Moderate (3)	Businesses and/or activities that have made efforts to manage the environment which is required in accordance with the applicable provisions or laws and regulations.
4	Red	Bad (2)	Businesses and/or activities that have made environmental management efforts but have not complied with the requirements as stipulated in applicable provisions or laws and regulations and are in the stage of implementing administrative sanctions.
5	Black	Very Bad (1)	Businesses and/or activities that have intentionally committed acts of negligence resulting in

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environmental pollution or damage, not carried out applicable provisions or laws and regulations and/or failed to carry out administrative sanctions.

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*Source:* PROPER KLKH

(Jackson & Singh, 2015)'s study reveals that companies with a higher environmental rating have higher financial performance than companies with a lower environmental rating. Then, (Misani & Pogutz, 2015; Septiadi, 2016)'s studies reveal that environmental performance takes a positive and significant effect on high and low environmental performance, while on moderate environmental performance, it has an insignificant effect. On the contrary, (Chang, 2015)'s study reveal that environmental performance has a significant negative effect on financial performance. Other studies by (Meiyana & Aisyah, 2019; Setiawan & Honesty, 2021) reveal that environmental performance has no effect on financial performance.

**H1: Environmental performance has a positive effect on mining companies' financial performance.**

According to (Buana & Nuzula, 2017), environmental costs are costs incurred by a company to prevent environmental damage or repair

environmental damage as a result of the company's business activities. In PSAK No. 33, it is stated that mining companies need to disclose stripping costs (often referred to as overburden removal costs) and environmental management costs, where environmental costs are divided into two, namely environmental management costs due to production and environmental management costs due to exploration and evaluation. The Minister of Energy and Mineral Resources regulates issues related to costs for reclamation and post-mining activities by making Ministerial Regulation No. 18 of 2018. In this Ministerial Regulation, it is explained that mining companies that will carry out exploration of mining areas are required to submit a reclamation plan and guarantee funds as guarantees for environmental improvement of disturbed land, as well as for mine closure. The greater the environmental costs incurred by the company, it will have an impact on improving environmental performance where this indirectly shows the company's concern for the

surrounding environment. The results of (Hapsari et al., 2021; Soseno, Romdhon, & Rochmatunisa, 2020)'s studies show that environmental costs have a positive effect on environmental performance.

Environmental costs incurred must also consider the company's financial condition because the costs to be incurred include large amounts and are outside the company's operational costs. This of course can have an impact on the company's financial performance. According to (Camilia, 2016), environmental costs that continue to be ignored by a company will have an impact on their financial statements because there will be an increase in environmental costs one day. The results of (Asjuwita & Agustin, 2020; Camilia, 2016; Evita & Syafruddin, 2019; Niasari, 2019)'s studies show that environmental costs have no effect on financial performance. Meanwhile, the results of (Meiyana & Aisyah, 2019; Setiawan & Honesti, 2021)'s studies show that environmental costs have a significant negative effect on financial performance.

**H2:** Environmental costs have a positive effect on mining companies' environmental performance.

**H3:** Environmental costs have a negative effect on mining companies' financial performance.

## RESEARCH METHODS

The population in this study was all mining companies listed on the Indonesia Stock Exchange in 2020 which were as many as 49 companies. The samples were drawn using a purposive sampling technique with the inclusion criteria of companies conducting IPOs before 2016 and companies that consistently participated in the PROPER program. Thus, the final samples in the study were 20 mining companies during the 2016-2020 period.

This study consisted of an endogenous variable, namely Financial Performance (Y) and an exogenous variable, namely Environmental Cost (X), and Environmental Performance (Z) as an intervening variable.

**Table 2.** Operational Variable

No	Variable	Indicator	Source
1	Environmental Cost (X)	$EC = \frac{Cost}{Profit}$	(Asjuwita & Agustin, 2020; Camilia, 2016; Evita & Syafruddin, 2019; Niasari, 2019)



2	Environmental performance (Z)	<i>Gold</i> = 5 <i>Green</i> = 4 <i>Blue</i> = 3 <i>Red</i> = 2 <i>Black</i> = 1	PROPER KLRH
3	Financial Performance (Y)	$ROE = \frac{EAT}{Total\ Equity}$	(Chandra <i>et al.</i> , 2020)

Source : Data Processed, 2021

To analyze the data, a descriptive statistical test was carried out to obtain an overview of the research data. Then, structural model analysis and hypothesis testing were also carried out to test the direct effect of research variables. Meanwhile, the Sobel test was carried out to test the indirect effect of research variables.

