Effect of DER, ROA, ROE, EPS and MVA on Stock Prices in Sharia Indonesian Stock Index

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Abstract. The research examine the effect of debt to equity ratio, return on assets, return on equity, earning per share, market value added on stock prices in manufacturing companies listed in Indonesian Sharia Stock Index. The purposive sampling method is used in our research, resulted 53 companies as the samples with 265 observations. The research used data during 2012-2016 from Indonesia Stock Exchange database with panel data analysis. The research found that, earning per share and market value added have a positive effect on stock prices, but different results for the variables debt to equity ratio, return on assets and return on equity partially have no effect on stock prices.

Keywords: stock prices, debt to equity ratio, return on asset, return on equity, earning per share, market value added

Introduction

Current developments in the capital market show important developments for the Indonesian economy. This happened because of the increasing public interest in the capital market, the increasing number of companies registered in the capital market, and government support through investment policies. Stock investment activities are expected to generate benefits for the perpetrators. According to Fahmi (2015) the benefits of owning shares are obtaining dividends, obtaining capital gains and also having a voice for common stock shareholders.

Stock prices always change. There are several conditions and situations that determine a stock experiencing fluctuations, namely micro and macroeconomic conditions, company policy in deciding to expand, sudden change of directors, the presence of directors or company commissioners who are involved in criminal acts and cases entering the court, company performance experience decline in every time, systemic risk and also the effects of market psychology that can suppress the technical conditions of buying and selling shares (Fahmi, 2015).

One analytical tool in assessing stock prices is through corporate fundamental analysis through financial ratio analysis (Darmadi & Fakhruddin, 2006). Investors who use financial ratios as part of analyzing companies by comparing the financial ratios of a company with similar companies are expected to provide convenience and speed in the decision making process (Fahmi, 2006).

The Indonesian Sharia Stock Index (ISSI) is a stock index that reflects overall Islamic stocks listed on the Indonesia Stock Exchange (IDX). Companies listed on the Indonesian Sharia Stock Index must meet financial ratios such as total debt based on interest compared to total assets of not more than 45% and total interest income and other non-halal income compared to total operating income and Other income is not more than 10% (www.idx.co.id).

Based on the background described, this research is a development of research conducted by Nugraha (2016). The difference in this research lies in the object and location of the study where the object of
this study is the manufacturing companies listed on the ISSI in 2012-2016. Another difference lies in the independent variables used by Nugraha (2016), namely debt to equity ratio (DER), return on assets (ROA), return on equity (ROE), earning per share (EPS) and market value added (MVA). The reason the writer added EPS in this study is apart from the development of previous research, also because according to Hartini's research (2017) EPS positively affects stock prices means that the higher the EPS the more expensive the price a stock. The researcher also added a MVA variable from the development of Wicaksono's research (2015) that MVA had a significant positive effect on stock prices. According to Saeidi and Okhli's research (2012) which examines the relationship of ROA to stock prices on the Tehran Stock Exchange proves that there is a significant relationship of ROA and stock prices.

The reason researchers chose manufacturing companies as objects of research is because manufacturing companies are companies that sell their products starting with an uninterrupted production process starting from the purchase of raw materials, the process of processing materials to being products that are ready for sale. Where this is done by the company itself, it requires a source of funds to be used in the company's fixed assets. Manufacturing companies need more sources of long-term funds that are used to finance their company's operations, one of which is by investing in shares by investors.

### Theoretical Framework

#### Previous basic theories and research

Theoretical studies in this study include several theories including Signaling theory and efficient market hypothesis.

#### Signaling theory

According to Conelly et al. (2011) is a concept in which the information provider can choose what and how information will be displayed and the recipient of the information can choose how to interpret the information received. Companies can distinguish themselves from companies that are not good by sending credible signals regarding their quality to the capital market (Spence, 1973). Signaling Theory is the signals of information needed by investors to consider and determine whether investors will invest their shares or not in the company concerned.

### Efficient Market Hypothesis

Efficient markets in the stock market was first proposed by Fama (1970). In this context what is meant by the market is a capital market where a market is said to be efficient if no one, both individual investors and institutional investors, will be able to obtain abnormal returns, after adjusting for risk, using a trading strategy existing continuously (Gumanti, 2011). The concept of efficient markets, changes in the price of a stock security in the past cannot be used in estimating future price changes.

The previous research related to this research, Hartini (2017) with the title of research "Debt to Equity Ratio (DER) Coalition and Earning Per Shares (EPS) on Stock Prices” has the result that DER and EPS have a positive significant to stock prices.

