Return on Assets in the Automotive Sub Sector Company: working capital turnover, company size, current ratio, debt to equity ratio.

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Abstract
The purpose of this study was to determine the factors that influence return on assets (ROA) in the automotive and component sub-sector companies. There are four factors tested, namely, working capital turnover (WCTO), company size, current ratio (CR), and debt to equity ratio (DER). The automotive sub-sector companies that make up the population of this study are companies listed on the Indonesia Stock Exchange (IDX) for the 2011-2020 period. Sampling using purposive sampling technique, obtained from a population of 13 companies into nine companies as a sample. Proof of the results was carried out by means of panel data regression analysis through STATA 16. Data processing showed that the results were only CR which did not significantly affect ROA. While the WCTO is positively significant, firm size and DER have a significant negative effect on ROA. Suggestion, due to the variation in results, future researchers need to do research in a longer term.

Keywords:
Return On Assets; Working Capital Turnover; Firm Sizes; Current Ratio; Debt To Equity Ratio

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DOI: https://doi.org/10.36407/akurasi.v5i1.812

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INTRODUCTION

In the era of globalization, the growth of an industry is increasing. This condition certainly encourages a climate of competition in a sector that is marked by a variety of similar products with different brands. The manufacturing industry, in general, cannot be separated from the position of the automotive industry. The automotive and component sub-sectors in Indonesia are growing very rapidly. Developments in this sector are also in line with increasingly sophisticated technological advances in meeting consumer needs and satisfaction. In addition, this sector is a potential industrial market. This can be seen from the type and amount produced. All companies, without exception, want profit. Profits are obtained from maximum revenue and minimized costs. This level of income and profits will show the ability to manage the company. Management in maximizing income and minimizing costs so as to be able to provide optimal profits for shareholders.

This optimization of income and costs shows the company’s performance which can be used as a benchmark for shareholders to place their trust in investing. In addition to being a benchmark, company performance is also a tool for executives and investors in carrying out forecasts of profits and capital provisions for the company. In order to know the ability of a company in a sector, the income statement comparison technique can be used as an initial screening. Company profits or profits can be seen from the state of return on assets.

Factors affecting return on assets that have been mentioned by several studies include working capital turnover (WCTO) (Linggasari & Adnantara, 2020; Nurjanah & Arisudhana, 2019; Santini & Baskara, 2018), company size (Linggasari & Adnantara, 2020; Nurjanah & Arisudhana, 2019; Santini & Baskara, 2018), current Ratio (Linggasari & Adnantara, 2020; Nurjanah & Arisudhana, 2019; Sanjaya & Sipahutar, 2019), and debt to equity ratio (Linggasari & Adnantara, 2020; Nurjanah & Arisudhana, 2019).

Although there have been many studies on the factors that influence ROA, this study provides additional support for the literature because the results of previous studies are still very varied. Previous studies regarding the variables that are factors for ROA have shown contradictory results. Studies from Linggasari and Adnantara (2020) show that WCTO, company size, CR, and DER significantly affect ROA. Meanwhile, research from Nurjanah and Arisudhana (2019) shows different results on WCTO and company size; namely, WCTO and company size do not significantly affect ROA. These results are supported by research from Silaban and Anita (2019) that WCTO and company size have not been shown to significantly affect ROA. In addition, Ginting’s research (2018) also shows that WCTO and CR have no significant effect on ROA.

Apart from providing literature support because of the varying results, this study also provides support by adding different populations. Several studies that examine the same variable examine companies other than the automotive sector, including the food sector (Silaban & Anita, 2019) and the manufacturing sector (Linggasari & Adnantara, 2020). Even though there is research with the same variables and the same sector, the research has been carried out for a long time, namely the 2013-2017 period (Nurjanah and Arisudhana, 2019), so the research is updated to see whether the relationship under study is still relevant. So the purpose of this study is to examine the influence of factors WCTO, company size, CR, and DER on ROA in automotive sector companies listed on the Indonesia Stock Exchange in 2011-2020.
LITERATURE REVIEW

Kasmir (2014) explained that the profitability ratio is the ratio to calculate the company's potential in seeking profit. This ratio also provides a measure of the level of management effectiveness of a company. This is indicated by the profits derived from sales and investment income. The point is that the use of this ratio shows the ability of the company.

