Effect of Profitability, Leverage, Activity ratios, Market Ratios and Environmental Performance to Share Prices

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Abstract

The purpose of this study was to determine the effect of Profitability, Leverage, Activity ratios, Market Ratios and Environmental Performance on Stock Price. Secondary data were collected in samples from Manufacturing companies listed on the Indonesia Stock Exchange in the period 2014 - 2017. Sampling in this study uses a purposive sampling method with criteria as (1) listed on the Indonesia Stock Exchange in 2014 - 2017. (2) Publish audited financial statements for the 2014-2017 period in Rupiah. (3) always has an advantage. Statistical test is done by t test and multiple linear regression analysis, before this test is done first classic assumption test. The results of the study show that: Return on Equity (ROE), Price Earning Ratio (PER), Environmental performance has a positive and significant effect on stock Prices. Debt to Equity Ratio (DER) owned by the company has not a significant negative effect on Stock Prices and Turn Aset Turn Over (TATO) owned by the company has a significant negative effect on Stock Prices.

Keywords: Return on equity, price earning ratio, debt to equity ratio, turn aset turn over, environmental performance, stock prices.

INTRODUCTION

Stock prices are influenced by financial ratios such as liquidity, solvency, profitability, market ratios, activity ratios, and other ratios. In this study, the ratio used is liquidity, solvency, profitability, and market ratios. In addition it is added to the size of the company.

Profitability is a ratio that shows a company's ability to generate profits [1]. Profitability often gets the main attention of investors. In this study, return on equity is used to measure profitability, because this ratio can measure the company's ability to generate profits on the capital that investors invest. Bodie [2] states that the high level of return on equity can be interpreted that the company will provide opportunities for returns or income large enough for investors so as to provide opportunities to increase the company's stock price. The results of research conducted by Purnamasari et al., [3] shows that return on equity has a positive and significant effect on stock prices, while the results of research conducted by Sugianto and Khusaini [4] actually show that return on equity has no significant effect on stock prices.

Solvency is a ratio used to determine a company's ability to pay long-term debt. This ratio measures how much the company is financed by debt. The solvency ratio used in this study is a debt to equity ratio, which is a ratio that illustrates the ratio between total debt to total company capital used as venture capital. If the debt to equity ratio of a company is high, investors will avoid these shares, consequently the demand for these shares decreases and causes the stock price to fall [5]. the results of research conducted by Tumandung et al., [6] shows that the debt to equity ratio has a negative and significant effect on stock prices. However, the results of research conducted by Nainggolan [7] actually show that the debt to equity ratio has no significant effect on stock prices.

The results of research conducted by Rani and Diantini [8] show that total assets turnover has a positive and significant effect on stock prices. Total asset turnover itself measures the efficiency of using assets to generate sales [9]. That is, the higher the total assets turnover of a company, the higher the level of
efficiency in the use of the company's assets to generate sales. This shows that the company has good asset management, so investors will give confidence to the company to manage the funds invested. This will increase the demand for the company's shares in the capital market. As a result, the company's share price will also increase along with the increasing market demand for these shares. However, the results of research conducted by Ariyanti and Suwitho [10] actually show that the total assets turnover has no significant effect on stock prices.

Market ratio is the ratio that shows company information valued per share. In this research, the market ratio used is earnings per share, which is a ratio to measure the profits provided by the company to investors for each share held. High earning per share will make the demand for company shares increase where the high demand for these shares will cause the company's stock price to move up [11]. With data stating that the net income of plantation sub-sector companies in 2010 to 2014 has increased should encourage share prices to move up. According to Arifin and Agustami [12] market ratios have a positive and significant effect on stock prices.

In research Lindrianasari [13] shows that environmental performance and economic performance have a significant positive effect on the quality of environmental disclosure, but economic performance does not affect environmental performance. Research by Paulraj and de Jong [14] shows that the announcement of ISO 14001 certification has a negative impact on stock performance. Whereas Vujicic's [15] study entitled corporate social responsibility and stock returns: examining US stock performance states that companies with higher social responsibility values tend to achieve lower stock returns. Measures of environmental performance can also be proxied from management's commitment to good environmental management, this is reflected in the presence or absence of ISO 14001 certification (Wiwik, 2007) [34]

Based on the background description above, the writer is interested in raising this issue as scientific writing material with the title: "The Effect of Profitability, Leverage, Activity, Market Ratios and Environmental Performance on Stock Prices”

Based on the background that has been described above, the author determines the formulation of the problem as follows:

- Is Profitability, Leverage, Activity Ratios, Market Ratios and Environmental Performance to Share Prices?