Cathelia (2016) about stock prices, using five variables namely ROE, DER, DER, TATO, CAPEX and NCCR that ROE, CAPEX, NCCR have a significant positive effect on stock prices, but DER, TATO has a significant negative influence on capital structure. In contrast to Wandita (2017) who examines the same variables as the results of the research namely ROE, CAPEX has a significant positive effect on stock prices, but DER, TATO and NCCR appear to have a significant negative influence on capital structure.

Kabajeh, Nu'aimat and Damash (2012) examined the relationship of ROA, ROE and ROI to stock prices in Jordanian Insurance Companies. Based on the results of the study that a combined analysis of the three variables ROA, ROE and ROI together shows a strong and positive relationship to stock prices. Separately shows a positive relationship but low between ROA and ROI on stock prices. But separately it does not show the relationship between ROE and stock prices.

Idawati and Wahyudi (2015) examined the relationship between EPS and ROA on the stock price of coal companies on the IDX. Produce that EPS partially has a significant effect on stock prices and ROA partially has no significant effect on stock prices. Whereas for joint testing EPS and ROA have a positive and significant effect on stock prices.

Saeidi and Okhli (2012) examined the relationship of ROA to stock prices on the Tehran Stock Exchange proving that there is a significant relationship. Ali (2016) examined the effect of ROE, DER, growth on price to book value to find a significant positive relationship.
Hypothesis Development

Debt to equity ratio and stock prices

DER is one measure of the leverage ratio that can be defined as the level of use of debt as a source of corporate financing. From the perspective of the ability to pay long-term obligations the lower the DER will have an impact on increasing stock prices and also the company will be better at paying long-term obligations. Information on increasing DER will be accepted by the market as a bad signal that will give negative input to investors in making decisions to buy shares. This makes demand and stock prices decline. This statement is supported by research conducted by Hartini (2017), Cathelia and Sampurno (2016) which states that DER affects stock prices.

H1: Debt to equity ratio has a negative effect on stock prices

Return on asset and stock prices

Economically, the higher the rate of return obtained, the higher the ability of the company in utilizing the assets owned in order to obtain profit (Husnan & Pudjiastuti, 2015). This statement is supported by research conducted by Safitri (2016) which states that ROA affects stock prices.

H2: Return on assets has a positive effect on stock prices

Return on equity and stock prices

Information on increasing ROE will be accepted by the market as a good signal that will provide positive input to investors in making decisions to buy shares (Husnan & Pudjiastuti, 2015). This makes the demand for stocks increase so that prices will rise. The statement was reinforced by the results of research from Hartini (2017), Dewi and Suaryana (2013) which showed that EPS had a positive and significant influence on stock prices.

H3: Return on equity has a positive effect on stock prices

Earnings per share and stock prices

EPS is a ratio that measures the comparison between net income after tax in one financial year and the number of shares issued. Information on increasing EPS will be accepted by the market as a good signal that will provide positive input to investors in making decisions to buy shares. This makes the demand for stocks increase so that prices will rise (Hanafi & Halim, 2007). The statement was reinforced by the results of research from Alam (2017), Khairudin and Wandita (2017) which stated that MVA had a significant positive effect on stock prices.

H4: Earning per share has a positive effect on stock prices

Market value added and stock prices

MVA is an effective investment tool that presents market assessments of company performance. If the market values the company more than the value of the invested capital, it means that management is able to create value for the shareholders. The success of management in creating value for shareholders will give positive signals to investors and shareholders to invest their shares in the company. The greater the MVA, the more successful management work is managing the company (Husnan & Pudjiastuti, 2015). The greater MVA value will also increase stock prices. This statement was reinforced by the results of Alam (2017) and Wicaksono (2017) which stated that MVA had a significant positive effect on stock prices.

H5: Market value added has a positive effect on stock prices

Research Method

Population and sample

The data in this study uses secondary data which is data from financial reports accessed on the IDX website. The object of this research is the manufacturing company. The manufacturing companies used are those listed on the ISSI in 2012-2016. This research sample was taken based on
purposive sampling method with the following criteria: (1) the company was a manufacturing sector listed on the IDX in 2012-2016, (2) listed in the ISSI, (3) reported the financial report in rupiah (IDR), (4) and the company issues a complete financial report.

