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Environmental Performance, Enviromental Cost, Environmental Disclosure and Firm Value

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Abstract

Purpose: Directly test environmental performance and environmental costs of firm value and indirect testing through environmental disclosure

Research Methodology: The population in this study were all LQ 45 companies listed on the Indonesia Stock Exchange 2016-2019 that followed and were ranked by PROPER. Data analysis in this study was used to test the research hypothesis using Moderated Regression Analysis (MRA) using SPSS version 22.

Results: The results of this study show that environmental performance and environmental costs have no effect on firm value, but environmental disclosure can strengthen the relationship between environmental performance and company value and strengthen the relationship between environmental costs and firm value.

Limitations: The limitation of this study is the number of companies that are the population of this study that do not disclose environmental costs or even environmental costs. From a population of 45 companies, only 8 companies met the requirements to be the sample of this study.

Contribution: The results of the study have implications, namely that they can be used as input in making company decisions, namely paying more attention to environmental disclosures.

Keywords: *Environmental Performance, Enviromental Cost, Environmental Information Disclosure, Firm Value*

1. INTRODUCTION

Society is increasingly critical in looking at environmental problems. According to (Darmayoga et al., 2020), the community demands that environmental damage caused by company activities must be the responsibility of the company itself. Companies are required to pay more attention to environmental preservation. Companies are no longer faced with a single bottom line concept, which focuses on economic or financial aspects and needs to apply the triple bottom line concept, namely paying attention to profit, people, and the planet. This concept aims to achieve maximum profit for the company and fulfill community welfare and active contributions to the environment.

Environmental performance reflects results that show the extent to which a company is committed to protecting the environment (Paillé et al., 2014). Companies must strive to achieve a balance between one domain and another. Increasing complexity and environmental uncertainty also need to be considered by companies so as not to cause problems (Epstein & Roy, 1998). The environmental performance carried out by companies can be used as an investor's consideration for investment decisions that will have an impact on company value which will be reflected in share prices (Ramdani et al., 2020).

EC incurred by the company can also be a signal for investors' decision-making. Companies use environmental costs for activities that aim to improve environmental performance (Zainab & Burhany, 2020). According to (Cohen et al., 2006), companies' failure to respect environmental protection activities will cause environmental quality to decline and impact the company's costs in the future. (Steen, 2005) states that environmental costs are pretty high costs and helpful in increasing sales. According to (Prasetyo & Adi, 2020) environmental costs occur because of inadequate environmental quality due to its production activities. Companies need to pay attention to environmental costs arising from their operational activities to balance the interests of the environment and the company.

Information on environmental activities carried out by the company can be conveyed through the disclosure of environmental data. According to (Istiqomah & Wahyuningrum, 2020), environmental disclosure is the disclosure or reporting of information regarding the company's environment's management and performance. This activity is a company effort in reporting information to shareholders and obtaining legitimacy from stakeholders.

In Indonesia, environmental disclosure is voluntary, resulting in a low level of environmental disclosure by companies. Meanwhile, environmental pollution activities by companies continue to increase (Kinansih & Asrori, 2020). Policies on social and environmental disclosure have not been evenly distributed. There are still many companies that have not made these voluntary disclosures. On the other hand, any information released by the company, both financial and non-financial, is essential as a signal indication to interested parties (Meliyanti & Hendriyeni, 2020).

Research on environmental performance, environmental costs, environmental disclosure, and company value has been conducted by (Rusmana & Purnaman, 2020), (Daromes, 2020), (Nuswandari, 2009), (Rizki, 2019), and (Brian & Martani, 2017). (Rusmana & Purnaman, 2020) researched the disclosure of carbon emissions and environmental performance on company value. The study found that environmental performance had a positive effect on firm value. (Daromes, 2020) also researched the effect of EP on FV. This study obtained that environmental performance has a positive effect on firm value.

Research on environmental costs on firm value yields inconsistent results. (Cahyani, 2019) reveals that environmental costs affect firm value, while (Rizki, 2019) reports that environmental costs do not affect firm value. (Brian & Martani, 2017) researched the direct and indirect effects of EP and EC on FV. The results showed that environmental disclosure mediates the effect of EP on FV.