There are several factors that influence the profitability of a company, one of which is working capital turnover. (Kasmir, 2011) defines that working capital turnover is one of several ratios in measuring and assessing the effectiveness and efficiency of working capital in a business over a certain period. The measurement of this ratio can be done by comparing sales with working capital or the average of the working capital.

Research by Divya et al. (2020) showed that WCTO affects ROA in a positive direction towards ROA. These results mean that an increase in WCTO will lead to an increase in ROA (Ariyanti et al., 2020; Linggasari & Adnantara, 2020 ). So this study proposes a hypothesis, namely.

H1: Working capital turnover affects the company's return on assets.

The second factor to be examined in this study which is likely to affect ROA is company size. This thinking is based on previous studies. Hasanah and Enggariyanto's research (2018) revealed that company size is one of the seven factors studied as a determinant of ROA, and it was found from data processing that company size proved to have a significant effect. Further research by Caroline and Hutabarat (2020) with ROA as a variable that mediates between company size and audit delay all results significant that company size has an effect on ROA and ROA affects audit delay. For the next hypothesis that is developed is

H2: Company size has an effect on ROA

The third factor that is likely to influence profitability is the current ratio. According to (Kasmir, 2018), the current ratio is a comparison to measure a company's skills in paying off short-term obligations or debts that are due soon when billed as a whole. In other words, how much current assets are available to cover short-term obligations that are due soon. The current ratio is a factor that influences ROA in the coal subsector (Herliana, 2021), the manufacturing sector ( Linggasari & Adnantara, 2020), the food sector (Silaban & Anita, 2019), and the automotive sector (Nurjanah & Arisudhana, 2019; Sanjaya & Sipahutar, 2019).

H3: Current Ratio has an effect on ROA

The last factor that is thought to influence profitability is the Debt to Equity Ratio (DER). One of the factors affecting ROA in cosmetics sub-sector companies in 2012-2017 was DER (Gultom et al., 2020). In line with the results of research conducted at PT Mayora with data for the 2009-2020 period, it is proven that DER from data processing has an effect on the company’s ROA (Satria, 2022).

H4: Debt to equity has an effect on ROA

METHOD

Data Sources and Types

In this study, the data source used was internal data obtained from financial data of automotive sub-sector manufacturing companies and components listed on the Indonesia Stock Exchange (IDX) in the form of financial reports for the 2011-2020 period. The data for this study were obtained in a secondary manner which was published by the Indonesia Stock Exchange (IDX) for the 2011-2020 period, which were derived from the financial reports of manufacturing
companies in the automotive sub-sector and components in the form of balance sheets and income statements.

Population and Sample

The population in this study are all companies in the automotive and component sub-sectors listed on the Indonesia Stock Exchange (IDX) for the 2011-2020 period, totaling 13 companies. Sampling in this study used a purposive sampling technique so that a sample of 9 automotive and component sub-sector companies was obtained. In this study, the research method uses documentation. This technique is carried out by collecting secondary data that researchers obtained from the official website of the Indonesia Stock Exchange.

