The Analysis of Environmental Performance to Moderate The Effect of Financial Performance on Firm Value

Eti Yustika Hartono¹*, Hadi Pramono², Edi Joko Setyadi³, Annisa Ilma Hartikasari⁴
Universitas Muhammadiyah Purwokerto

Corresponding Author: Hadi Pramono pramono.hadi.75@gmail.com

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This study aims to determine how the impact of the implementation of Financial Performance on Firm Value with Environmental Performance as a moderating variable. The population of this study is all companies listed on Bursa Efek Indonesia in 2019-2021. The sample has been determined by purposive sampling technique, the predetermined criteria was successful obtained 63 of sample companies listed on Bursa Efek Indonesia and obtained a PROPER rating. Data were analyzed using Moderating Regression Analysis. The result of this research indicated that: 1) ROA has a negative effect on firm value, 2) ROE has a positive effect on firm value, 3) Environmental performance is able to moderate ROA on firm value, 4) Environmental Performance unable to moderate ROE on firm value.
INTRODUCTION

The phenomenon of environmental damage is a very important issue to be considered by the government, society, and investors. The phenomenon of environmental damage occurs as a result of the company’s operational activities which are only concerned with financial gain, but do not pay attention to environmental management costs (Mariani & Suryani, 2018). Environmental pollution still occurs as a result of company activities. As caused by the agricultural and livestock production sub-sector which produce methane and ammonia, these substances can cause global warming to be the strongest compared to carbon dioxide (Fajar, 2019). In addition, the mining sector left excavations without reclamations, killing 115 people in the 2014-2018 period (Anton, 2019). Environmental management activities are corporate practices to get help from groups that have an interest in the company share good contributions in order to increase the value of the company (Mardiana & Wuryani, 2019). Firm value is an understanding for investors regarding the level of success of a corporation in resource management which can be seen from the stock price at the end of the current year. Companies that have a greater share value, so does the level of prosperity of the shareholders. These conditions can make investors interested in buying shares in a company. If shareholders entrust company management issues to be handled by a professional expert, then the maximum value of the company can be achieved (Putri & Wahidahwati, 2018).

Environmental damage is not a trivial problem, so the government drafted Law No. 40 of 2007 article 74 about PT and KEMENLHK regulation No. 3 of 2014 about company performance which is assessed and rated or PROPER in carrying out environmental management. Based on the above phenomenon, it is in accordance with the theory of legitimacy and stakeholder theory which explains that companies are obliged to comply with community rules in every company activity and can benefit stakeholder and the surrounding environment in order to maintain the company’s survival. This requires that companies need to overcome the challenges they are currently facing in order to receive a positive public assessment. A good company image is very influenced by how high the value of the company is (Chasanah & Mariana, 2021). Increasing the value of the company can be done by managing resources optimally. However, this method is not compatible with good environmental sustainability operations. Environmental pollution that occurs due to the company’s lack of attention to environmental sustainability will give a bad image to the company in public and investors view (Mardiana & Wuryani, 2019).

Zabetha et al., (2018) explains that the value of the company is inseparable from the disclosure of financial performance. Financial performance as an illustration of the company’s performance skills in obtaining profits. For investors, financial performance is one aspect to decided in stock investment. Thus, the better company’s performance can increase value the value of the company. According to research conducted by Ramadhana & Juniarti, (2022) which obtained ROA result affecting company value. Meanwhile, research conducted by Sondakh et al.,(2019) obtained ROA results that did not affect company value. Research conducted by Chasanah & Mariana, (2021); Nursasi,
(2020) dan Rochmah & Fitria, (2017) that ROE affect company value. Improving and maintaining financial performance is an responsibility for a company so that the shares owned by the company are still known and popular among investors. Thus, if the company’s financial performance is good, the value of the company will also be good. Therefore, the better financial performance can reflect that the ability of large companies to provide returns in accordance with investors expectations.

Besides the profit movements, there are other aspects that can influence financial performance and company value. This is because people are increasingly aware of the negative effect that arise as a result of a company’s business activities. So that this awareness encourages companies to not only focus on profits, but also to pay attention to the environmental impacts they cause (Azzahra, 2019). In line with the research conducted by Wardhana, (2020) and Albertini, (2013), the result of environmental performance can moderate the relationship between financial performance and company value. Meanwhile, research conducted by Mariani & Suryani, (2018) and Chasanah & Mariana, (2021) which obtained environmental performance results was not able to moderate the relationship between financial performance and company value. This research is important because there are differences in inconsistent research results. In addition, the issue of environmental damage and corporate responsibility has always been the holder among business actors. So that the phenomenon of environmental damage is suspected to have an influence between financial performance and company value. This phenomenon is used as a moderating variable in this study.