This research is a development of the research of (Hapsoro & Adyaksana, 2020) the purpose of this study is to directly test EP and EC of FV and indirect testing through ED. This research wants to test with the latest observation period to determine the development of environmental accounting applications in EP and EC by the company. This study also wants to know the development of voluntary disclosures such as environmental disclosures.

This research examines the companies listed on the IDX, which are included in the LQ45 category. This study population selection aims to test the EP and EC of FV as moderated by ED in all companies listed on the IDX from all sectors. The research results can reflect a combination of several sectors on the IDX.

The observation period in this study was four years, from 2016-2019. The selection of this period and knowing the latest results will also include the previous year as data in this study. This study's results are expected to reflect the effect of EP and EC on FV, which is moderated by ED and reflects the results of one year of company reporting.

The market will consider environmental issues as an indicator to assess the company because it is related to the company's sustainability. The better the company's environmental performance, the better its value is (Rusmana & Purnaman, 2020). The environmental performance carried out by companies is a form of stakeholder theory application, where the company does not only focus on maximizing profits but also must protect and benefit stakeholders. Good environmental performance will affect stakeholder perceptions and reduce doubts about the uncertainty of the environment's impact (Daromes, 2020).

(Pérez-Calderón et al., 2012) conducted a study on environmental performance on firm value in 122 companies in Europe. The results showed that environmental performance had a positive effect on firm value. If the company can pay attention to environmental management, the company will be responded to positively by the community to improve its image. Investors will prefer companies with a good image in the community because it will impact sales (Hariati & Rihatiningtyas, 2015). The same results were also obtained by researchers (Yadav et al., 2016) and (Muchammad, 2018), that environmental performance affects firm value.

(Cahyani, 2019) researched environmental costs on company value. The study was conducted at 23 companies listed on the IDX. The study found that environmental costs affect firm value. (Hapsoro & Adyaksana, 2020) also researched environmental costs and company value. The results reveal that environmental costs harm firm value. A company with an efficient environmental cost will have good corporate value. A reduction in environmental costs that a company can achieve without sacrificing environmental aspects is a good signal for the company.

The application of the environmental cost budget will have an impact on the company's products. One of them is a positive image to consumers who want to buy the best products, good quality, environmentally friendly, and affordable prices. This can also be a good signal for investors in making investment decisions (Rohelmy, 2015).

ED is proven to strengthen the effect of EP on FV. (Hapsoro & Adyaksana, 2020) revealed that disclosure of environmental information strengthens environmental performance on firm value. The company discloses environmental information to be a positive signal for investors as proof that the company cares about preserving the environment. The company's concern for the environment also causes the company's image to improve.

ED is proven to strengthen the effect of EC on FV. Research by (Hapsoro & Adyaksana, 2020) reports that environmental information disclosure strengthens environmental costs on firm value. Companies that disclose their environmental information are additional information for investors to be a positive signal that proves its concern for protecting the environment.

RESEARCH METHOD

This research is a positive study to test the hypothesis, namely testing the independent variable on the dependent by including the moderating variable as strengthening or weakening. The dependent variable of firm value research, the independent variable of this study, is EP and EC, while the moderating variable of this study is ED. The relationship between these variables affects each other and is strengthened or weakened by the moderating variable.

Population and Sample

This study's population were all LQ 45 companies listed on the IDX 2016-2019 that followed and were ranked by PROPER. This study population selection aims to test the EP and EC on FV as moderated by ED in all companies listed on the Indonesia Stock Exchange from all sectors. The research results can reflect the combination of several sectors on the IDX.

The observation period in this study was four years, from 2016-2019. The selection of this period and knowing the most recent results will also include the previous year as data in this study. This study's results are expected to reflect the effect of EP and EC on FV, which is moderated by ED, not only reflecting the results of one year of company reporting.

The research sample was selected specific criteria. The criteria for selecting the sample of this study were (1) listed on the IDX in the LQ 45 category that followed and were ranked by PROPER, (2) published an annual report, (3) earn profit, and (4) the currency used in the financial statements is the rupiah.

Research variable

The variables of this study are EP, EC, FV, and ED. Environmental performance reflects results that show the extent to which a company is committed to protecting the environment (Paillé et al., 2014). The proxy of PROPER value measures environmental performance in this study with the measurement criteria being given a score of 5 if the company gets a gold value, a score of 4 if the company gets a green value, a score of 3 if the company gets a blue score, a score of 2 if the company gets a red value, and a score of 1 if the firm scores black. This measurement has been used by (Hapsoro & Adyaksana, 2020) and (Rusmana & Purnaman, 2020).