Operational definition

a. **Working Capital Turnover (X,1)**
   (Kasmir, 2016) working capital turnover in one period is calculated using the formula:
   \[
   \text{Working Capital Turnover} = \frac{\text{Penjualan Bersih}}{(\text{Aset lancar} - \text{Kewajiban jangka pendek})}
   \]

b. **Company Size (X,2)**
   Company Size Formula according to (Werner R. Murhadi, 2013):
   \[
   \text{Ukuran Perusahaan} = \ln(\text{Total Asset})
   \]

Company size is proxied by using the Natural Log Total Assets with the aim of reducing excessive data fluctuations. By using natural logs, the number of assets with a value of hundreds of billions or even trillions will be simplified without changing the proportion of the actual number of assets.

c. **Current Ratio (X,3)**
   The formula for calculating the current ratio according to (Kasmir, 2018):
   \[
   \text{CR} = \frac{\text{Asset Lancar}}{\text{Utang Jangka Pendek}}
   \]

The current ratio shows the company's ability to pay short-term obligations or debts that are due soon when billed as a whole.

d. **Debt To Equity Ratio (X,4)**
   The formula for calculating the Debt To Equity Ratio, according to Kasmir (2016)
   \[
   \text{DER} = \frac{\text{Total Kewajiban}}{\text{Total Ekuitas}}
   \]

The Debt To Equity Ratio shows the company's ability to pay its obligations if the company is liquidated.
Analysis Method

In determining data analysis, relevant and reliable data is needed. Of course, the author can use this as research material. Data analysis will make it easy for researchers to understand and interpret it. In this study, the data analysis used assistance from the STATA16 program. The technique chosen was panel data regression.

RESULT AND DISCUSSION

Model Selection Test

The first test is to test for model selection. The model selection test was selected using the Chow test and the Hausman Test. The test results for the model can be seen in table 1.

Table 1. Model Selection Test

<table>
<thead>
<tr>
<th>No</th>
<th>Model</th>
<th>Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chow Test</td>
<td>Common Effect/CEM (sig &gt; 0.05)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed Effects/FEM (sig &lt; 0.05)</td>
</tr>
<tr>
<td>2</td>
<td>Hausman test</td>
<td>Random Effect/REM (sig &gt; 0.05)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed Effects/FEM (sig &lt; 0.05)</td>
</tr>
</tbody>
</table>

Source: STATA software output results, 2022

The test results for selecting the right model show from the two models that the fixed model is the right model to use. In the test with the Hausman model, the probability value is 0.0026. This value is less than 0.05 (0.0026 < 0.05). The chow test shows that the probability value is 0.0000. This value is less than 0.05 (0.000 < 0.05). Therefore, accepting Ha and rejecting Ho means that the Fixed Effect model is more appropriate to use than the Common Effect model.

Hypothesis testing

Statistical Test F

Based on Table 1, the value of prob. (F-Value) of 0.00 or less than 0.05, it can be concluded that the independent variables, including Working Capital Turnover, Company Size, Current Ratio, and Debt to Equity Ratio, simultaneously have a significant effect on the dependent variable Return On Assets in automotive and component sub-sector companies listed on the Indonesian Stock Exchange for the 2011-2020 period.

Determination Coefficient Test (R-Squared)

Can be seen in the table. 1, The coefficient of determination (R-Squared) in line (7) is 0.49. Thus, the proportion of the effect of Return on Assets can be explained by the independent variable Working Capital Turnover, Company Size, Current Ratio, and Debt to Equity Ratio of 49%, while the rest is influenced by other factors not examined in this study.
Table 1. Regression Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
<th>(7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCTO</td>
<td>0.03***</td>
<td>(0.00)</td>
<td>0.01*</td>
<td>(7x10^3)</td>
<td>0.015*</td>
<td>(7x10^3)</td>
<td>0.03**</td>
</tr>
<tr>
<td>Uk.company</td>
<td>-2.96***</td>
<td>(0.33)</td>
<td>-4.81***</td>
<td>(0.65)</td>
<td>-4.82***</td>
<td>(0.65)</td>
<td>-4.99***</td>
</tr>
<tr>
<td>(log)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR</td>
<td>1.17***</td>
<td>(0.23)</td>
<td>0.25</td>
<td>(0.42)</td>
<td>0.25</td>
<td>(0.42)</td>
<td>-0.08</td>
</tr>
<tr>
<td>DER</td>
<td>-4.01***</td>
<td>(0.50)</td>
<td>-6.18***</td>
<td>(0.96)</td>
<td>-6.18***</td>
<td>(0.96)</td>
<td>-6.31***</td>
</tr>
<tr>
<td>cons</td>
<td>4.42***</td>
<td>(0.02)</td>
<td>53.62***</td>
<td>(5.47)</td>
<td>2.16***</td>
<td>(0.52)</td>
<td>10.55***</td>
</tr>
<tr>
<td>F-Values</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>R-Squared</td>
<td>0.01</td>
<td>0.13</td>
<td>0.05</td>
<td>0.14</td>
<td>0.44</td>
<td>0.44</td>
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<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Companies</td>
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<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year Effect</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Information:
- Figures in brackets have a robust standard of error
- *) = Significant at 10% level
- **) = Significant at 5% level
- ***) = Significant at 1% level