LITERATURE REVIEW

Legitimacy Theory

Legitimacy theory explains that this theory has a focus on the relationship between companies and society (Dowling & Pfeffer, 1975). Legitimacy theory explains that society is an important part in influencing the development of companies in the long term. A company always tries to exercise legitimacy and establish close relationships in the social environment where the company carries out activities (Puspitaningrum & Indriani, 2021). If the legitimacy is rejected by the community because the company does not comply with the regulations that have been set, then this legitimacy can be released at any time. Therefore, the company must comply with the regulations that have been set so that the company’s operations run well. Companies must also have a social contract as a basis before establishing a company (Putri & Wahidahwati, 2018). The social contract contains the company’s rights and obligations to the community. Companies can adjust between company goals and community goals which can be done with corporate social responsibility.
Stakeholder Theory

Stakeholder theory states that companies must provide benefits to business entities for the company’s stakeholders (Freeman & David, 1983). This statement is because stakeholders are the part that has an important position in determining the existence and sustainability of the company. This is because stakeholder support for the company can affect the survival of the company. Stakeholder theory explains that companies must also pay attention to the interests of society because companies are not entities that only focus on their own interests. The direction of stakeholder theory is to support company management in order to increase profits on company activities carried out to minimize bankruptcy for owners of company interests (Ratri & Dewi, 2017). Stakeholders have skills that can control or influence the company because shareholders have authority over actions taken by company managers, and stakeholders also have authority over the company.

The Effect of ROA on Firm Value

Profitability is used as an important indicator of consideration by investors before investing (Mardiana & Wuryani, 2019). This is because the level of profitability achieved by the company is an illustration of the amount of dividends received by shareholders. The increased of profitability growth showed good performance of the company, so that it can attract the attention of investors which results in high stock prices which means increased stock prices. The results of research conducted by Ratri & Dewi, (2017); Mariani & Suryani, (2018) and Mumtazah & Purwanto, (2020) showed that ROA have a significant and positive effect on company value. Financial performance as measured by ROA which tends to be high or low achieved by the company will affect the value of the company. Therefore, investors will have an interest in investing in the company which will have an impact on increasing the value of the company because the company can estimate the value of cash flows in the coming period. Based on this description, the authors propose the first hypothesis as follows:

H1: ROA has a Positive Effect on Firm Value

The Effect of ROE on Firm Value

As described in the first hypothesis, profitability is used as an important indicator of consideration by investors before investing. This is because the level of profitability achieved by the company is an illustration of the amount of dividends received by shareholders. The increased of profitability growth showed good performance of the company, so that it can attract the attention of investors which results in high stock prices which means increased stock prices. In this hypothesis, company value is reviewed from the equity side. So that if a company is able to use equity properly, the higher ROE achieved by the company and can affect the value of the company. This is in line with research conducted by Pujarini, (2020); (Nursasi, 2020) and Chasanah & Mariana, (2021) ROE has a positive effect on company value. Based on this explanation, the authors propose a second hypothesis, namely:

H2: ROE has a Positive Effect on Firm Value
The Effect of ROA on Firm Value with Environmental Performance as a Moderating Variable

ROA can be used as an analytical tool to see the success of company management in managing resources through asset management. In addition, the company's performance sustainability development goals are also seen from environmental performance and not only assessed from financial performance. Environmental performance is a sign that the company always cares about environmental sustainability to achieve its main goal of making a profit. The application of environmental accounting can be applied to companies for environmental performance with the recognition of costs and benefits for environmental and community management cost activities in surrounding companies. Real evidence shows that environmental performance has a relationship with company value in line with research conducted by Mufidah, (2018); Khairiyan et al., (2019) and Mardiana & Wuryani, (2019). The community will give a positive image to the company and in the context of caring for the environment, the company needs to pay for these activities. The existence of a positive image obtained by the company will have an impact on financial performance which will increase the value of the company. Based on this explanation, the authors propose a third hypothesis, namely:

H3: Environmental Performance is able to moderate the effect of ROA on firm value

The Effect of ROE on Firm Value with Environmental Performance as a Moderating Variable

ROE can also be used as an analytical tool to see a company's success in managing resources through equity management. As explained in the statement in the third hypothesis, that sustainability development goals the company's performance is also seen from the environmental performance side, not only from its financial performance. The community also believes that because of regulations, namely Law Number 40 of 2007 concerning environmental and social responsibility, companies will be fully responsible for their environment. The existence of non-financial reports such as environmental performance will provide added value to the company provided by the community because the company has carried out its responsibility towards the environment. As has been described in the legitimacy theory which states that a company can maintain its survival if it cares for the surrounding environment. This is supported by research conducted by Khairiyan et al., (2019); Dewi, (2019) and Ramadhana & Juniarti, (2022) which show results that environmental performance affects the performance of financial companies. Based on this statement, the authors propose a fourth hypothesis, namely:

H4: Environmental performance is able to moderate the effect of ROE on firm value
In order to facilitate the direction of thought in this research, a framework was created to facilitate this research as shown below:

![Diagram](image)

**METHODOLOGY**

The population in this research are all companies listed on Bursa Efek Indonesia and earned a PROPER rating from the Ministry of Environment and Forestry. The sample for this research is a company listed on Bursa Efek Indonesia and obtaining a PROPER rating from the Ministry of Environment and Forestry for 2019-2021. The sample selection used a purposive sampling technique. Based on the sample criteria, obtain 63 companies per year and use the 2019-2021 period. So that the total number of samples used was 189.

<table>
<thead>
<tr>
<th>No</th>
<th>Keterangan</th>
<th>Jumlah</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All companies listed on the IDX and received a PROPER rating for 2019-2021</td>
<td>64</td>
</tr>
<tr>
<td>2</td>
<td>Companies that are listed on the IDX and receive a PROPER rating that do not have complete data available for 2019-2021</td>
<td>(1)</td>
</tr>
<tr>
<td>3</td>
<td>Company sample per year</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Sample research period (2019-2021)</td>
<td>189</td>
</tr>
</tbody>
</table>

**Definition and Measurement of Variables**

**Independent Variable Financial Performance**

Financial performance is a manifestation of the work that has been achieved by the company and is presented in the company's financial reports which are published at a certain time (Nursasi, 2020). Financial performance is measured by profit after tax divided by total assets or Return On Assets. This ratio can show the company's ability to manage assets for profit and the ROA formula as listed below:
Financial performance is measured by profitability ratios. In order to see the company's ability to make a profit at a certain time, it can use the profitability ratio. In addition, this ratio can show a reflection of the effectiveness of management in carrying out the company's operating activities. Profitability ratios can also be calculated using Return on Equity (Nursasi, 2020). The ROE formula can use calculations like the one below:

\[ ROE = \frac{\text{Profit After Tax}}{\text{Total Equity}} \times 100\% \]

**Dependent Variable**

**The value of the company**

Company value can be defined as a picture of the perception of shareholders of the company related to stock prices. When the company's value increases, the welfare of stock investors will be guaranteed, so that stock investors believe that the company's performance will increase (Mardiana & Wuryani, 2019). Firm value can be analyzed using the Tobin's Q ratio. The formula for this ratio is as follows:

\[ Tobin's \ Q = \frac{(\text{Closing Price} \times \text{Listed Shares}) + \text{Liability}}{\text{Total Assets}} \]

**Moderation Variable**

**Environmental Performance**

Environmental performance is the result obtained by the company for its efforts to manage the surrounding environment, efforts are focused on fulfilling environmental and social obligations. The company has implemented environmental accounting using environmental performance indicators (Mariani & Suryani, 2018). Environmental performance as a moderating variable is proxied using PROPER ratings, PROPER ratings are categorized as shown in the table below:

<table>
<thead>
<tr>
<th>Table 2. Rating PROPER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating</td>
</tr>
<tr>
<td>Gold</td>
</tr>
<tr>
<td>Green</td>
</tr>
<tr>
<td>Blue</td>
</tr>
<tr>
<td>Red</td>
</tr>
<tr>
<td>Black</td>
</tr>
</tbody>
</table>
Analysis Models

The data analysis model uses Moderated Regression Analysis because there are moderating variables. The form of the regression equation of this research is:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 Z + \beta_4 X_2 Z + \varepsilon \]

Explanation:
- \( Y \) = Firm Value
- \( \alpha \) = Constanta
- \( \beta \) = Regression Coefficient
- \( X_1 \) = ROA
- \( X_2 \) = ROE
- \( Z \) = Environmental Performance
- \( \varepsilon \) = Residual Value

RESEARCH RESULT
Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>143</td>
<td>-0.208</td>
<td>0.611</td>
<td>0.044</td>
<td>0.104</td>
</tr>
<tr>
<td>ROE</td>
<td>143</td>
<td>-0.345</td>
<td>0.331</td>
<td>0.051</td>
<td>0.108</td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>143</td>
<td>2.000</td>
<td>5.000</td>
<td>3.254</td>
<td>0.709</td>
</tr>
<tr>
<td>Firm Value</td>
<td>143</td>
<td>0.332</td>
<td>2.010</td>
<td>1.010</td>
<td>0.339</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: data processed in 2023

