The Analysis of Factors Affecting Profitability

Tiffany Tiffany¹ Sufiyati Sufiyati¹*

¹Faculty of Economics and Business, Universitas Tarumanagara, West Jakarta - 11470, Indonesia
*Corresponding author. Email: sufiyati@fe.untar.ac.id

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ABSTRACT
Every company would want a good company performance in order to get maximum profit. The purpose of this study was to determine and identify the impact of company size, quick ratio, leverage, asset turnover and asset structure on profitability. The study covers all listed companies listed on the Indonesian Stock Exchange from 2017 to 2020. The testing in this study was carried out using the Eviews version 12 software and by taking samples using a purposive sampling technique with certain criteria. This study used secondary data and used multiple regression analysis to test hypotheses. The results of the study partially show that the firm size and debt to equity ratio variables have no negative effect on profitability. Quick ratio and asset structure have a negative effect on profitability. The asset turnover has no positive effect on profitability.

Keywords: Firm Size, QR, DER, TATO, TANG, ROA

1. INTRODUCTION
A company founded by a person or entity that carries out production activities and markets an item or provides services for the needs of people's lives must have the aim of obtaining maximum profit. A company that produces a finished product from raw materials using equipment such as production machines or better known as a manufacturing company. Manufacturing companies have an important role in the production process and usually the results of the production of manufacturing companies are widely used by the community. Manufacturing companies also have the same goals as other companies, namely, they want to increase profits for the welfare of employees, directors, and shareholders or investors. Profit or profitability reflects a company's ability to generate profit in cash from the company's revenue. Investors who invest in the stock market will definitely analyze a company's financial statements before investing in a company. The greater the profitability of the company, the more attractive it is for investors to invest in the company.

In analysing financial statements, investors usually calculate the ratios in the financial statements to assess the company's performance. Financial ratios are one of the quantitative measures that can be used to assess and compare the numbers in the company's financial statements. Financial ratios are needed by managers, investors, creditors, and others to see the overall health of the financial statements of a company. There are various kinds of financial ratios, one of which is the profitability ratio [1].

Profitability is one of the most commonly used financial ratios for investors, management, and analysts to measure their ability to generate profits from total assets, equity, and income.

Return on assets (ROA) is one of the ratios used to measure a company's profitability. ROA measures the overall effectiveness of management in generating profits by maximizing the use of available assets. The higher of ROA, it means that the company is getting better at managing all its assets [2]. The high return on company assets can foster a sense of trust from investors, creditors, management, the wider community, and others. This is because the higher the company's return on assets ratio indicates that the company's performance is good.
1.1. Our Contribution

This research helps management, investors, creditors, users of financial statements and other readers in analysing financial statements. As well as providing an overview for investors to be able to choose the right investment, company management can consider factors such as firm size, quick ratio, debt to total equity, asset turnover, and asset structure in managing financial statements to get high profitability, and for readers to gain insight into the effect of firm size, quick ratio, debt to total equity, asset turnover, and asset structure on return on assets and can be taken into consideration for conducting research.

1.2. Paper Structure

The rest of the papers are arranged as follows; Section 1 introduce and explain the contribution of this paper. Section 2 introduces the preliminaries used in this paper such as theories and research hypotheses. Section 3 presents methods and proxy used in this research. Section 4 presents results & discussions of the research. Finally, Section 5 concludes the research and presents directions for future researchers.

2. LITERATURE REVIEW

2.1. Agency Theory

This theory describes the conflict between shareholders and agents or managers which is often called the agency problem. And, when this conflict incurs costs, these costs are called agency costs [3]. According to [4] the relationship between the parties involved in an entity is one of the definitions of agency theory. Management or agents should act according to the interest of the principal or shareholders to gain shareholder welfare. Principal or shareholders incur a number of costs that can limit management actions to act that is not good, these costs are called agency costs. Principals can issue control costs that aim to see whether management's actions are in accordance with the wishes of the principal. The greater the agency costs incurred by the principal, it indicates that the relationship between the principal and the agent is not harmonious where there is suspicion between the principal and the agent. Low agency costs will help companies increase profitability [5].