Data analysis method

Data processing used in this study uses Eviews to conduct analysis. There are several stages of data processing used in this research, the first stage is editing. This stage is the stage of checking the data that has been collected so that the data is in accordance with the research objectives. The second stage is data tabulation, this stage is the stage of entering data into tables that have been labeled according to the analysis needed. The last stage is processing data statistically using Eviews version 9 data processing applications.

Initial data analysis using descriptive statistical analysis method. Then the panel data regression equation analysis is carried out. The regression model using panel data in the analysis of the model there are three approaches, the common effects model, fixed effects model, and the random effects model. After that tested the chow test and Hausman test.

Testing the hypothesis using t-statistical test (partial). Test the hypothesis t or individual test (partial) between the independent variable and the dependent variable is used to test whether there is a significant influence or not between the independent variables on the dependent variable partially. According to Ghozali (2011) if the statistic value of t count is higher than t table, then Ho is rejected or Ha is accepted. This states that an independent variable individually affects the dependent variable.

Results

Data characteristics

Determination of sample selection can be seen in Table 1.

Table 1
Sample Selection

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Data Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing companies registered</td>
<td>720</td>
</tr>
<tr>
<td>Companies that are not listed on the ISSI</td>
<td>385</td>
</tr>
<tr>
<td>Do not use the rupiah currency</td>
<td>(65)</td>
</tr>
<tr>
<td>Incomplete financial statements</td>
<td>(5)</td>
</tr>
<tr>
<td>Complete data (53 companies x 5 years)</td>
<td>265</td>
</tr>
</tbody>
</table>

Descriptive Statistics

Descriptive statistical test results using Eviews 9 produce an output that describes the average value, standard deviation, maximum, minimum and sum of the dependent and independent variables, so that it can be seen statistically how the description of these variables. The following output results can be seen in the Table 2.

Table 2
Descriptive Statistic Result

<table>
<thead>
<tr>
<th>Var</th>
<th>Mean</th>
<th>Max.</th>
<th>Min.</th>
<th>Std. Dev</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>DER</td>
<td>-0.08</td>
<td>10.48</td>
<td>-225.04</td>
<td>15.9278</td>
<td>-21.65</td>
</tr>
<tr>
<td>ROA</td>
<td>7.98</td>
<td>74.84</td>
<td>-16.11</td>
<td>9.96</td>
<td>2109.27</td>
</tr>
<tr>
<td>ROE</td>
<td>21.78</td>
<td>2473.09</td>
<td>-152.18</td>
<td>152.9582</td>
<td>5752.04</td>
</tr>
<tr>
<td>EPS</td>
<td>436.45</td>
<td>19,807</td>
<td>-3,435</td>
<td>2051.50</td>
<td>115,223</td>
</tr>
<tr>
<td>MVA</td>
<td>18,403,945,334,861,496,135,203,3,5,3,187,045,240</td>
<td>545,435.40</td>
<td>235,500</td>
<td>699,388</td>
<td>981,298</td>
</tr>
<tr>
<td>HS</td>
<td>5,574.17</td>
<td>160,000</td>
<td>50</td>
<td>17,685.16</td>
<td>1,471,583</td>
</tr>
</tbody>
</table>

Based on the descriptive test results in Table 2, DER has an average value of -0.082083 which means that the average debt of the company when compared to equity has a risk of -0.082083 against the company's liquidity. The maximum value for DER is 10.84, which means that the highest value for corporate debt when compared to equity occurred in 2015 at the Sekawan Intipratama company and the lowest was in the amount of -225.04 in 2016 at the company Sekawan Intipratama.

ROA has a mean value of 7.989659 which means that the average ability of a company to utilize assets to generate the company's profitability is 7.989659. The highest value for the company's ability to utilize assets to generate profitability was 74.84 in 2013 was Duta Pertiwi Nusantara company and the lowest was -16.11 in 2015 at the Siearad Produce company.

ROE has a mean value of 21.78803 which means that the average ability of a company to utilize its shareholder investment to generate the company's profitability is 21.78803. The highest value is 2473.09 in 2016 at the company Sekawan Intipratama and the lowest is -152.18 in 2015 at the company Sekawan Intipratama. EPS has a mean value of 436,4522 which means that the income earned per share is 436,4522. The highest value is 29807 in 2012 in a brick shoe company and the lowest is -3435 in 2012 at Merck Indonesia. MVA has a mean value amounting to 18,403,945,454,435.40 which means that managers are able to create added value for the company. The highest value is 334,861,496,233,500 in 2016 at Astra...
International and the lowest is -1,352,023,699,388 in 2012 at the Trias Sentosa company.

