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Effect of Environmental Costs and Environmental Performance on Profitability in Registered Manufacturing Companies on the Indonesian Stock Exchange

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Abstract

The purpose of This study is to examine and analyze the effect of (i) environmental costs on profitability, and environmental performance on profitability in manufacturing companies listed on the Indonesia Stock Exchange in the 2019-2020 period. Data collection uses secondary data obtained from the annual report published by the Indonesia Stock Exchange. The population in this study are manufacturing companies listed on the Indonesia Stock Exchange and participating in PROPER in the 2019-2020 period. The sampling technique used was purposive sampling. The data analysis method is in the form of quantitative analysis using multiple linear analysis and hypothesis testing using software E-Views 10. The results showed tha the environmental cost variable has an effect on profitability on Manufacturing companies liested on the Indonesia Stock Exchange in the 2019-2020 period and the Environmental Performance variable has no effect on profitability on Manufacturing companies liested on the Indonesia Stock Exchange in the 2019-2020 period.

Keywords: Environmental Cost, Environmental Performance, Profitability

Introduction

In todays increasingly competitive era of industrialization and globalization, all kinds of community needs can be met through massive and rapid production and distribution processes. There are various companies that are ready to provide various needs of the community, this encourages continuous business competition. Tight competition in both domestic and international markets requires companies to continue to maintain their position in the market by continuing to produce and be ready to supply the market. Maintaining and increasing its profitability is the company's main goal by focusing on the company's operational and financial activities. (Erlangga et al., 2021). A company is an organization that carries out operations using limited resources to achieve its goals. Often companies ignore environmental issues in carrying out their activities. This makes the company feel a big impact that can later threaten

the sustainability of its business. In this case, the concept of Corporate Social Responsibility is present as an organization towards special interested groups and towards society as a whole (Asjuwita & Agustin, 2020).

The goal of every company is to increase the amount of profitability. However, at this time the company is not only asked to maximize profits, but also to be responsible for the environmental impact caused by its operational activities. (Anggi Choirun et al., 2020)

According to (Asjuwita & Agustin, 2020) Profitability is one of the indicators included in information about long-term company performance. This financial performance can be seen through the analysis of financial statements, the level of profitability is used as a basis for measuring the company's financial performance. This is done considering that business attractiveness is one of the important indicators in business competition. The profitability in this study is proxied by Return On Asset (ROA).

Return On Asset (ROA) is one of the profitability ratios. In financial ratio analysis, this ratio is most often highlighted because it is able to show the company's success in generating profits. ROA is able to measure the company's ability to generate profits in the past and then projected in the future. The assets in question are all company assets obtained from own capital and foreign capital that the company has converted into company assets that are used for the survival of the company (Aditya, 2020). This study uses research objects in Manufacturing Companies. Among the 28 Manufacturing Companies there are 11 companies that I made a phenomenon for this study. I chose these 11 companies because they are companies whose assets are considered to have a high investment value and are considered safe and stable.

Table 1. About the Empirical Phenomenon of ROA Value in Manufacturing Companies

No	**Issuer Code**	**ROA (%)**	
		2019	**2020**
1	SMGR	3,00	3,57
2	GGRM	13,83	9,78
3	ICBP	13,96	6,41
4	CPIN	13,20	11,70
5	INTP	6,62	6,61
6	JPFA	6,52	2,85
7	UNVR	35,80	34,89
8	KLBF	12,25	12,11
9	SMCB	2,55	3,14
10	MYOR	10,50	10,42
11	GJTL	3,27	2,02
Avarage		**11,05**	**9,41**

Source: www.idx.co.id (data processed 2022)

It can be seen from the table above that the ROA value of manufacturing companies during the 2019-2020 period experienced fluctuations, which can be seen from the average value at the time of 2019 of 11.05% to 2018 of 9.41%, this has decreased from the previous

year, but is still above the ROA industry standard of 5.98%, of course this indicates that manufacturing companies in that period are optimally able to use all their assets to generate profits. The high and low return on assets (ROA) is influenced by several factors. As for what can affect the high and low value of Return On Asset in the above phenomenon, according to (Tahu, 2019) and (Puspitaningtyas et al., 2018), namely environmental cost factors and environmental performance.

