Effect of Environmental Performance, Firm Size, Corporate Social Responsibility on Financial Performance on Manufacturing Companies

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ABSTRACT

This study examined the relationship between environmental performance, firm size, corporate social responsibility on financial performance on manufacturing companies listed in ISSI over the period 2014-2018. The independent variables were hypothesized - environmental performance, firm size, and corporate social responsibility. While the dependent variable was a financial performance (ROA). Whereas, the data used are secondary data of finance and annual statements derived from the Indonesian Stock Exchange and the company’s official website, as well as the PROPER data, reconstituted from The Ministry of Environment and Forestry. The method used in analyzing data on this research is multiple regression linear with the EViews 10. The results showed that environmental performance had no significant effect on financial performance (ROA), the firm size significantly affected the financial performances (ROA), corporate social responsibility significantly affected the financial performances (ROA). Thus, environmental performance, firm size, and corporate social responsibility affect simultaneously on financial performances (ROA).

INTRODUCTION

In recent years, global countries have begun to look more closely at sustainable development that sees broader impacts and systems in longer periods in the future. On the other hand, development is expected to increase the value of the economic growth and utility value of a product (The Ministry of Environment and Forestry Republic Indonesia, 2019). In a development activity, it also takes note of other aspects such as the environment and society. The company is required not only to be target-oriented, according to (Rahayu & Sarsiti, 2016), at best, it maximizes its potential for environmental...
violations, both in low environmental management, environmental performance, and interest to improve conservation of the environment.

The company's ability to earn a profit is crucial to assessing the company's financial performance. Financial performance is the determination of measures that can be used to benchmark the success of a company to generate profit. The financial performance of the company is one of the factors that can be seen by a candidate of investors to determine the investment shares (Christina O and Robiyanto, 2018). In measuring financial performance can be seen based on the financial statements that have been published by the company and according to the accounting basis and accepted by the community. Besides, the benchmark of the company's success in terms of finance is seen from its financial performance. If the performance is good, then the investor can invest the company in the business, likewise, vice versa if the corporate financial performance is bad then the investor will withdraw funds and will affect the value of the company.

While assessing the environmental performance of the company, through the Ministry of Environment and Forestry, we have created the company's performance rating Program in Environmental management (PROPER). The performance rating of the environment is divided into five colour rankings from the best are gold, green, blue, red, and up to the worst black (Nawaiseh, 2015). Starting in 2017 in its report, PROPER has managed to improve the company's management performance, this is evident from the growing number of gold-ranked companies in 2017-2018 by 20 companies to 26 companies by 2018-2019. The business that has been implemented by the company in improving environmental management and community empowerment in line with the commitment to the achievement of Sustainable Development Goals (SDGs) and PROPER has noted that the contribution made by the company to the SDGs reached RP 50.32 trillion and increased by 30.13% in 2019. However another belief in the capital market is to finance green companies, and green service products as well as environmental performance have a positive impact on financial performance (Sarumpaet, 2005). Currently, the company's demand to disclose the environment is very high to save the world and it is proved that a company with environment disclosure can achieve good performance. There are many effects on financial performance with the existence of environmental disclosure (Nor et al., 2016).

As the size of the company in carrying out its obligations, profit also shows the prospects of the future in the company (Rahayu & Sarsiti, 2016). Thus, firm size is a large or small depiction of a company that can be seen from total sales, average sales, and total assets. This study used the natural log of total assets of the company (H Manurung et al., 2017). Firm size can be used as an indicator for investors to make investments, because the size of the company can describe how much risk, the financial ability of the company to fulfill its obligations, and the rate of return to investors. Firm size is a depiction of a small or large company that can be measured by the total assets of the company (Christina O and Robiyanto, 2018). According to (Sujoko, 2017), the larger firm size reflects good growth at those companies which can be seen from the large corporate assets. Companies with a large number of total assets usually have an easy entrance towards the capital markets.
The company's efforts in the social aspect of Corporate Social Responsibility (CSR) are the mandatory responsibility of the company. According to Susanto (2019), CSR is the responsibility of the company to shareholders and employees in the form of profitability, and responsibility to the outside parties such as paying taxes and providing employment, beneficial to the community, and maintaining a sustainable environment. The company that runs CSR is good, it will add to the investor's image or confidence in the company. If the level of corporate CSR disclosure is low, it will impede the investor confidence level for and invest in a company (Fajriana & Priantinah, 2016).