**EXPERIMENTAL SECTION/ MATERIAL AND METHODS**

**Stocks**

A stock is a piece of paper that shows the investor's right (the party that owns the paper) to obtain a share of the prospect or wealth of the organization that issued the security and various conditions that enable the investor to exercise his rights [16].

**Stock Price**

Share price is the price of a stock that occurs in the stock market at a certain time determined by market participants and the demand and supply of the relevant stock in the capital market [17].

**Fiancial Ratios**

Financial ratio is an activity using numbers in financial statements that is dividing a number with other numbers in one period or several periods [18].

**Profitability Ratio**

Profitability ratios are ratios that are used to assess a company's ability to seek profits [18]. According to Sudana [19], profitability ratios are ratios that measure a company's ability to generate profits using sources owned by a company, such as assets, capital, or company sales.

**Return on Assets**

According to Machfoedz [20] in Erari [21], return on assets is a ratio that shows the company's financial performance in generating net income from assets used for the company's operational activities. According to Sudana [22], return on assets shows the company's ability to generate profits after tax using all assets owned.

**Solvency Ratios**

Solvency ratio is a ratio that measures the amount of debt used in corporate spending [22]. According to Kasmir [18], solvency ratios are ratios used to measure the extent to which a company's assets are financed with debt. According to Manurung [23], solvency ratio is a ratio that shows a company's ability to fulfill all financial obligations if the company is liquidated.

**Debt to Equity Ratio**

Debt to equity ratio is the ratio used to assess debt with equity [18]. Fahmi [24] defines debt to equity ratio (DER) as one of the leverage ratios used to measure how much a company is financed with debt. According to Andarini [25] in Fahlevi [26], this ratio is used to measure the level of debt use to the total capital owned by the company.

**Activity Ratio**

Activity Ratio is a ratio used to measure the effectiveness of a company in using its assets [18]. According to Harahap [27], the activity ratio describes the activities carried out by the company in carrying out
its operations, ranging from sales, purchases, to other activities.

**Total Assets Turnover**

Total assets turnover is the ratio used to measure the turnover of all assets owned by the company and measure the amount of sales obtained from each asset [18]. According to Widayanti et al., [9], total assets turnover measures the efficiency of using assets to generate sales.

**Environmental Performance**

Performance is the result of organizational activities or investment results in a certain period of time that can be measured qualitatively and quantitatively. According to the Environmental Practitioner Program glossary, environmental performance is the relationship between the company and the environment. These relationships include environmental effects on resources consumed, environmental impacts on organizational processes, environmental implications of company products and services, recovery and processing of products and compliance with requirements for the work environment. The company’s environmental performance according to Suratno et al., [28] is the company’s performance in creating a green environment.

**Research Model, Hypotheses, and Methodology**

**Research Model**

Based on the literature review and the results of previous studies and the problems that have been raised, there may be a relationship between the Profitability, the Solvency, Activities Ratio, Market Ratio and Environmental Performance to Stock Price as a basis for making hypotheses then formulated with the following framework of thought:

![Fig-1: Research Model](image)

**Hypotheses**

Based on the existing problems and objectives to be achieved, the authors draw three hypotheses, namely:

- \( H_1 = \) Effect of Profitability on Stock Prices
- \( H_2 = \) Effect of Leverage on Stock Prices
- \( H_3 = \) Effect of Activities Ratio on Stock Prices
- \( H_4 = \) Effect of Market Ratio on Stock Prices
- \( H_5 = \) Effect of Environmental Performance on Stock Prices

**METHODOLOGY**

The research used in this research is casual associative research. According to Sanusi [29], associative-causal research is the search for the relationship between two or more variables. The purpose of associative research is to find relationships between one variable and another variable.

The population of this study is the companies included in the list of PROPER listed on the Indonesia Stock Exchange in 2015-2017.