Environmental costs are costs incurred by the company as a result of a poor environmental management system caused by the company's poor production process. Environmental costs include costs associated with reducing production processes that have an impact on the environment and costs associated with repairing damage due to waste generated in company activities. Environmental costs can be seen in the allocation of funds for environmental development programs listed in the company's annual report or financial statements. Environmental costs are calculated by comparing the environmental development program funds with the net profit generated by the company (Wulaningrum & Kusrihandayani, 2020).

The disclosure of environmental costs in the financial statements itself will be reviewed by stakeholders, such as the government, creditors, investors, consumers, and employees and the public so that it will form an opinion both positive and negative. Based on environmental activities and disclosure of these activities in the annual financial statements, the financial report (investors, management, and creditors) will get information that can help users of this information in making decisions for company policies related to environmental preservation in the future. Where these programs will be appreciated by the community, where in the end the community and consumers will have high trust in the company. This will encourage consumers to become loyal consumers to the company, where this loyalty will increase sales of products issued by the company. In other words, every action taken by the company is a reflection or form of information that can reduce and increase the value of the company. (Risal et al., 2020)

Environmental performance refers to how much impact and damage has been caused by the company's business activities. Waste disposal and how to manage waste from the company so as to minimize environmental damage around the factory and management of the company's business production. The less environmental damage is considered to improve the environmental performance of a company, while the greater the impact of environmental damage, the worse the company's performance. (Chasbiandani et al., 2019)

As for the research variables above, previously there have been many previous research results. However, it shows varied results such as research conducted by Saputra, Tisna, and Asjuwita (2020) examining the effect of environmental costs on profitability. The results show that the environmental cost variable has a negative effect on profitability. This is not in line with research conducted by Hapsari (2021) and Wulaningrum (2020) which found that environmental costs have a positive effect on profitability. Then research conducted by Hapsari (2021) and Chasbiandani (2018) examines the effect of environmental performance on profitability which shows that environmental performance has a positive effect on company profitability. This is not in line with research conducted by Tisna (2020) and Asjuwita (2020) which found that environmental performance has a negative effect on profitability.

In this study, the Grand of theory used is legitimization theory. Legitimization theory is a situation where concerns between society and the environment have been met. This theory says that organizations are continuously looking for ways to guarantee their operations within the limits and norms that apply in society.

Literature Review

Legitimacy Theory

Legitimacy theory was first proposed by Lindblom (1984), Guthrie and Paker (1989), and Patten (1992). This theory has also been used by Miller and Whiting (2005) and Guthrie et al. (2004). Dowling and Pfeffer (1975) suggest how to describe the difference between the values embraced by the company and the values of society, then the company will be in a threatened position where the difference is known as the Legitimacy Gap. Legitimacy gap will arise if the company is not sensitive to the impact that may be caused by the company's activities and the expectations of the community towards the company and is only oriented towards generating maximum profit (Widhiastuti et al., 2017).

Environmental costs and environmental performance are related to this theory because the disclosure of environmental performance and environmental costs will increase public trust in the company. Therefore, matters regarding environmental aspects must be disclosed through environmental disclosure. Thus, this will minimize the gap between the company and the community.

Rasio Profitabilitas

According to (Kasmir, 2015) the profitability ratio is a ratio to assess the company's ability to seek profit or profit in a certain period. This ratio also provides a measure of the level of effectiveness of a company's management as shown by the profit generated from sales or from investment income. Thus profitability can be known by comparing the profit earned with the total assets or total capital of the company. Arefa (2017) in (Sahputra et al., 2020) explains that profitability has an important meaning in an effort to maintain the company's long-term survival, because profitability shows whether the business entity has good prospects in the future. Thus, every business entity will always try to increase its profitability, because the higher the profitability of a business entity, the more secure the survival of the business entity will be.

Environmental costs

Environmental costs are costs incurred due to the impact of environmental activities carried out by the company. Environmental costs are basically related to the cost of products, processes, systems or facilities important for better management decision making (Mariani, 2017). Environmental costs are costs allocated by companies to anticipate the possibility of poor environmental quality and overcome environmental damage caused by company activities (Subakhtiar et al., 2022).