Once, CSR reporting was a domain for few organizations but today it emerges as a common practice around the world. Reporting its activities is vital for a company to achieve its sustainability in the global economy, besides it is an important phase to the measurement of a company’s social responsibility activities. Reporting conveys information on companies’ responsibilities and accountabilities toward a society that is linked to the global economy in altered parameters (Gnanaweera & Kunori, 2018). The CSR indicators used are measurements referring to the Global Reporting Initiative 4.0 (GRI G4) which have 91 disclosures, with the disclosure using a dummy variable of 0 when not disclosed, and 1 when disclosed (Meiyana & Aisyah, 2019).

Previous research conducted by (Angelia & Suryaningsih, 2015; Haninun et al., 2018; Tunggal & Fachhrurrozie, 2014; Tzouvanas et al., 2019; Wu & Ullah, 2020) demonstrated results of environmental performance had a significant effect or positive effect on financial performance. But, according to (Horváthová, 2012; Meiyana & Aisyah, 2019) show the result of environmental performance had no significant effect or negative effect on financial performance. Based on research (Meiyana & Aisyah, 2019; Oyelade & Opeyemi, 2019; Wufron, 2017), firm size had a positive effect on financial performance. Thus, (Eyigege, 2018) show the result of firm size had a negative effect on financial performance. Then, research conducts by (Akben-Selcuk, 2019; Angelia & Suryaningsih, 2015; Dewi & Monalisa, 2016; Gautam et al., 2016; Giannarakis et al., 2016; Maqbool & Zameer, 2018; Meiyana & Aisyah, 2019) the relationship between corporate social responsibility had a positive effect on financial performance. But, other research (H Manurung et al., 2017; Ngoc, 2018; Szegedi et al., 2020; Tunggal & Fachhrurrozie, 2014) shows that there is corporate social responsibility had no significant effect or negative effect on financial performance.

The explanation above shows that there is a phenomenon gap, so this paper focuses on the Indonesia manufacturing sector using the data of 23 companies from 2014 to 2018. Since the manufacturing sector is generally considered to have a closer relationship with environmental issues, we consider that manufacturing firms have stronger incentives to actively or voluntarily deal with environmental issues through various means (Iwata & Okada, 2011).

METHODS

The study used secondary data with multiple linear regression analysis methods. The population is the completeness of the object, the group of people to be meticulous. The population to be used in this research is a manufacturing company registered in the Sharia Stock Index of Indonesia (ISSI) in 2014-2018. While the samples used in this study amounted to 23 manufacturing companies.
To assess a company's environmental performance, the Ministry of Environment and Forestry Republic Indonesia has created a PROPER program (Company Performance Rating in Environmental Management). PROPER assesses the company's performance in managing its environmental performance and the company's adherence to environmental regulations by using color ratings, ranging from the best of gold with a score of 5, green with a score of 4, blue with a score of 3, red with a score of 3, and black with a score of 1.

While, the total assets is an indicator used to measure the firm size (Christina O and Robiyanto, 2018). The formula used to determine the firm size based on the total assets indicator as follows:

$$\text{Firm Size} = \ln (\text{Total Assets})$$

Where:

$$\ln = \text{Log Natural}$$

Corporate Social Responsibility used GRI (Global Report Index) G4 to measured. In (Rodriguez-Fernandez, 2016) said the company observance with the guideline of the GRI is highly recommended. Applying the principles of the GRI when presenting sustainability reports assures financial advantages, and by extrapolation all stake-holders stand to benefit.

The research was assisted by E-views 10 in data processing, there was descriptive statistical processing, multiple linear regression, classical assumption test, analysis of the correlation coefficient, determination, as well as the F test hypothesis and the T-test. Referring to several findings above, the hypothesis resulted as follows:

Hypothesis 1: Environmental performance has a significant effect on financial performance
Hypothesis 2: Firm size has a significant effect on financial performance
Hypothesis 3: Corporate Social Responsibility has a significant effect on financial performance
Hypothesis 4: Environmental performance, firm size, and Corporate Social Responsibility are simultaneously influential on financial performance.