2.2. Signalling Theory

This theory discusses the information asymmetry used to provide information to investors. If the company's prospects are going well, management believes and regularly reports financial information to the capital market voluntarily. Indirectly, the information provided by management can interpret company's performance and this is very useful for maintaining continuity with investors [6]. Profitability ratios as measured by return on assets can provide information for company management and investors to make investment decisions. A company with a high profitability ratio certainly has an attraction for potential investors to invest in the company. This is a positive signal for both companies and investors. In effect, the company's management gets more capital from investors, and investors are also more enthusiastic about investing because they consider the company's performance in generating good profitability.

2.3. Return on Asset

Return on Asset is one of the profitability ratios that is usually used to calculate the level of management effectiveness in seeking profits [7]. The company's ability to generate profitability divided by total assets is measured by the ROA variable. ROA according to [8] describes the amount of profit that will be obtained by the company when measured by total existing assets. Profitability can be measured by ROA. ROA compares the profit earned in a company in a certain period with total assets [9]. The higher the Return on Assets, the more effective the company is in using its assets to
operate to generate profits. The profitability ratio shows the level of efficiency that has been achieved by management in generating profits from sales [1].

2.4. Firm Size

Firm size is a classification of company size from total assets that company’s own [4]. According to [9] company size is a scale where a company is classified in size such as the size of a company by measuring the total assets owned by the company, log size, stock market value, and others. The size of the company can also be described by the company's sales ability, the average total assets of the company and the average sales in a company. Company size is also used as a benchmark in assessing company performance. The better the performance of a company, the more assets it has, so the size of the company is getting bigger [10]. Investor confidence can be measured by the size of the company, and the larger the company, the more the company gains the trust of the people, so investors are interested in investing in the company.

2.5. Quick Ratio

Quick Ratio is the ratio used by the company to fulfill its obligations with current assets but does not take into account the amount of inventory [1]. This ratio helps the company in measuring maturing debt. According to [11] quick ratio is used to meet short-term debt by using current assets without considering inventory in knowing the capabilities a company can achieve. The Quick Ratio is one of the ratios that takes into account better liquidity than the current ratio. The quick ratio is similar to the current ratio, but the quick ratio has the advantage of calculating company liquidity because it does not take into account inventory because inventory is difficult to convert into cash if needed as soon as possible [12]. The greater the liquidity ratio in a company, the company is able to fulfill all its obligations.

2.6. Debt to Equity Ratio

Debt to Equity ratio is a ratio that indicates a company's debt management capabilities and is used to analyze financial statements to indicate debt guarantees available to creditors. [13]. [1] States that companies must carry out careful calculations before companies decide to use personal capital or loan capital. According to [14] DER can be used in companies to measure the resources used by companies with debt. According to research conducted by [12], DER is a measuring tool that can find out how much the company gets loans from banks or creditors. If the presentation of the debt-to-equity ratio in a company is smaller, then most of the operational activities in the company are the result of capital from the company. And if the DER percentage is higher, the company's profitability can decrease because the company must bear the interest expense paid to creditors.

2.7. Asset Turnover

Asset Turnover or Total Asset Turnover (TATO) shows the relationship between company sales and company capital [15]. TATO measures a company's capabilities and measure company's efficiency in using company resources [1]. According to [12] TATO is the ratio of a company's ability to manage all of its assets to generate sales as its sales are divided by its total assets. This ratio can also provide information to its users about how big the contribution of each total asset in creating sales. [12] States that if the use of assets increases its efficiency can make the company's refund in the form of cash also faster.

2.8. Asset Structure

Asset Structure is a comparison of fixed assets and total assets. Asset structure helps companies make financing decisions [16]. According to [17], Asset structure is the proportion of tangible fixed assets to company assets. The asset structure according to [18] is one measure to measure the company's fixed assets where from this measure, the company can take advantage of available assets
to obtain additional capital from outside such as obtaining loans from creditors or obtaining investment from investors who want to invest. [18] states that the existing asset structure in the industry or manufacturing company where most of the company's capital is embedded in the company's fixed assets so that management tends to prefer to use private capital rather than capital from outside parties.

3. METHODS

This research is based on quantitative data from all manufacturing companies listed on the IDX from 2017 to 2020. The non-probability sampling approach is used to determine the sample, which employs a purposive sampling technique. Criteria for selecting sample from manufacturing companies that are (1) manufacturing companies listed on the Indonesia Stock Exchange. (2) Before 2017, the company was publicly traded. (3) Companies did not delist or suspend during 2017-2020. (4) Companies that present financial statements for the period December 31, (4) Companies that earn profits for four consecutive years. From a total population of 198 manufacturing businesses that were consistently listed on the Indonesia Stock Exchange between 2017 and 2020, a sample of 66 manufacturing companies was selected using the criteria described.