It is also explained by (Wulaningrum & Kusrihandayani, 2020) that Environmental Costs are costs incurred by the company as a result of a poor environmental management

system due to the company's poor production process. Environmental costs include costs associated with process processes that have an impact on the environment and costs associated with repairing damage due to waste generated in company activities. Environmental costs can be seen in the allocation of funds for the environmental development program listed in the company's annual report or financial statements. Environmental costs are calculated by comparing the funds for environmental development programs with the net profit generated by the company.

Environmental costs include costs associated with reducing production processes that impact the environment (internal) and costs associated with repairing damage caused by waste (external) (Ladyve et al., 2020). Environmental cost accounting is a planned cost accounting strategy that is not only centered on accounting for environmental maintenance costs, but minimizing the environmental impact that occurs (Franciska et al., 2019).

Environmental Performance

Environmental Performance is the result of environmental management as an effort to encourage companies to manage the local environment. The Indonesian Ministry of Environment and Forestry has taken several steps to encourage companies to engage in environmental management by implementing a performance assessment program known as the Pollution Control, Evaluation and Rating Program (PROPER) since 1994. PROPER is intended to force companies to comply with regulations through reputational incentives and disincentives that require companies to implement clean production. Efforts to improve company performance can encourage companies to create their own environmental conservation initiatives that will ultimately enable company sustainability (Ulupui et al., 2020).

Hansen and Maryanne (2009: 410) in (Suyudi et al., 2019) state that environmental performance in particular, can have a significant effect on financial position, which then indicates the need for adequate environmental cost information. Therefore, disclosure and reporting of environmental costs, as well as efforts to improve environmental performance should no longer only be seen as charity and charity that is voluntary by the company, but is considered as a form of competition that can increase the value of the company in the eyes of stakeholders. In this study, the measurement of environmental performance indicators used is companies that participate in PROPER or the Company's Work Rating Assessment Program in Environmental Management.

(Damanik and Yadnyana, 2017) explain that environmental performance is the company's relationship with the environment regarding the environmental impact of the resources used, the environmental effects of the organizational processes carried out, the environmental implications of products and services, product processing recovery and compliance with work environment regulations.

Based on the above opinions, it can be concluded that environmental performance is the performance that can be demonstrated by the company by reporting its performance to the Ministry of Environment for related programs. So thus environmental performance is all company activities and activities that show the company's performance in protecting the surrounding environment and reporting it to interested parties.

Research Method

This study is a cross-sectional descriptive analytic study that employs quantitative research techniques. In the industrial companies listed on the Indonesia Stock Exchange for the 2019–2020 period, this study seeks to ascertain the relationship between environmental costs, environmental performance, and profitability. The investigation was conducted at the Indonesia Stock Exchange during the months of April and May 2022, with data being collected via the STIEM Bongaya Investment Gallery. The research sample consisted of 28 companies that satisfied certain requirements, including not taking part in PROPER, not suffering losses, and releasing annual reports in rupiah currency. The research population consisted of 181 manufacturing companies listed on the IDX throughout the study period.

The information employed in this study is panel data, which combines cross sectional and time series information. Secondary data were gathered from the company's annual report, the IDX financial accounts, and the Ministry of Environment's official website. Environmental costs (X1), environmental performance (X2), and profitability (Y) are the variables employed in this study. Profitability is determined by Return On Asset (ROA), environmental cost is determined by the dummy technique, environmental performance is determined by the PROPER rating. The data are statistically described using descriptive statistical analysis, which includes the mean, minimum value, maximum value, and standard deviation. The relationship between the independent variables (environmental costs and environmental performance) and the dependent variable (profitability) was examined using inferential statistical analysis, more precisely multiple linear regression analysis. The F test (model feasibility test) was used for hypothesis testing to ascertain whether the independent variables interact to affect the dependent variable. In addition, the partial effects of each independent variable on the dependent variable are evaluated using the t test (student test). The capacity of the model to account for the dependent variable's variability is gauged by the coefficient of determination (R2). Using the E-Views 10 program, all statistical analyses and hypothesis testing were carried out. In the context of industrial companies listed on the Indonesia Stock Exchange over a specific time period, this study seeks to assess the relationship between environmental costs, environmental performance, and profitability.