Table 1  Multicollinearity Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient Variance</th>
<th>Uncentered VIF</th>
<th>Centered VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.001505</td>
<td>94.68994</td>
<td>NA</td>
</tr>
<tr>
<td>ENVIRONMENTAL_PERFORMANCE</td>
<td>9.34E-05</td>
<td>52.98461</td>
<td>1.321339</td>
</tr>
<tr>
<td>FIRM_SIZE</td>
<td>1.74E-06</td>
<td>64.28543</td>
<td>1.041166</td>
</tr>
<tr>
<td>CSR</td>
<td>0.002936</td>
<td>16.83589</td>
<td>1.318868</td>
</tr>
</tbody>
</table>
Based on table 1 Multicollinearity Test, indicates that no independent variable has a VIF value of more than 10, which means it can be concluded that there is no multicollinearity between independent variables in regression.

**Table 2 Normality Test**

![Normality Test](chart)

<table>
<thead>
<tr>
<th>Series: Residuals</th>
<th>Sample size 115</th>
<th>Observations 115</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>-4.796e-16</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>-0.002560</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>0.117798</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.141299</td>
<td></td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.042169</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.201015</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.797368</td>
<td></td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>3.820991</td>
<td>0.148007</td>
</tr>
</tbody>
</table>

Based on table 2 Normality Test, indicates that the p-value of Jarque-Bera (0.148007) is greater than the p-value (0.05), which means that the residual has a normal distribution.

**Table 3 Heteroskedasticity Test**

<table>
<thead>
<tr>
<th>Heteroskedasticity Test: Harvey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F-statistic</strong></td>
</tr>
<tr>
<td><strong>Obs*R-squared</strong></td>
</tr>
<tr>
<td><strong>Scaled explained SS</strong></td>
</tr>
</tbody>
</table>

Based on table 3 Heteroskedasticity Test: Harvey, indicates that the p-value of Obs*R-Squared (0.0535) is greater than the p-value (0.05), which means there is no heteroskedasticity, in other word homogeneity occurs.

**Table 4 Autocorrelation Test**

<table>
<thead>
<tr>
<th>Breusch-Godfrey Serial Correlation LM Test:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F-statistic</strong></td>
</tr>
<tr>
<td><strong>Obs*R-squared</strong></td>
</tr>
</tbody>
</table>

Based on table 4 Autocorrelation Test, indicates that the p-value inObs*R-Squared (0.4576) is greater than the p-value (0.05), which means there is no autocorrelation problem.
Multiple linear regression analyses are used for whether there are an influence and a relationship between two or more free variables (X) with one bound variable (Y). The study used to analyze the data is EViews 10 software, with independent variables i.e. environmental performance, firm size, and Corporate Social Responsibility, and its dependent variable is financial performance.

**Table 5 Regression Analysis, T-Test, F-Test, and Correlation and Determination Coefficient Tests**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.024980</td>
<td>0.038796</td>
<td>0.643874</td>
<td>0.5210</td>
</tr>
<tr>
<td>ENVIRONMENTAL_PERFORMAN</td>
<td>0.008561</td>
<td>0.009664</td>
<td>0.885806</td>
<td>0.3776</td>
</tr>
<tr>
<td>FIRM_SIZE</td>
<td>-0.004098</td>
<td>0.001319</td>
<td>-3.105547</td>
<td>0.0024</td>
</tr>
<tr>
<td>CSR</td>
<td>0.344698</td>
<td>0.054189</td>
<td>6.361048</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.404055  Mean dependent var 0.051800
Adjusted R-squared 0.387949  S.D. dependent var 0.054651
S.E. of regression 0.042755  Akaike info criterion -3.432492
Sum squared resid 0.202908  Schwarz criterion -3.337016
Log likelihood 201.3683  Hannan-Quinn criter. -3.393739
F-statistic 25.08630  Durbin-Watson stat 1.278235
Prob(F-statistic) 0.000000

In Table 5, there can be known models of regression equations namely:

\[ Y = 0.024980 + 0.008561 X_1 - 0.004098 X_2 + 0.344698 X_3 \]

From the analysis results of the multiple linear regression, it can be interpreted as follows:
1. A constant value of 0.024980, which means if the environment performance variable (X1), the company size (X2), and the CSR (X3) are considered constant, the ROA (Y) variable is 0.024980.
2. The value of the environmental performance coefficient (X1) is 0.008561, which means if the X1 variable increased by 1 unit, then ROA (Y) will increase by 0.008561 assuming another variable remains.
3. The firm size coefficient (X2) value is 0.004098, which means if the variable X2 increases by 1 unit, then ROA (Y) will decline by 0.004098, assuming another variable remains.