Stock prices that occur in 265 manufacturing companies are seen based on the average share price of the closing price at the end of the period (annual) of 5574,178. The share price at Argha Karya Prima Industry Tbk, Siantar Top Tbk, PT Ultra Jaya Milk Tbk, PT Unilever Indonesia Tbk experienced an increase in stock prices from year to year. The highest share price of 160,000 in 2013 and 2014 at Merck Indonesia and the lowest of 50 in 2012 at Siearad Produce.

Hypothesis Testing

Effect of debt to equity ratio on stock prices

Based on Eviews testing to determine the right regression model using Chow Test and Hausman Test, a good regression model used in hypothesis 1 is random effect. Output regression used can be seen in Table 3.

<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>5554.256</td>
<td>1979.766</td>
<td>2.805111</td>
<td>0.0054</td>
</tr>
<tr>
<td>DER</td>
<td>4.490859</td>
<td>58.27303</td>
<td>0.077066</td>
<td>0.9386</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.000108</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the Table 3 result the debt to equity ratio (DER) variable has a sig value of 0.9386 and has a t-Statistic value of 0.077066. H1 is shown in Table 3 with a significance level of α=0.05, significance value DER of 0.9386 which is greater than the significance level α = 0.05 or (0.9386>0.05). This value is greater than the test level value. This means that the DER variable does not affect the stock price. Then this indicates that H1 is not supported so it can be concluded that DER has no effect on the Share Price.

Effect of return on assets on stock prices

Based on Eviews testing to determine the right regression model using Chow Test and Hausman Test, a good regression model used in hypothesis 2 is random effect. Output regression used can be seen in Table 4.

<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>ROA</td>
<td>102.8924</td>
<td>129.5294</td>
<td>0.794356</td>
<td>0.4279</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.633475</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the Table 4, the ROA variable has a sig value of 0.4279 and has a t-Statistic value of 0.794356. H2 is shown in Table 4 with a significance level of α=0.05, significance value ROA of 0.4279 which is greater than the significance level α = 0.05 or (0.4279>0.05). This value is greater than the value of the test level α. So, this shows that H2 is not supported so it can be concluded that ROA does not affect the Stock Price.

Effect of return on equity on stock prices

Based on Eviews testing to determine the right regression model using Chow Test and Hausman Test, a good regression model used in hypothesis 3 is random effect. Regression output used can be seen in Table 5.

<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>ROE</td>
<td>0.668303</td>
<td>5.30102</td>
<td>0.126021</td>
<td>0.8998</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.009261</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the Table 5, the ROE variable has a sig value of 0.8998 and has a t-Statistic value of 0.126021. H1 is shown in Table 5 with a significance level of α=0.05, significance value ROE of 0.8998 which is greater than the significance level α = 0.05 or (0.8998>0.05). This value is greater than the test level value. This means that the ROE variable does not affect the stock price. So, this shows that H3 is not supported so it can be concluded that the ROE has no effect on stock prices.

Effect of earning per share on stock prices

Based on Eviews testing to determine the right regression model using Chow Test and Hausman Test, a good regression model used in this hypothesis 4 is a fixed effect. Regression output used can be seen in Table 6.

<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>EPS</td>
<td>1.972539</td>
<td>0.392184</td>
<td>5.029623</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.671735</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Based on the Table 6 the variable EPS has a value of 0.0000 sig and has a t-Statistic value of 5.029623. This is shown with a significance level of $\alpha=0.05$, obtained the significance value of EPS of 0.0000 which is greater than the significance level $\alpha=0.05$ or (0.0000<0.05). This value is smaller than the test level value. This means that the variable EPS has a positive effect on stock prices. Based on the table above that EPS has a regression coefficient of 1.972. This value shows that the variable EPS has a positive influence on stock prices, namely if EPS has increased by Rp1, the stock price will increase by 1.972. Then this shows that H4 is supported so that it can be concluded that EPS has a positive effect on Stock Prices.

**Effect of market value added on stock prices**

Based on Eviews testing to determine the right regression model using Chow Test and Hausman Test, a good regression model used in hypothesis 5 is random effect. Regression output used can be seen in Table 7.

<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>4143.791</td>
<td>2025.886</td>
<td>2.045422</td>
<td>0.0418</td>
</tr>
<tr>
<td>MVA</td>
<td>7.66E-11</td>
<td>3.28E-11</td>
<td>2.334375</td>
<td>0.0203</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.033374</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the Table 7, the MVA variable has a sig value of 0.0203 and has a t-Statistic value of 2.334375. This is shown with a significance level of $\alpha=0.05$, the significance value of MVA is 0.0203 which is greater than the significance level $\alpha=0.05$ or (0.0203<0.05). This value is smaller than the test level value. This means that the MVA variable has a positive effect on stock prices. Then this shows that H5 is supported so that it can be concluded that the MVA have a positive effect on the Share Price.