The table above shows that the total data used is 143 out of 189 because there are abnormal data. ROA as a proxy for financial performance has a minimum value of -0.208, a maximum value of 0.611 and an average value of 0.044. Meanwhile, ROE as a proxy for financial performance has a minimum value of -0.345, a maximum value of 0.331 with an average value of 0.051. Furthermore, environmental performance as a moderating variable has a maximum value of 2,000, a maximum value of 5,000 and an average value of 3,254. Finally, the company value has a minimum value of 0.332, a maximum value of 2.010, an average value of 1.010.
Classic Assumption Test

Table 4. Classic Assumption Test Results

<table>
<thead>
<tr>
<th>Types Test</th>
<th>Results</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normality</td>
<td>Asymp.Sig.(2-tailed) = 0,200</td>
<td>Normally distributed</td>
</tr>
<tr>
<td>Multicollinearity</td>
<td>ROA, Tolerance = 0,752 VIF = 1,319</td>
<td>Free multicollinearity</td>
</tr>
<tr>
<td></td>
<td>ROE, Tolerance = 0,729 VIF = 1,361</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental Performance = 0,963 VIF = 1,039</td>
<td></td>
</tr>
<tr>
<td>Autocorrelation</td>
<td>DU &lt; DW &lt; 4-DU = 1,7552 &lt; 1,802 &lt; 2,2448</td>
<td>Free autocorrelation</td>
</tr>
<tr>
<td>Heteroscedasticity</td>
<td>ROA = 0,362</td>
<td>No heteroscedasticity was found in the testing of this research</td>
</tr>
<tr>
<td></td>
<td>ROE = 0,445</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Environmental Performance = 0,597</td>
<td></td>
</tr>
</tbody>
</table>

Source: data processed in 2023

Hypothesis Testing

Table 5. Moderated Regression Analysis (MRA) Test

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0,297</td>
<td>-2,418</td>
<td>0,017</td>
</tr>
<tr>
<td>ROA</td>
<td>-0,368</td>
<td>-4,456</td>
<td>0,000</td>
</tr>
<tr>
<td>ROE</td>
<td>0,468</td>
<td>5,392</td>
<td>0,000</td>
</tr>
<tr>
<td>MODERASI1</td>
<td>0,673</td>
<td>3,642</td>
<td>0,000</td>
</tr>
<tr>
<td>MODERASI2</td>
<td>-0,027</td>
<td>-1,900</td>
<td>0,060</td>
</tr>
</tbody>
</table>

Source: data diolah 2023

Y = α + β₁X₁ + β₂X₂ + β₃X₁*Z + β₄X₂*Z + ε
Y = -0,245 -0,376 ROA + 0,404 ROE + 0,703 ROA*Environmental Performance - 0,036 ROE* Environmental Performance + ε

The constant value of -0,297 indicates that if ROA (X1), ROE (X2), Environmental Performance (Z) = 0, then the firm value (Y) constant is -0,297. The coefficient value β1 -0,368 indicates that the interaction between ROA variables and firm value is negative, that means the ROA interaction has a negative effect on firm value. The β2 coefficient value of 0,468 shows that the interaction between ROE variables and firm value is positive, that means ROE interaction has a positive effect on firm value. The β3 coefficient value of 0,673 shows that the interaction between ROA variables and environmental performance is positive, that means environmental performance can moderate ROA. Furthermore, the β4 coefficient value is -0,027 indicating that the interaction between ROE variables and environmental performance is negative, that means environmental performance cannot moderate ROE.
### Table 6. Hypothesis Test Result

<table>
<thead>
<tr>
<th>Types Test</th>
<th>Result</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R² Test</td>
<td>Adjusted R Square = 0,250</td>
<td>25% independent variables can explain the dependent variable</td>
</tr>
<tr>
<td>F Test</td>
<td>F = 9,340&lt;br&gt;Sig = 0,000</td>
<td>Regresi fit models</td>
</tr>
<tr>
<td>t Test</td>
<td>ROA = -4,456&lt;br&gt;ROE = 5,392</td>
<td>Independent variable ROA has a negative effect and independent variable ROE has a positive effect on firm value</td>
</tr>
<tr>
<td>MRA Test</td>
<td>ROA* Environmental performance = 0,000&lt;br&gt;ROE*Environmental performance = 0,060</td>
<td>The moderating variable is that environmental performance is able to moderate ROA but not able to moderate ROE on firm value</td>
</tr>
</tbody>
</table>