4. The value of the performance coefficient of CSR (X3) is 0.344698, which means if the variable X2 increases by 1 unit, then ROA (Y) will increase by 0.344698, assuming another variable remains.

According to (Prof. H. Imam Ghozali, M.Com, Ph.D, CA, 2016), "analysis of the correlation coefficient (R) is used to describe the strength of linear relations between independent variables and dependent variable. Additionally, the analysis of the correlation coefficient (R) also shows the direction of the relationship between independent variables and dependent variable. Dependent variables are assumed to be random/stochastic. While the independent variables on assumed have a fixed value." The R-value ranges between 0-1. "The closer the number 1 then, the relationship is stronger, likewise vice versa, if approaching the number 0, the relationship is weaker".

In this study, you can see table 5, generating R Square (R2) value of 0.404055, hence the value $R = \sqrt{0.404055} = 0.63565$, which means the level of relationship between dependent variables and independent variables is strong.

The value of adjusted $R^2$ used at the time of evaluating where the best regression model. The adjusted value of R-Square describes the R-Square value corrected by the Std. Error value. In reality, the adjusted value of R2 can be of negative value, although the desired must be a positive value. If the empirical test is obtained negatively, it is considered zero value.

Based on Table 5, It is known that the adjusted value of R-Square is 0.387949, which means that the environmental performance variable (X1), Firm Size (X2), and Corporate Social Responsibility (X3) can explain the variance of the financial performance variable (Y) by 38.7949%, and the remainder is described by another variable.

T-Test aims to know how much influence and significance of a dependent variable in describing each variable freely. In partial hypothesis testing (t-test) using a degree of confidence of 5% or 0.05 with conditions:

$H_0$: if $p$-value $> 0.05$, then $H_0$ is accepted
$H_1$: if $p$-value $< 0.05$, then $H_1$ is rejected

Based on table 5 of the partial test result (Test T) and its interpretation of each variable is as follows:

1. Environmental performance on financial performance
Based on table 5 in the test results, it can be seen that the environmental performance has a P-value value of 0.3776 or a P-value greater than the significant value ($0.3776 > 0.05$), and the critical area of T count is smaller than the this (T count = 0.885806 < T table = 1.98099), then it can be inferred $H_0$ which means environmental performance had no affect significantly.

2. Firm size on financial performance
Based on table 5 of the test results, it can be seen that the firm size has a P-value value of 0.0024 or a P-value value greater than the significant value ($0.0024 < 0.05$), and the critical area of T count is smaller than T table (T count = -3.105547 < T table = 1.98099), it can be accept $H_2$ which means the firm size significantly affects the financial performance.
3. Corporate Social Responsibility on financial performance

Based on table 5 in test results, can be seen that the corporate social responsibility has a P-value value of 0.0000 or value of P-value smaller than the significant value (0.0000 < 0.05) and the critical area T count greater than the This (T count = 6.361048 > T table = 1.98099), then it can accept H3 which means the corporate social responsibility significantly.


The significant test aims to find out if all the independent variables included in the model have a simultaneous effect on dependent variables. In simultaneous hypothesis testing (test F) using a degree of confidence of 5% or 0.05.

Based on table 5 of test F can be seen that the P-value of 0.000000 or the P-value value is smaller than the significant value (0.000000 < 0.05) and the critical area F count greater than F table (F count = 25.08630 > F table = 3.08) Then it can accept H4 which means environmental performance, firm size, and corporate social responsibility to simultaneously effects on financial performance.

CONCLUSION

The results showed that environmental performance had no significant effect on financial performance (ROA), the firm size significantly affected financial performances (ROA), corporate social responsibility significantly affected financial performances (ROA). Thus, environmental performance, firm size, and corporate social responsibility to simultaneously effects on financial performances (ROA).

Advice for companies is to publish a sustainability report to focus more on company information about company sustainability and make it easier for people to know. The limitations of this research have only analyzed manufacturing companies, and on the financial performance is limited to use the variable ROA, and limited to only 5 years 2014-2018. CSR reporting for subsequent research can use different disclosure indicators.

REFERENCES