## RESULTS AND DISCUSSION

### Descriptive statistics

According to (Sugiyono, 2012:147), descriptive analysis is used to analyze data by describing or depicting the data that have been collected as they are without intending to make conclusions that apply to the public or generalizations.

**Table 3.** Statistics Descriptive

	Mean	Min	Max	Standar Deviation
Environmental Cost	-0.30	-80.93	17.27	8.4040
Environmental Performance	3.23	2.00	5.00	0.8860
Financial Performance	0.11	-4.48	7.56	0.9664

Source : Data Processed, 2021

The description of the descriptive statistical table of research variables can be explained as follows:

### Environmental Cost

Average overall environmental cost value of mining companies from 2016 to 2020 was -0.30 (-30%) with a standard deviation of 8.4040. The highest environmental cost value was

found in PT. Bayan Resources Tbk. (BYAN) in 2020 at 17.27. In 2020, the value of the company's environmental costs was 20.15 million USD while the company's net profit was 344.46 million USD. Thus, it can be seen that the company can take advantage of the company's net profit to meet environmental obligations. The lowest environmental cost value was found in PT. Merdeka Copper

Gold Tbk. (MDKA) in 2020 at -80.93. In 2020, the value of the company's environmental costs was 33,518,262 USD, while the company's net profit was 28,891,683 USD.

### **Environmental Performance**

Average overall environmental performance value of mining companies from 2016 to 2020 was 3.23 with a standard deviation of 0.8860. Determination of environmental performance value is based on the PROPER predicates issued by the Ministry of Environment and Forestry with the following predicates: (1) gold predicate with a score of 5 (very good); (2) green predicate with a score of 4 (good); blue predicate with a score of 3 (moderate); (4) red predicate with a score of 2 (bad); and 5) black predicate with a score of 1 (very bad). The highest average environmental performance value was found in PT. Bukit Asam Tbk. (PTBA) at 5.00. This explains that the company has carried out activities that have consistently demonstrated environmental excellence in production and service processes, and have carried out ethical and responsible business towards the community. The lowest average environmental performance value was found in PT. Atlas Resources Tbk. (ARII); PT. Exploitation Energi Indonesia Tbk. (CNKO); PT. Central Omega Resources Tbk. (DKFT); and PT. Mitra Investindo Tbk. (MITI) at 2.00. This

explains that these companies have made efforts to manage the environment but has not complied with the requirements as stipulated in applicable provisions or laws and regulations and are in the stage of implementing administrative sanctions.

### **Financial Performance**

Average overall financial performance value of mining companies from 2016 to 2020 was 0.11 (11%) with a standard deviation of 0.9664. The highest financial performance value was found in PT. Mitra Investindo Tbk. (MITI) in 2019 at 7.56 (75.60%). The company's net profit value was negative at Rp. 87.93 million while the company's equity value was also negative at Rp. 11.63 million. This explains that the high percentage of the company's financial performance value is not because the company generates high net income, but rather the company's financial condition is in an unfavorable stage. The lowest financial performance value was found in PT. Exploitation Energi Indonesia Tbk. (CNKO) in 2017 at -4.48 (-44.80%). The company's net profit value was negative at Rp 1,879.38 million while the company's equity value was at Rp 419.88 million. This explains that the capital owned by the company has not been able to encourage the achievement of maximum company net profit

**Hypothesis testing**

Hypothesis testing is used to test the truth of a hypothesis and draw a

conclusion whether a hypothesis is accepted or rejected (Devi et al., 2015)

**Table 4.** Hypothesis Testing

	Parameter	T Value	P Value	
<b>Direct Effect</b>				
Environmental Cost -> Environmental Performance	-0.087	-0.867	0.386	T. Sig
Environmental Cost -> Financial Performance	0.016	0.158	0.874	T. Sig
Environmental Performance -> Financial Performance	0.052	0.519	0.603	T. Sig
<b>Indirect Effect</b>				
Environmental Cost -> Environmental Performance -> Financial Performance		-0.0713	0.9432	T.Sig

*Source* : Data Processed, 2021

The results of hypothesis testing on the direct effect of research variables can be explained as follows:

- a. The result of the path analysis test showed that the coefficient of the relationship between environmental costs and environmental performance was -0.087. The obtained result of the t-test was -0.867. This shows that environmental costs have no significant effect on the environmental performance of mining sector companies.
- b. The result of the path analysis test showed that the coefficient of the relationship between environmental costs and financial performance was 0.016. The obtained result of the t-test was 0.158. This shows that environmental costs have no significant effect on the financial performance of mining sector companies.
- c. The result of the path analysis test showed that the coefficient of the relationship between environmental performance and financial

performance was 0.052. The obtained result of the t-test was 0.519. This shows that environmental performance has no significant effect on the financial performance of mining sector companies.