### DISCUSSION

#### The Effect of ROA on Firm Value

The statistical test results give a B value of -0.368 and a significance value of 0.000 or <0.05. Therefore, the researcher concludes that ROA has a negative effect on firm value, so that the first hypothesis is rejected. The results of this study are in line with research conducted by Ali & Faroji, (2021); Rachmawati & Pinem, (2021) and Waedhany et al., (2019) which obtained ROA results that had a negative effect on firm value, in contrast to the results of research by Mariani & Suryani, (2018) and Chasanah & Mariana, (2021) which obtained ROA results that had a positive effect on company value. These results indicate that the rate of return on assets or the value of ROA and the value of the company is in opposite directions, meaning that if the value of ROA decreases, the value of the company increases and vice versa if ROA increases, the value of the company will increase. Apart from ROA, investors also see Debt to Assets (DAR) as a reference on making investment decisions (Ali & Faroji, 2021).

#### The Effect of ROE on Firm Value

Statistical testing gives a B value of 0.468 with a significance value of 0.000 and <0.05. So the researchers concluded that ROE had a positive effect on firm value and the second hypothesis was declared accepted. The results of this research are different from Anggraini & Hidayat, (2021) ROE has a negative effect on company value and is in line with research conducted by Rochmah & Fitria, (2017); Nursasi, (2020) and Chasanah & Mariana, (2021) Return on Equity has a positive effect on firm value. These results show that the ROE that has increased achieved can indicate that the company is able to use its equity to earn profits. So that it can encourage investor interest from obtaining these profits to invest in the company and can increase the value of the company by realizing high stock returns for the future. As in the stakeholder theory that companies must pay attention to the interests of stakeholders and the environment and not prioritize their own interests in order to get positive value from society.
The Effect of ROA on Firm Value with Environmental Performance as a Moderating Variable

This research proposes a third hypothesis that environmental performance can moderate ROA with firm value and the results show that the significance value is 0.000 (<0.05). Thus, researchers know that Environmental Performance can influence ROA on Firm Value, so that the third hypothesis is declared accepted. The results of this research are in line with Wardhana, (2020) who obtained environmental performance results that can affect profitability on firm value and are not in line with the research conducted by Chasanah & Mariana, (2021) and Mariani & Suryani, (2018). Companies that have good environmental performance, as well as their financial performance will also be good. In accordance with the theory of legitimacy that companies that are able to make the environment safe, get a good response from the public. Companies are recognized as capable of carrying out their operational activities without polluting the environment, so they can make products have added value. These products will have a higher selling value and can improve the company's financial performance.

The Effect of ROE on Firm Value with Environmental Performance as a Moderating Variable

This research proposes a fourth hypothesis, that is environmental performance is able to moderate the ROE on firm value. Based on the results of the research, it obtained a sig value of 0.060 > 0.05, that means environmental performance was not able to influence ROE on firm value, so the fourth hypothesis was rejected. This research is in line with research conducted by Chasanah & Mariana, (2021) environmental performance is not able to influence ROE on company value, in contrast to Wardhana, (2020) research that environmental performance can affect ROE on company value. Environmental performance cannot moderate ROE on company value because this shows that investors do not respond to disclosure of company environmental performance because there is already a regulation in Law no. 40 of 2007 regarding environmental and social obligations. So whether there is an environmental performance publication or not can influence the public in the decision to invest in a company. Therefore, disclosure of a company’s environmental performance cannot change the movement of stock prices and profits earned by a company.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this research and explanations about environmental performance analysis as a moderator of the relationship between financial performance and firm value, it can be concluded that ROA has a negative influence on firm value. While ROE has a positive influence on firm value. Furthermore, environmental performance is able to moderate ROA on firm value, but environmental performance is unable to moderate the relationship between ROE and firm value.
Based on the analysis and research that has been carried out, there are several weaknesses and limitations that cannot be avoided such as the results have no effect, so we have to use LN and the results become influential. This research only uses profitability ratios, namely ROA & ROE, where there are other variables that are predicted to explain interactions that can affect firm value.

The implication of this research is that for investors and prospective investors this research shows that good financial performance and environmental performance will directly increase firm value and vice versa, with this research investors can be more selective in choosing companies to invest in. For company management, this research can be a reference in making policies. Furthermore, for academics this research can be a reference for the development of similar research with the development and variables studied.

ADVANCED

For further research it is recommended to use other variable measurements from the research references that have been used in this research. Future research can also use companies divided into sectors such as the energy sector, raw materials, and industry in order to get better results from this research. Leverage ratios and market ratios can be selected for further research variables and not only use profitability ratios. So that it can obtain results that are not the same as the research that has been carried out at this time.

REFERENCES