The population of this study is companies manufacturing basic and chemical industrial sectors in Indonesia which are listed on the Indonesia Stock Exchange (IDX). From the existing population a certain number of samples were taken by using the Purposive random sampling technique, which is a sampling technique with certain considerations [30]. The sample used in this study was selected based on the following criteria:

- Companies manufacturing basic and chemical industry sectors were listed on the Indonesia Stock Exchange in 2014-2017
- The company owned data is complete and in accordance with the variables studied

**RESULTS AND DISCUSSION**

Descriptive statistics include minimum, maximum, mean and standard deviation. The research variable data includes the dependent variable, Stock Price. and independent variables include the Profitability, the Solvency, Activities Ratio, Market Ratio and Environmental Performance. The results of the descriptive statistical analysis are shown in Table-1:

1. **Stock Price** has an average value of 3.581,26. While the standard deviation value is 4.152,69004. This indicates that the variable stock price is not normally distributed, because the value of the
standard deviation is greater than the value of the average variable.

2. Return On Equity (ROE) has an average value of 0.1565. While the standard deviation value is 0.15687. This indicates that Return On Equity (ROE) variable is not normally distributed, because the value of the standard deviation is greater than the value of the average variable.

3. Debt to Equity Ratio (DER) has an average value of 0.6847. While the standard deviation value is 0.38184. This indicates that Debt to Equity Ratio (DER) variable is normally distributed, because the standard deviation value is smaller than the variable average value.

4. Total Sales Turn Over (TATO) has an average value of 1.0164. While the standard deviation value is 0.43896. This indicates that the Total Sales Turn Over (TATO) variable is normally distributed, because the standard deviation value is smaller than the variable average value.

5. Price Earning Ratio (PER) has an average value of 18.8363. While the standard deviation value is 12.58234. This indicates that the Price Earning Ratio (PER) variable is normally distributed, because the standard deviation value is smaller than the variable average value.

6. Environmental Performance has an average value of 0.6829. While the standard deviation value is 0.11660. This indicates that the Environmental Performance variable is normally distributed, because the standard deviation value is smaller than the variable average value.

### Table-1: 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>ROE</td>
<td>75</td>
<td>0.01</td>
<td>1.2</td>
<td>0.1565</td>
<td>0.15687</td>
</tr>
<tr>
<td>DER</td>
<td>75</td>
<td>0.11</td>
<td>1.81</td>
<td>0.6847</td>
<td>0.38184</td>
</tr>
<tr>
<td>TATO</td>
<td>75</td>
<td>0.12</td>
<td>2.34</td>
<td>1.0164</td>
<td>0.43896</td>
</tr>
<tr>
<td>PER</td>
<td>75</td>
<td>0.87</td>
<td>71.45</td>
<td>18.8363</td>
<td>12.58234</td>
</tr>
<tr>
<td>PROPER</td>
<td>75</td>
<td>0.38</td>
<td>1</td>
<td>0.6829</td>
<td>0.11660</td>
</tr>
<tr>
<td>PRICE</td>
<td>75</td>
<td>50</td>
<td>22325</td>
<td>3581.3</td>
<td>4152.69</td>
</tr>
<tr>
<td>Valid N</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Classic Assumption Test

A model is declared good for predictors if it has the best liner unbiased estimator properties [31]. Besides that, a regression model is said to be quite good and can be used to predict if it passes a series of econometric assumptions that underlie it.

The classic assumption test is carried out to determine the condition of existing data in order to determine the most appropriate analysis model to use. The classic assumption test used in this study consisted of autocorrelation tests using Durbin-Watson statistics, multicollinearity test using Variance Inflation Factors (VIF) and heteroscedasticity test using the Glejser test.

### Multicollinearity Test

This test aims to test whether the regression model found a correlation between independent variables. A good regression model should not have a correlation between the independent variables. This test is done by using correlations between the independent variables used in the regression equation. If some or all of the independent variables are strongly correlated, multicollinearity occurs.