The information in this study was gathered from the Indonesia Stock Exchange website between 2017 and 2019. The EViews 12 application and the 2013 version of Microsoft Excel were used to handle the corporate data in the form of annual reports and financial reports. Calculating the effect between the independent and dependent variables using multivariate linear regression analysis. Profitability is the dependent variable in this study, measured by return on assets proxy in accordance with research [19] return on assets is given the symbol ROA where the formula is as follows;

\[
\text{Return on Asset} = \frac{\text{Net Income}}{\text{Total Asset}}
\]

The independent variables in this study are firm size, quick ratio, debt to equity ratio, Asset turnover, and asset structure. In measuring the Firm Size variable, the researcher uses the formula for the natural logarithm of total assets in accordance with the research [19] using the SIZE symbol where the formula is as follows;

\[
\text{Size} = \ln \ln (\text{Total Asset})
\]

In measuring the liquidity variable, the researcher uses a quick ratio proxy or Quick Ratio which is in accordance with research from [11] by using the QR symbol where the formula is as follows;

\[
\text{Quick Ratio} = \frac{\text{Current Asset} - \text{Inventory}}{\text{Current Liabilities}}
\]

In measuring the leverage variable, the researcher uses the Debt to Equity Ratio proxy which is in accordance with research from [19] using the DER symbol where the formula is as follows;

\[
\text{Debt to Equity} = \frac{\text{Total Debt}}{\text{Total Equity}}
\]

In measuring the Asset Turnover variable, the researcher uses Total Asset Turnover which is in accordance with research from [19] using the TATO symbol where the formula is as follows;

\[
\text{Total Asset Turnover} = \frac{\text{Sales}}{\text{Total Asset}}
\]

In measuring the Asset Structure variable, using a proxy that is in accordance with research from [20] using the TANG symbol where the formula is as follows;
4. RESULTS AND DISCUSSION

4.1. Results

4.1.1. Test of Descriptive Statistics

The lowest return on assets value is 0.000500, while the maximum return on assets value is 0.084594 also the standard deviation value is 0.103805, which means that ROA does not have varying data. The lowest value for the firm size or SIZE variable is 26.93549 and the highest value for SIZE is 33.49453 and has a standard deviation of 1.644230, which means that the firm size variable does not have varying data. The lowest value for the quick ratio or QR variable is 0.258467 and the highest value for QR is 10.06551 and has a standard deviation value of 1.492842, which is the quick ratio variable does not have varying data. The lowest value for the debt-to-equity ratio or DER variable is 0.071274 and the highest value for DER is 5.442557 and has a standard deviation value of 0.797505, which is debt-to-equity ratio variable does not have varying data. The lowest value for asset turnover or TATO is 0.271940 and the highest value for TATO is 6.332663 and has a standard deviation value of 0.762941, which means that the asset turnover variable does not have varying data. The lowest value for asset structure or TANG is 0.013256 and the highest value for TANG is 0.781027 and has a standard deviation value of 0.187912, which means that the asset turnover variable does not have varying data.

4.1.2. Multicollinearity Test

The purpose of the multicollinearity test is to see if the chosen regression model has a strong correlation between variables [21]. The overall data shows that the correlation values between the dependent variables are firm size (SIZE), quick ratio (QR), debt to equity ratio (DER), asset turnover (TATO), and asset structure (TANG). The correlation coefficient between company size and quick ratio is -0.258803. Firm size and debt to equity ratio have a correlation coefficient of 0.091349. The correlation coefficient between asset turnover and business size is -0.180993. Firm size and asset structure have a correlation coefficient of 0.163443. The correlation coefficient value between the quick ratio and the asset turnover variable is -0.437403. The value of the correlation coefficient between the quick ratio and asset turnover is -0.127707. The correlation coefficient value between the quick ratio and the asset structure is -0.421373. The correlation coefficient value between debt-to-equity ratio and asset turnover is 0.440805. The correlation coefficient value between debt-to-equity ratio and asset structure is -0.090302. The correlation coefficient value between asset turnover and asset structure is -0.359671.

4.1.3. Heteroscedasticity Test

The Heteroscedasticity test is a classic assumption in the conventional linear regression model that checks for problems such as regression variance being limited and confidence intervals broadening [22].