EC are costs that occur because of inadequate environmental quality due to its production activities (Prasetyo & Adi, 2020). Environmental costs in this study are measured using the environmental cost ratio. This measurement has been used by (Hapsoro & Adyaksana, 2020). The environmental cost ratio formula is as follows:

$$\text{Environmental Cost Ratio} = (\Sigma \text{ environmental cost})/(\text{net profit after tax})$$

Environmental disclosure is the disclosure or reporting of information regarding management and environmental performance (Istiqomah & Wahyuningrum, 2020). Environmental disclosure in this study is measured by the number of disclosure items made by the company compared to the total items in the Global Reporting Initiative (GRI) G4 Guidelines in the environmental dimension sub-chapter, which is 34 items. The number of items disclosed is given a score of 1, and if the company does not disclose, it is given a score of 0. This measure has been used by (Hapsoro & Adyaksana, 2020).

The dependent variable in this study is firm value. Firm value in this study was measured using Tobin's Q. This measurement has been used by (Hapsoro & Adyaksana, 2020) and (Subaida, 2019). The formula can calculate Tobin's Q:

$$\text{Tobins Q} = (MVE + D)/(BVE + D)$$

Where :

Tobins Q	:	Firm Value
MVE	:	The result of multiplying the year-end closing share price with the number of shares outstanding at the end of the year
D	:	Book value of total debt
BE	:	The difference between the company's total assets and total liabilities

Data Analysis Method

Data analysis in research is moderation analysis with SPSS. This method includes the moderating variable in testing the independent variable's interaction with the moderating variable.

RESULT AND DISCUSSION

Result

The selected sample is 32. The number of companies that became the study population was eliminated from the study sample because they did not meet the sampling criteria, having to follow the PROPER assessment. There were 29 companies out of 45 companies that did not follow the full PROPER assessment during the observation period. Also, five companies do not provide complete information regarding research variables in the form of environmental costs. The company still combines environmental costs with other costs incurred by the company besides environmental costs.

Testing this research using Moderated Regression Analysis (MRA). Moderated Regression Analysis (MRA) is used in this study to determine the effect of EP and EC on FV as moderated by ED.

Table 1. Multiple Linear Regression Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2128568070.401	1467767543.576		1.450	.158
	Environmental Performance	60563912.996	386053112.709	.030	.157	.876
	Environmental Costs	-1.501	.974	-.294	-1.540	.134
a. Dependent Variable: Firm Value						

The results that environmental performance does not affect firm value. Test also to examine the effect of EC on FV. This result is there is no effect of environmental costs on firm value.

Table 2: Results of Equation 1

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
1	.075[a]	.006	-.027	1288437994.82359

a. Predictors: (Constant), Environmental Performance
b. Dependent Variable: Firm Value

Table 3: Results of Equation 1

Model	R	R Square	Adjusted R Square	Std. An error of the Estimate
1	.283[a]	.080	.049	1239306135.45549

a. Predictors: (Constant), Environmental Costs
b. Dependent Variable: Firm Value

Table 4: Result of Equation 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.577[a]	.333	.261	1092327132.11568

a. Predictors: (Constant), Environmental Performance*Environmental Disclosure, Environmental Performance, Environmental Disclosure
b. Dependent Variable: Firm Value

Tabel 5: Result of Equation 2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.604[a]	.365	.297	1065662197.68728

a. Predictors: (Constant), Environmental Costs*Environmental Disclosure, Environmental Costs, Environmental Disclosure
b. Dependent Variable: Firm Value

The test results in tables 2 and 4 show that the first regression equation's R Square value is 0.006 or 0.6%. The test results on the second regression equation amounted to 0.333 or 33.3%. The R Square of the second regression equation after the environmental disclosure variable is entered is more incredible than R Square's first regression equation. These results indicate that ED strengthens the relationship between EP and FV.

While the test results in tables 3 and 5 show that the R Square value in the first regression equation is 0.081 or 8.1 %%. The test results on the second regression equation amounted to 0.365 or 36.5%. After entering the environmental disclosure variable, the second regression equation's R Square is greater than the R Square of the first regression equation. These results indicate that ED strengthens the relationship between EC and FV.