Meanwhile, to test the hypothesis on the indirect effect of research variables, the Sobel test was carried out. The Sobel test is used to test the strength of the indirect effect of the independent variable (X) to the dependent variable (Y) through the intervening variable (Z). According to Baron and Kenny (1986), a variable is called intervening if the variable influences the relationship between the independent variable and the dependent variable. The result of the t-test using the Sobel test obtained a value of -0.0713. This shows that environmental performance cannot mediate the effect between environmental costs and the financial performance of mining sector companies.

The results of path analysis and partial testing (t-test) of environmental costs on environmental performance yielded negative and insignificant values. This shows that the size of the environmental costs has not had a direct effect on

environmental performance. As explained in stakeholder theory, companies need to create value for their stakeholders. Companies can achieve environmental performance through the allocation of environmental costs. Mining companies as companies that, in carrying out their operational activities, require quite a lot raw materials of natural resources need proper environmental management. Descriptive data show that the environmental cost values of mining companies tend to increase, especially in 2020—and more than half of Indonesian mining companies' categories based on PROPER was blue (moderate) where companies have made efforts to manage the environment in accordance with applicable provisions or laws and regulations. The increase in environmental costs has not had an impact on improving environmental performance because companies have not carried out more environmental management beyond what is required in the provisions or laws and regulations. The results of this study are not in line with (Hapsari *et al.*, 2021; Soseno, Romdhon, & Rochmatunisa, 2020)'s studies.

The results of path analysis and partial testing (t-test) of environmental costs on financial

performance yielded positive and insignificant values. This shows that the size of the environmental costs has not had a direct effect on financial performance. Descriptive data show that the environmental cost values of mining companies tends to increase, but when viewed from the side of the net profit value of the companies, it fluctuates during the study period. Mining companies have a moral burden to incur environmental costs as a form of preventing environmental damage due to operational activities carried out by them. Companies consider environmental costs as additional costs that will ultimately reduce company profits. However, this study shows that large environmental costs do not necessarily be directly proportional to the increase in company profits. The results of this study are in line with (Asjuwita & Agustin, 2020; Camilia, 2016; Evita & Syafruddin, 2019; Niasari, 2019)'s studies but not in line with (Meiyana & Aisyah, 2019; Setiawan & Honesty, 2021)' studies.

The results of path analysis and partial testing (t-test) of environmental costs on financial performance yielded positive and insignificant values. This shows that environmental performance

has not had a direct effect on financial performance. This condition can occur because mining companies, on the average, obtained blue ratings (moderate) based on PROPER predicate, which explains that the company is making environmental management efforts based on applicable provisions or laws regulations. However, the results of environmental performance that have been carried out by the company have not had a direct effect on increasing the company's profitability. Descriptive data show that the average value of the company's profitability fluctuates but has a declining trend. The demands on environmental performance are more aimed at maintaining and preserving the surrounding environment, not achieving high profitability. The results of this study are in line with (Meiyana & Aisyah, 2019; Setiawan & Honesty, 2021)'s studies but not in line with (Chang, 2015)'s study.

The results of testing the indirect effect of environmental costs on financial performance with environmental performance as an intervening variable yielded negative and insignificant values. This shows that environmental performance has not been able to mediate the effect between

environmental costs and financial performance. Currently, some mining companies have only received moderate predicate based on the PROPER program set by the Ministry of Environment and Forestry. Descriptively, it is known that there is an increase in the environmental cost values every year but the increase is not directly proportional to the increase in company profits which tend to fluctuate. In addition, it is also seen that the increase in environmental costs does not result in changes to the PROPER predicate

## CONCLUSION

The results show that environmental costs and environmental performance do not have a significant effect on financial performance, besides the effect between environmental performance and financial performance also shows insignificant results. Meanwhile, the results of the indirect effect test show that environmental performance cannot mediate the effect between environmental costs and financial performance. Some mining companies in Indonesia are in the blue rating (moderate) where their environmental management is only limited on the existing applicable provisions or laws and

regulations and they have not carried out more management of the surrounding environment. The companies assume that environmental costs are only an additional cost where the increase in environmental costs is not directly proportional to the increase in profitability and environmental performance of the company.

The current study is still not perfect because it only looks at the achievement of mining companies' environmental performance based on the PROPER predicate and its effect on their financial performance. For further study, it is expected to involve other financial variables to detect factors that can affect the company's environmental performance and financial performance in order to realize *green economy development*.

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