The data was processed using Breusch Pagan as the basis for heteroscedasticity testing. From the data above, it can be seen the value of Obs*R-Squared Prob. Chi-square (5) obtained a probability value of 0.1506. This value is greater than the significance value of 5% or 0.05 so, Ho is not rejected. This means that there is no heteroscedasticity problem in the research data.

4.1.4. Chow test

Chow test performed to determine the most appropriate panel data model between CEM (Common Effect Model) and FEM (Fixed Effect Model). From the results of this test, the probability
value of the chi-square cross section is 0.0000, this number is smaller than the confidence level of 0.05, which means Ho is rejected, so the model chosen is FEM, continued to Hausman test [23].

4.1.5. Hausman Test

Hausman test performed to determine which model is between REM (Random Effect Model) and FEM (Fixed Effect Model). If the Chi-Square probability is less than the significance value of 0.05, the model chosen is the Fixed Effect model. The probability of a cross random section of 0.0189 is obtained from the results of this test, which is more than 5% or 0.05. This suggests that if Ho is rejected, the FEM (Fixed Effect Model) is the best model to use in this investigation [23].

<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>0.388202</td>
<td>1.239492</td>
<td>0.313194</td>
<td>0.7545</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.004573</td>
<td>0.042062</td>
<td>-0.108732</td>
<td>0.9135</td>
</tr>
<tr>
<td>QR</td>
<td>-0.025152</td>
<td>0.008261</td>
<td>-3.044856</td>
<td>0.0027</td>
</tr>
<tr>
<td>DER</td>
<td>-0.012959</td>
<td>0.020673</td>
<td>-0.626854</td>
<td>0.5315</td>
</tr>
<tr>
<td>TATO</td>
<td>0.006168</td>
<td>0.027243</td>
<td>0.226393</td>
<td>0.8211</td>
</tr>
<tr>
<td>TANG</td>
<td>-0.317628</td>
<td>0.148793</td>
<td>-2.134691</td>
<td>0.0340</td>
</tr>
</tbody>
</table>

R-squared | 0.629590
Adjusted R-squared | 0.495244
Prob(F-statistic) | 0.000000

The following is the regression equation that was used to determine the effect of the independent variable on the dependent variable:

\[ Y = 0.388202 \alpha - 0.004573 \beta_1 \text{ SIZE} - 0.025152 \beta_2 \text{ QR} - 0.012959 \beta_3 \text{ DER} + 0.006168 \beta_4 \text{TATO} - 0.317628 \beta_5 \text{TANG} + \varepsilon \]

From the above, it can be explained that if the SIZE, QR, DER, TATO, and TANG variables do not have a value of 0, then the value of the constant will be 0.388202. With a confidence level of 95%, SIZE has no effect on ROA where the probability of SIZE is 0.9135, which is greater than 0.05. SIZE also shows a negative direction towards ROA, meaning that every 1 change in the SIZE variable means that there is a change in ROA of 0.004573 assuming the value of the other independent variables remains. With a 95% confidence level, QR has an influence on ROA where the probability of QR has a value of 0.0027 which is smaller than 0.05. QR also shows a negative direction towards ROA, meaning that every 1 change in the QR variable means that there is a decrease in the ROA variable by 0.025152 assuming the value of the other independent variables remains. With a confidence level of 95% DER has no effect on ROA where the probability of SIZE is 0.5315 greater than 0.05. DER also shows a negative direction towards ROA, meaning that every 1 change in the DER variable means that there is a change in ROA of 0.012959 assuming the value of the other independent variables is constant. With a 95% confidence level, the TATO variable has no effect on ROA where the probability of TATO is 0.8211 which is greater than 0.05. TATO also shows a positive direction towards ROA, meaning that every change in 1 TATO variable means that there is an increase in the ROA variable of 0.006168 with assumption that the other independent variables value remains constant. With a 95% confidence level, TANG has an influence on ROA where the probability of TANG is 0.0340 less than 0.05. TANG also shows a negative direction towards ROA, meaning that every 1 change in the TANG variable means that there is a decrease in the ROA variable of 0.317628 assuming the value of the other independent variables is constant.
The modified (adjusted r\(^2\)) indicates that the connection between the independent and dependent variables, namely SIZE, QR, DER, TATO, TANG, and ROA, is 0.495244 or 49.52 percent. This suggests that additional variables not examined in this study account for 50.48 percent of the variance.