The regression equation model is as follows:

\[
\text{ROA}_{it} = 94.40_{it} + 0.03\text{WCTO}_{it} - 4.99\text{Uk.Perusahaan}_{it} - 0.09\text{CR}_{it} - 6.31\text{DER}_{it} + e_{it}
\]

Information:
- ROA = Return On Assets
- \(\alpha\) = Constant
- WCTO = Working Capital Turnover
- Uk. = company size
- DER = Debt to Equity Ratio
- \(e\) = random errors
- \(i\) = Company
- \(t\) = Time

**Statistical Test T**

*Working Capital Turnover* has a coefficient of 0.03 with a significance value of 0.00. The significance value is less than 0.05, so partially, the *Working Capital Turnover variable* has a positive and significant effect on the *Return On Assets* of automotive sub-sector companies and components listed on the Indonesia Stock Exchange for the 2011-2020 period. So the first hypothesis is accepted.
Return on asset; working capital turnover; firm size; current ratio; debt to equity ratio.

Table. 2 Output Fixed Effect Model Regression Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Robust Coef</th>
<th>Std Err</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCTO</td>
<td>0.03</td>
<td>6 x10^-3</td>
<td>0.00</td>
</tr>
<tr>
<td>_lr.</td>
<td>-4.99</td>
<td>0.37</td>
<td>0.00</td>
</tr>
<tr>
<td>Company</td>
<td>-0.09</td>
<td>0.38</td>
<td>0.83</td>
</tr>
<tr>
<td>CR</td>
<td>-6.31</td>
<td>0.72</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: STATA software output results, 2022

The results of data processing show that company size is significant in a negative direction in the ROA of automotive and component sub-sector companies listed on the Indonesia Stock Exchange for the 2011-2020 period. The larger the company size, the smaller the ROA of automotive and component sub-sector companies listed on the Stock Exchange Indonesia for the 2011-2020 period. These results can be seen in table 2. The table shows the coefficient value on the firm size variable of -4.99 with a significance value of 0.00. Then the second hypothesis is accepted.

Table 2 also shows the results of data processing on the Current Ratio variable, which has a coefficient value of -0.09 with a significance value of 0.83. The Current Ratio variable has a negative and insignificant effect on the Return On Assets of automotive and component sub-sector companies listed on the Indonesia Stock Exchange for the 2011-2020 period. The third hypothesis is not accepted.

The fourth hypothesis is accepted, with the Debt to Equity Ratio having a negative and significant effect on the Return On Assets of automotive and component sub-sector companies listed on the Indonesia Stock Exchange for the 2011-2020 period. This result can be seen from the coefficient value obtained of -6.31 with a significance value of less than 0.05.

**Effect of Working Capital Turnover (WCTO) on Return On Assets**

This ratio shows the relationship between working capital and sales that can be obtained by the company for each rupiah working capital. Low Working Capital Turnover indicates an excess of working capital which may be due to low inventory turnover, receivables, or an excessively large cash balance. The results of this study support previous research, which stated that Working Capital Turnover had a positive and significant effect on Return On Assets (Linggasari & Adnantara, 2020; Puspita & Hartono, 2018). When WCTO increases, ROA will also increase. In contrast to the research results from Utami and Manda (2021), when the WCTO increases, the ROA for cigarette companies listed on the Indonesian Stock Exchange decreases, which has a negative effect. The results of these various studies are materials that need to be studied more deeply, whether differences in sectors affect results. But the result remains in the end that the WCTO affects profitability as measured by the company’s ROA (Wulandari, 2021).