### Table-2: Uji Multikolenearitas

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Model</th>
<th>Collinearity Statistics</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROE</td>
<td>0.696</td>
<td>1.437</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DER</td>
<td>0.849</td>
<td>1.178</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TATO</td>
<td>0.77</td>
<td>1.298</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PER</td>
<td>0.944</td>
<td>1.059</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PROPER</td>
<td>0.813</td>
<td>1.231</td>
<td></td>
</tr>
</tbody>
</table>

The method that can be used to test the presence of multicollinearity is by testing the tolerance value or Variance Inflation Factor (VIF) value. The tolerance value limit is 0.10 and Variant Inflation Factor (VIF) is 10 [32]. The results of the multicollinearity test show that there are no variables that have a tolerance value of less than 0.10 and there are no variables that have a VIF value of less than 10. So it can be concluded that there is no multicollinearity in the regression model.

### Autocorrelation Test

The autocorrelation test aims to test whether in the regression model there is a correlation between the confounding errors in period t and the interfering errors in the t-1 period (before). The consequence of autocorrelation in a regression model is that the sample variant does not describe the population variant. Furthermore, the resulting regression model cannot be
used to estimate the value of the dependent variable on the value of certain independent variables.

### Table-3: Autocorrelation Test

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.65</td>
<td>.424</td>
<td>.382</td>
<td>24.27179</td>
<td>1.830</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), PROPER, DER, PER, ROE, TATO
b. Dependent Variable: PRICE_Y

From the table above, the value of Durbin-Watson is 1.830, so it can be concluded that there is no autocorrelation in this regression model.

### Heteroscedasticity Test

Heteroscedasticity can be seen by looking at the scatterplot graph. Where the plot graph is the dependent variable namely SRESID with the residual ZPRED. The results of heteroscedasticity testing can be seen in the following graph:

![Heteroscedasticity Test Results](image)

### Normality test

### Table-4: Normality Test Results

<table>
<thead>
<tr>
<th>One-Sample Kolmogorov-Smirnov Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>75</td>
</tr>
<tr>
<td>Normal Parameters®</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Most Extreme Differences</td>
</tr>
<tr>
<td>Absolute</td>
</tr>
<tr>
<td>Positive</td>
</tr>
<tr>
<td>Negative</td>
</tr>
<tr>
<td>Kolmogorov-Smirnov Z 0.766</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed) 0.601</td>
</tr>
</tbody>
</table>

a. Test distribution is Normal.
b. Calculated from data.

By looking at the normal p-plot graph, dots spread around the diagonal line, and the spread follows the direction of the diagonal line. Thus it can be concluded that data from all variables are normally distributed.

### Determination Coefficient Test (R²)

This test shows the percentage of the ability of independent variables to explain the variation of the dependent variable. The magnitude of the coefficient of determination from 0 to 1. The closer to zero the magnitude of the coefficient of determination the smaller the influence of the independent variable, on the contrary the closer to a magnitude of the coefficient of determination the greater the influence of independent variables. The test results are seen in the table.

### Table-5: Determination Coefficient Test

<table>
<thead>
<tr>
<th>Model Summary®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

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Based on the table it can be seen that the determination coefficient of Adjusted R Square has a value of 0.272, so it can be stated that the ability of independent variables (ROE, DER, TATO, PER & PROPER) in explaining the dependent variable variation (Company Value) is very limited, because it approaches 0.

The value of R Square (R2) is changed to the form of percent, meaning the percentage contribution of the independent variable to the dependent variable. Value R2 The first hypothesis is 0.322, which means the percentage contribution of environmental performance variables to financial performance variables is 32.2% while the rest (100% - 32.2% = 67.8%) is influenced by other variables outside the model.

**Simultaneous Significance Test (Test Statistic F)**

Simultaneous significance test (F test) is used to show whether all the independent variables included in the model have a joint influence on the dependent variable [33]. If the analysis using the F test shows that all independent variables simultaneously are explanations of the significance of the dependent variable.

**Multiple Linear Regression**

In accordance with the results of the research hypothesis which states that between variables have a significant relationship to the dependent variable, multiple linear regression is needed to model the analysis.