Simultaneous test (F test) or simultaneous significance test shows that the Prob (F-statistic) number of 0.000000 this number is less than 0.05 or below 5%, then ha is accepted. That is, there is an effect of firm size, quick ratio, debt to equity ratio, asset turnover, and asset structure on return on assets simultaneously.

4.2. Discussion

On return on assets, firm size has no influence and has a negative direction. This research is consistent with research conducted by [24] but is not consistent with research [25] According to this study, the size of a company has a negative and significant association with return on assets and research [19] which shows that firm size has a significant and positive effect on return on assets. It's also not in line with research [26] which states that firm size does not have a positive effect on return on assets. Firm size has no effect on return on assets because many companies are more concerned with the effectiveness and efficiency of company management performance to generate income and obtain loans from investors and creditors. Therefore, the size of the company does not have much effect on profitability.

The quick ratio variable has a negative effect on return on assets the results of this study are in line with research conducted by [27]. However, it is not in line with research conducted by [28] which shows that the quick ratio has a positive and significant effect on ROA. And research conducted by [29] which shows the results that QR does not have a positive effect on ROA and research conducted by research [11] also shows that QR does not have a negative effect on ROA. Quick ratio has a negative effect on ROA, which means that the higher the liquidity of a company caused by idle funds, it can make the company's ability to change current assets from idle funds into low cash so that the company's profitability will decrease.

The debt-to-equity ratio does not affect the return on assets in a negative way. The findings of this study are consistent with those of [30], who found that the DER variable has no detrimental impact on the ROA variable. This study, also contradicts research by [19], [26], [29] which found that DER has a negative effect on ROA. DER has a negligible effect on ROA, according to studies [14]. Furthermore, data from researcher [13] demonstrates that DER has no favorable impact on ROA. DER has little bearing on ROA because a greater DER shows that the corporation employs a more sophisticated strategy. So, it is very likely for companies to be unable to pay their debts when they fall due. As a result, the company's operational activities are disrupted because management is considered unable to manage company finances properly. Therefore, DER does not affect the company's profitability.

TATO has no positive impact on asset return. The findings of this study are consistent with those of [31] who found that TATO has no positive impact on return on assets. However, it contradicts research by [15], [22], [32] which found that TATO had an impact on ROA. It contradicts a study published by [33] which found that asset turnover had no negative impact on profitability. The ROA have no positive impact on TATO because the greater the TATO occurs in a company where management is able to manage company assets effectively and efficiently. However, a high level of asset turnover does not necessarily increase the company's profitability. Good asset turnover may identify management making asset additions. The addition of assets originating from the company's liabilities will increase the burden on the company (such as interest expense, tax expense, etc.) which if not managed properly by management, this burden can reduce profitability.

Asset structure variable has a negative effect on return on assets. These results are in line with research conducted [32] which shows the results that asset structure has a negative effect on return on assets. However, the results of this study are not in line with the researcher [20] who showed that the asset structure does not have a negative effect on return on assets. It's not in line with research [16] which shows that asset structure does not have a positive effect on return on assets. This study also not in line with researchers [22] who state that asset structure has a positive effect on return on assets. Asset structure has a negative impact on ROA, which indicates that the higher the asset structure in a company, the more fixed assets the organization has. Supported by the fact that assets in the form of
buildings and land are basically not directly involved in the company's production process so that if management has poor performance and is inefficient in the use of company capital, profitability can decrease.

5. CONCLUSIONS

This study found that the firm size variable had no negative effect on return on assets. The quick ratio variable has a negative effect on return on assets. This study also found that the debt-to-equity ratio variable had no influence and had a negative direction on return on assets. Meanwhile, the asset turnover variable has no influence and has a positive direction on return on assets. This study also found that the asset structure variable has a negative effect on return on assets and basically not directly involved in the company. This study has limitations as follow; (1) this study only uses 5 independent variables which is as follows: firm size, quick ratio, debt to equity ratio, asset turnover, and asset structure. (2) This study's sample is limited to manufacturing companies that are publicly traded on the Indonesia Stock Exchange. (3) The number of data samples is only 66 of 198 companies. (4) This research is also limited to a period of 4 years. Suggestions that can be given to further researchers are (1) Add independent variables to be studied such as firm age, inventory turnover, sales growth, board size, business risk, dividend policy, and cash flow. (2) Further researchers are also expected to research in other periods and periods longer than four years.

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