**Effect of Firm Size on Return On Assets**

The results of the analysis show that company size has a negative effect on profitability as measured by ROA. The size of the company resulted in a decrease in company profitability. This is because the size of a large company has yet to be supported by good management by the
company of the company's resources, such as total assets, technology, and intellectual property, as factors that determine company size. The results of this study are in line with research conducted by Wulandari (2021) and also Luckieta et al. (2021), which states that company size has a significant effect on return on assets. But the results of this study are different from several studies. The results of this study found that company size has a significant negative effect. But many studies have found significant positive company size results on ROA (Kasir, 2021; Kusuma, 2018; Malau et al., 2022). Furthermore, this study is also different from the results of other studies, such as research by Felicia et al. (2020), which states that company size has no significant effect on return on assets.

The results of this study show a negative direction, which gives an understanding that when the company gets bigger, the ROA will increase. Meanwhile, several previous studies have provided a positive direction (Kasir, 2021; Kusuma, 2018; Malau et al., 2022) that needs attention. Some of this research is outside the automotive sector, including the mining sector (Kasir, 2021; Kusuma, 2018) and the consumer goods sector (Malau et al., 2022).

**Effect of Current Ratio on Return On Assets**

Based on the research results, in Current ratio has a coefficient value of -0.9 with a significance value of 0.82. The Current ratio has a negative and insignificant effect on Return On Assets. This shows that the higher the Current ratio, the Return On Assets will not necessarily increase, and vice versa. If the Current ratio is lower, the Return On Assets will not necessarily be lower. Data analysis shows that the effect of the current ratio is not significant with a negative direction on the ROA of automotive sector companies. Other research shows that the results of the influence are insignificant in a negative direction, including Wartono's research (2018) which was conducted at PT Astra International, Tbk. Similar results were found in Nugraha and Susyana's research (2021) which was carried out in the Cement subsector industry.

**Effect of Debt To Equity Ratio on Return On Assets**

The negative DER regression coefficient indicates that when the DER increases, the profitability of the company will decrease or vice versa. The higher the company uses capital as collateral for debt, the more profitability that will be obtained by the company will decrease. These results support research with unidirectional results that DER has a negative direction with ROA (Efendi & Wibowo, 2017; Satria, 2022).

**CONCLUSION**

Only one variable that is not significant out of the four independent variables tested on the relationship with the company's ROA in the automotive sector, namely the current ratio. At the same time, the other three variables, namely WCTO, company size, and DER, have proven to significantly affect company ROA in the automotive sector.

**Suggestion**

Investors or potential investors should first consider the low level of Company Size and Debt To Equity Ratio because these variables have a negative effect on the Return On Assets of automotive and component sub-sector companies listed on the Indonesia Stock Exchange for the 2011-2020
period. In addition, consider the Working Capital Turnover factor because this factor has a very significant influence on the Return On Assets of automotive sub-sector companies and components listed on the Indonesia Stock Exchange for the 2011-2020 period. Further researchers should develop a research model by adding independent variables such as activity ratios which can affect Return On Assets. Future research should look for more literature sources to provide a better discussion. Future researchers need to add to the research sample in order to obtain a more realistic picture of the condition of the capital market in Indonesia. In addition, the results obtained will be generalizable.

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DECLARATIONS

Funding
The authors received no financial support for the research and publication of this article.

Conflicts of interest/ Competing interests:
The authors have no conflicts of interest to declare that are relevant to the content of this article.

Data, Materials and/or Code Availability:
Data sharing is not applicable to this article as no new data were created or analyzed in this study.

How to cite this Article