Result/Findings

In the industrial companies listed on the Indonesia Stock Exchange (IDX) for the 2019–2020 period, this study intends to examine the impact of environmental costs (X1) and environmental performance (X2) on profitability (Y). With a sample of 24 manufacturing enterprises and a total of 48 observations, this study employs panel data.

Data Description

a) Environmental Costs (X1) is measured using a variety of cost factors associated with the company's environmental initiatives.
b) The PROPER score (Company Performance Rating Program in Environmental Management) is used to calculate the Environmental Performance (X2) score.
c) The Return on Assets (ROA) ratio is used to calculate profitability (Y).

Regression Model

The Fixed Effect Model (FEM) was chosen as the best model to predict the impact of environmental costs and environmental performance on profitability based on the results of the Chow and Hausman tests.

Classical Assumption Test Results

a) The data is normally distributed, according to the normality test.
b) There is no multicollinearity issue between environmental costs and environmental performance, according to a multicollinearity test.
c) The regression model does not contain any heteroscedasticity, according to the heteroscedasticity test.

Main Findings

According to the findings of the regression analysis using the FEM model, Environmental Costs (X1) have a sizable positive impact on Profitability (Y). This implies that businesses with higher environmental costs also typically have higher levels of profitability. In contrast, Profitability (Y) is not much impacted by Environmental Performance (X2).

Implication

These findings suggest that businesses might boost their profits by spending more on environmental costs. This may indicate that employing environmentally friendly business strategies can improve a company's financial performance.

This study's weaknesses include its focus on a brief time frame and its very small sample size. In order to better understand the relationship between the variables under study, future research can broaden the sample and time frame.

Discussion

Undertake two different analyses when analyzing research data: descriptive statistical analysis and inferential statistical analysis (multiple linear regression). The findings of these two studies help to clarify the relationship between the dependent variable (Profitability or ROA) and the independent variables (Environmental Costs and Environmental Performance).

Descriptive Statistical Analysis Results

Using information from 48 samples, that is. Good results are shown by the Environmental Costs variable, which has an average (mean) value of 1.671667 and a standard deviation of 0.135696. With an average (mean) value of 2.378850 and a standard deviation of 0.088900, the environmental performance variable's value is declining. The Profitability (ROA) variable has a standard deviation of 0.366433 and an average (mean) value of -1.080381, which indicates a decline in value.

Results of Inferential Statistical Analysis (Multiple Linear Regression)

Used environmental costs (X1) and environmental performance (X2) as independent variables and profitability (ROA) as the dependent variable to perform multiple linear regression. With

a regression coefficient of 3.453585, the analysis's findings indicate that environmental costs significantly increase profitability (Y). However, as evidenced by the regression coefficient of -1.589359, Environmental Performance has no discernible impact on Profitability (Y).

The Effect of Environmental Costs on Profitability

The findings demonstrated that Environmental Costs have a sizable favorable impact on Profitability. This implies that businesses tend to be more profitable when they devote more resources to managing environmental effects.

The Effect of Environmental Performance on Profitability

According to the findings, there is no discernible relationship between environmental performance and profitability. Although businesses that receive a high PROPER grade demonstrate an awareness of environmental management, this awareness does not always translate into increased profitability.

Additionally, the coefficient of determination (R-squared) of 0.874126 shows that environmental costs and environmental performance may account for 87.4% of the variation in profitability, with other factors accounting for the remaining 12.6%. The utilized regression model is therefore appropriate for further investigation, according to the model feasibility test (Fisher Test). Finally, the t-statistic test reveals that only Environmental Costs alone have a substantial impact on Profitability, whereas Environmental Performance individually has no significant impact.

Conclusion

Based on the background, problem formulation, research objectives and the results of the analysis and discussion, the following conclusions can be drawn:

1. Environmental costs affect profitability in manufacturing companies listed on the Indonesia Stock Exchange.
2. Environmental Performance has no effect on profitability in manufacturing companies listed on the Indonesia Stock Exchange.

Declaration of conflicting interest

The authors declare that there is no conflict of interest in this work.

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