**Data Analysis and Discussion**

**Debt to equity ratio has a negative effect on stock prices**

Based on the results of this study indicate that H1 is not supported, namely the DER does not affect the stock price, meaning the size of the DER in the company do not affect the high and low stock prices. This means that the DER is not a major consideration for investors when buying shares. The results of this study are consistent with the research conducted by Wicaksono (2015) which states that DER has no effect on stock prices.

**Return on assets has a positive effect on stock prices**

Based on the results of this study indicate that H2 is not supported, namely ROA does not affect the stock price. This means that companies that have high or low ROA do not necessarily have high or low stock prices. ROA that are good or increased do not have the potential to attract investors. The results of this study were also supported by the results of Sasonggo and Wulandari (2006) which stated that partially ROA had no effect on stock prices.

**Return on equity has a positive effect on stock prices**

Based on the results of this study indicate that H3 is not supported, namely ROE does not affect the Stock Price. Meaning that the presence or absence of ROE has not been able to influence the high and low share prices. The results of this study are also in accordance with the results of Sasonggo and Wulandari (2006) which states that partially ROE does not affect stock prices.

**Earnings per Share has a positive effect on stock prices**

Based on the results of this study indicate that supported H4, namely EPS has a positive effect on Stock Prices. Based on signaling theory, the high value of EPS companies can provide a good signal for investors. Value EPS greater indicates a larger company's ability to generate net profit of each share. The higher the value of EPS, the more attractive investors will be in investing their capital, because EPS shows the shareholders' right to be entitled to one share. High EPS indicates that a company is able to provide a better level of welfare to shareholders. The results of this study support the results of research conducted by Hartini (2017) which states that EPS has a positive effect on stock prices.

**Market value added has a positive effect on stock prices**

Based on the results of this study indicate that supported H5, namely MVA has a positive effect on stock prices, meaning that the greater the MVA value generated, the greater the stock price. Based on signal
theory if the market values the company more than the value of the invested capital, it means that management is able to create value for the shareholders. The success of management in creating value for shareholders will give positive signals to investors and shareholders to invest their shares in the company. The results of this study are in accordance with research conducted by Wicaksuno (2015) which states that the MVA has a positive effect on stock prices.

Conclusion

Based on the results of the study and discussion of the effect of DER, ROA, ROE, EPS and MVA on the prices of manufacturing sector companies listed in the ISSI in 2012-2016, the authors obtained the following conclusions: (1) Partial testing of the independent variable DER on the dependent variable stock price has no effect, so H1 is rejected. (2) Partial testing of the independent variable ROA on the dependent variable share price has no effect, so H2 is rejected. (3) Partial testing of independent variables ROE on the dependent variable stock price has a positive effect, so that H3 is rejected. (4) Partial testing of independent variables EPS on the dependent variable stock price has no effect, so H4 is rejected. (5) Partial testing of the independent variable MVA to the dependent variable stock price has a positive effect, so that H5 is accepted.

Suggestions and limitations

Based on the results of the research and the conclusions stated above, it is suggested for further researchers to: (1) Increase the number of independent variables that are thought to affect the stock price of the company's macro factors such as interest rates, inflation rates, economic growth and others. (2) Expanding the study population. (3) Increase the observation period so that the results of the research can be generalized. (4) Extending the field of research studies so that the results of the research will be more in accordance with the situation and conditions at the time of the study. (5) Adding references to both relevant theories and research. (6) Based on research that has been conducted EPS and MVA has a positive effect on stock prices. Therefore, companies should pay more attention to EPS and MVA so investors are interested in investing their capital in the company.

There are several limitations in this study, including: (1) The research period is quite short, only 5 years (2012-2016), so that the resulting sample does not represent the overall condition of the company. (2) The object of this study only uses manufacturing companies listed in the ISSI, so the results of the study do not reflect the reaction of the overall capital ratio (3) The limitations in using the company's financial ratios are only represented by five ratios, namely DER, ROA, ROE, EPS and MVA. Other possible financial ratios that have more significant influence on stock price changes (4) Limitations in taking variables used in research, which are only limited to financial ratios by not involving macro factors such as interest rates, inflation rates and others.

References