The regression equation can be written as follows:

\[ Y = -69,100 + 95,986_{\text{ROE}} - 18,143_{\text{DER}} - 34,285_{\text{TATO}} + 6,302_{\text{PER}} + 130,724_{\text{PROPER}} + \epsilon \]

From the regression equation above can be concluded as follows:

1. The constant of -69,100 explains that if the company has ROE, DER, TATO, PER AND Environmental Performance, the Stock Price is -69,100.
2. ROE regression coefficient of 95,986 states that every increase in ROE is 1%, it will be followed by an increase in Stock Price of 95.986%.
3. DER regression coefficient of -18,143 states that every increase in DER is 1%, then it will be followed by a Decrease in Stock Price of 18.143%.
4. Regression coefficient Total Sales Turn over (TATO) of -34.285 states that every increase in Total Sales Turn over (TATO) of 1% will be followed by a Decrease in Stock Price of 34.285%.
5. PER regression coefficient of 6.302 states that every increase in PER of 1% will be followed by an increase in Stock Price of 6.302%.
6. Environmental Performance regression coefficient of 130.724 states that every increase in PER of 1% will be followed by an increase in Stock Price of 130.724%.

**Effect of Return on Equity on Stock Price**
The regression coefficient in Table 7 shows that return on equity (ROE) has a positive t count of 4.231 with a probability of 0.000. This shows that p value (0.000) < significance level (0.05), so $H_1$ can be accepted, meaning that ROE have a significant effect on stock price.

These results indicate that ROE owned by the company have a positive and insignificant effect on Stock Price. This condition is consistent with the results of the Purnamasari et al. [3] shows that return on equity has a positive and significant effect on stock prices, while the results of research conducted by Sugiarto and Khusaini [4] actually show that return on equity has no significant effect on stock prices. The results of this study indicate that ROE improvement in financial performance can stock price to the company.

**Effect of Debt to equity ratio on Stock Price**

The regression coefficient in Table 7 shows that Debt to equity ratio (DER) has a negative t count of 1.453 with a probability of 0.151. This shows that p value (0.151) > significance level (0.05), so $H_2$ cannot be accepted, meaning that Debt to equity ratio (DER) has not a significant effect on stock Price.

These results indicate that the Debt to equity ratio (DER) owned by the company has not a significant positive effect on Stock Price. This condition is consistent with the results of the by Nainggolan [7] actually show that the debt to equity ratio has no significant effect on stock prices.

**Effect of Total Sales Turn over (TATO) on Stock Price**

The regression coefficient in Table 7 shows that Total Sales Turn over (TATO) has a negative t count of 2.234 with a probability of 0.029. This shows that p value (0.029) < significance level (0.05), so $H_3$ can be accepted, meaning that Total Sales Turn over (TATO) has a significant effect on Stock Price.

These results indicate that the Total Sales Turn over (TATO) owned by the company have a significant negative effect on Stock Price. This condition is consistent with the results of the Rani and Diantini [8] show that total assets turnover has a significant effect on stock prices.

**Effect of Earning Per Share on Stock Price**

The regression coefficient in Table 7 shows that Price Earning Ratio has a positive t count of 3.083 with a probability of 0.003. This shows that p value (0.003) < significance level (0.05), so $H_4$ can be accepted, meaning that PER have a significant effect on Stock Price.

These results indicate that ROE owned by the company have a positive and insignificant effect on stock price. This condition is consistent with the results of the According to Arifin and Agustami [12] market ratios have a positive and significant effect on stock prices. The results of this study indicate that PER improvement in financial performance can stock price to the company.

**Effect of Environmental Performance on Stock Price**

The regression coefficient in Table 7 shows that PROPER has a positive t count of 2.941 with a probability of 0.004. This shows that p value (0.004) < significance level (0.05), so $H_5$ can be accepted, meaning that PROPER has a significant effect on stock prices.

These results indicate that PROPER owned by the company have a positive and insignificant effect on Stock Price. This condition is not in accordance with the results of the Lindrianasari [13] shows that environmental performance and economic performance have a significant positive effect on the quality of environmental disclosure, but economic performance does not affect environmental performance.

**CONCLUSION**

Based on the results of the analysis and discussion that has been conducted, the following conclusions can be given:

1. Return on Equity (ROE), Price Earning Ratio (PER), Environmental performance has a positive and significant effect on stock Prices.
2. Debt to Equity Ratio (DER) owned by the company has not a significant negative effect on Stock Prices.
3. Turn Asset Turn Over (TATO) owned by the company has a significant negative effect on Stock Prices.

**REFERENCES**