Discussion

The first test result is that EP does not affect FV. Research results are consistent with the research of (Ratri & Dewi, 2017), (Tjahjono & Eko, 2013), and (Ghaesani, 2016). Environmental performance does not affect firm value. (Tjahjono & Eko, 2013) states that firm value is influenced by factors other than environmental performance.

Not all investors perceive environmental performance as a positive signal in investment decisions. Good environmental performance does not necessarily provide direct feedback or direct benefits for investors. A good image of a company with good environmental performance can be felt in the long term so that in the short term, it cannot increase company value (Ghaesani, 2016).

The environmental performance that is not followed by environmental disclosures will be complex for investors to know so that the environmental performance does not affect company value. This study's results do not support (Rusmana & Purnaman, 2020) and (Daromes, 2020), which reveal that environmental performance affects firm value.

If it is not followed by complete and systematic disclosure in the company's annual report, the company's environmental performance will cause less attention by investors. Investors cannot capture this information, so that they cannot respond to make investment decisions.

The second test result is that environmental costs do not affect firm value. The results of this study support (Rizki, 2019) research. The study states that environmental costs do not affect firm value. (Camilia, 2016) reveals that sometimes companies ignore environmental costs incurred by the company. These environmental costs are also considered for some companies as compensation for environmental damage caused by the company's operations, not as something that can improve its reputation. This study does not support (Cahyani, 2019) research that environmental costs affect firm value.

The next test result is that ED strengthens the relationship between EP and FV. The study results are supported by (Hapsoro & Adyaksana, 2020), which reveals that disclosure of environmental information strengthens EP on FV. The company discloses environmental information to be a positive signal for investors as proof that the company cares about preserving the environment. The company's concern for the environment also causes the company's image to improve.

The environmental performance carried out by the company must be accompanied by good environmental disclosure so that investors can know the financial performance that the company has carried out. Investors will pick up on positive signals of the company's environmental performance through environmental disclosures made by the company.

The research results also support the stakeholder theory where the company needs to create a good reputation. This reputation affects the company's position in the market. The company will strive to meet stakeholders' expectations, one of which is by making environmental disclosures. The environmental disclosure is believed to improve the company's reputation. This reputation is a reasonably necessary stimulus in increasing firm value (Mumtazah & Purwanto, 2020).

The provision of environmental disclosures by the company can also reflect the environmental performance that the company has carried out. The disclosure provides information about environmental protection activities that can reduce costs for violations of environmental-related regulations (Kustono, 2016).

The last result of this research is that ED strengthens the relationship between EC and FV. The study results are also proven to support the research of (Hapsoro & Adyaksana, 2020), reporting that disclosure of environmental information strengthens the effect of environmental costs on firm value. Companies that disclose their environmental information are additional information for investors to be a positive signal that proves its concern for protecting the environment.

EC incurred by the company must also be accompanied by adequate environmental disclosure. This is because it can be a source of information for investors. The company's environmental costs are compensation for environmental damage caused by the company and good participation by the company in protecting the environment.

Environmental costs are an allocation of funds spent by companies participating in environmental sustainability activities. The company discloses environmental information so that disclosure can be a positive signal for investors due to its concern about protecting the environment (Hapsoro & Adyaksana, 2020).

CONCLUSION

The results of this study show that EP and EC do not affect FV. Still, ED can strengthen the relationship between EP and FV and strengthen the relationship between EC and FV. The company's environmental performance and environmental costs need to be accompanied by adequate environmental disclosure. The environmental performance and environmental costs can be known by investors and can be a good signal in investment decisions.

The study results have research implications; they can be used as input for companies related to environmental disclosures. Companies need to completely, clearly, systematically, and sustainably disclose environmental information carried out by the company. Investors can use environmental disclosure in making investment decisions. This study proves that companies' ED is proven to strengthen the relationship between EP and FV. ED has also been shown to enhance the relationship between EC and FV.

Research results can also be used as input for policymakers regarding financial reporting. It is proven that there are still several companies that still present environmental costs as a unit that cannot be separated from other costs besides environmental costs so that investors cannot see how the company incurs many environmental costs. This research also implies that there are still companies listed on the IDX that do not follow the PROPER environmental performance assessment.

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