The determinants of profitability in the plantations and crops industry in Indonesian companies

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Abstract

This study aims to determine the effect of working capital turnover, company size, and sales growth on the profitability of plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange. This study employs quantitative analysis, utilizing financial data covering a five-year period for 25 listed companies. Company size is measured using total assets, while sales growth is evaluated based on the year-on-year revenue growth rate. Working capital turnover is calculated as the ratio of net sales to working capital. The findings reveal that firm size exhibits a significant negative effect on profitability, implying that larger firms may face challenges in optimizing cost efficiency. Conversely, sales growth shows a significant positive effect on profitability, this indicates that companies that experience higher revenue growth tend to achieve better profit margins. However, this research does not find a significant relationship between working capital turnover and profitability, which suggests that effective working capital management may not be an important determinant of profit margins in plantation and food crop sub-industry companies in the Indonesian market. These results provide valuable insights for investors, managers and policy makers in understanding the key drivers of profitability in this particular industry segment and can help make informed financial decisions.

Keywords: Company size; Plantation and crops; Profitability; Sales growth; Working capital turnover

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1. Introduction

Current developments in the business world this the more fast, proved with increasing existence from every company. In operate business, company own purpose for reach maximum profit. Achievement this supported with ratio used profitability for measure as far as capability company in obtain advantage (Kasmir, 2018) because that, profitability must made gain indicator attention special in continuity life company. Companies that don’t produce profit will difficult for withdraw capital from outside (Budisaptorini et al., 2019; Huda et al., 2020; Ningsih et al., 2020). Condition profitability company could determine
with use various metrics, including ROE (Return on Equity), ROI (Return on Investment), and Return on Assets (ROA). One indicator ability company for make money from assets used is ROA (Kasmir, 2018). Study this use ROA for measure profitability something company that is with method count profit clean after tax shared with total assets and multiplied by 100%. The purpose of this study is to understand the influence of working capital turnover, company size, and sales growth on profitability. Working capital turnover is a ratio used to measure the effectiveness of the working capital owned by a company in generating sales. Ratio this counted with share sale with average assets current (asset fluent reduced with current debt). Company size is a crucial aspect in assessing the scale and financial standing of a business entity. Measuring company size involves various metrics that provide insights into the organization's magnitude and influence in the market. Common indicators to gauge company size include total assets, total revenue, market capitalization, and the number of employees. Total assets represent the value of all the company's resources, while total revenue reflects the income generated from sales and other operations. Market capitalization is calculated by multiplying the current share price by the total number of outstanding shares, indicating the overall market value of the company. Lastly, the number of employees gives an indication of the company's workforce and operational capacity. Depending on the specific context and purpose of the analysis, researchers, investors, and analysts may choose different size metrics to assess the company's position in the industry and its potential for growth and profitability (Antoro et al., 2020; Budisaptorini et al., 2019; Jannah et al., 2021; Rini et al., 2019; Sihwahjoeni et al., 2020).

Studies have shown that effective working capital management is crucial for improving profitability. Companies that efficiently manage their working capital, by reducing excess inventory, optimizing accounts receivable, and extending accounts payable, experience better cash flow and profitability. A higher working capital turnover ratio indicates a more efficient utilization of resources and reflects positively on a firm's profitability (Öztürk, 2018). Several studies have consistently shown that company size has a significant impact on profitability. Larger companies tend to benefit from economies of scale, which enables them to achieve cost efficiencies and higher profit margins. Additionally, larger firms often have better access to resources, capital, and markets, leading to increased market share and revenue generation, positively influencing profitability (Balasubramanian et al., 2020). Several previous studies have shown a positive relationship between sales growth and profitability. Sales are a source of revenue and profit for the company. Increase in sales from time to time shows financial and non-financial achievements. On the one hand, an increase in revenue offsets fixed costs and operational costs, and on the other hand, it shows the level of customer trust and loyalty. Product and service development is the key to sales growth, and this has an impact on the company's profitability (Hu et al., 2019; Jones & Corral de Zubielqui, 2017; Yoshino & Hesary, 2016).

![Figure 1. Contribution of the agricultural sector (on farm) to GDP Indonesia, 2018-2021](image)

Source: (Kementerian Pertanian Republik Indonesia, 2022)
Plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange are sub-industries that have the potential to attract investors. The products produced by this sub-industry have a relatively stable market demand, because they are staple goods. The stability of demand and markets which tend to increase with population growth and increased export demand, in maintaining sales growth in this sub-industry is quite stable. As an agricultural country, Indonesia still has vast agricultural resources, even though agricultural land is decreasing with the development of housing and infrastructure. It is proven that the contribution of the broad agricultural sector to Indonesia’s GDP during 2018-2021 has shown an average increase in proportion, as shown in Figure 1 (Kementerian Pertanian Republik Indonesia, 2022). The Indonesian Government's support for the agricultural sector is very significant, such as the construction of dams, ponds, new superior varieties, balanced fertilization, mechanization agriculture, control of Plant Destruction Organisms (OPT), People’s Business Credit (KUR), and agricultural extension (Kementerian Koordinator Bidang Perekonomian Indonesia, 2022).

Based on the discussed issues, the authors are interested in studying the actual conditions of companies in the plantation and crops industry that are listed on the Indonesia Stock Exchange. The study will focus on variables such as working capital turnover, company size, and sales growth as independent variables, and profitability as the dependent variable.

2. Hypotheses Development

Previous research results data analysis shows that in a manner partial variable working capital turnover influential negative and significant to profitability, working capital turnover refers to the efficiency with which a company manages its short-term assets and liabilities to support its day-to-day operations. It measures how effectively a firm converts its working capital (current assets minus current liabilities) into sales revenue. Having too high or too low working capital turnover has negative effects on profitability. If this ratio is too high, a company might struggle to maintain sufficient inventory or extend credit to customers. Conversely, if it’s too low, the company could face liquidity constraints or difficulties in meeting customer demand. Profitability represents the ability of a company to generate earnings relative to its costs and expenses, reflecting its financial health and performance. Common profitability metrics include net income, return on assets (ROA), and return on equity (ROE). Based on the existing financial theory and empirical evidence, the first hypothesis is formulated as follows:

\[ H_1: \text{working capital turnover has a negative effect on the profitability of the company's operating} \]

Maisyaroh (2021) finds that size company influential positive significant to profitability. The theoretical framework underlying this study explores the relationship between company size and profitability within the agricultural and food crop sub-industry listed on the Indonesia Stock Exchange. According to the literature, company size is regarded as a crucial determinant of a company’s financial performance. Larger companies often have the advantage of economies of scale, enabling them to spread fixed costs more efficiently and negotiate better terms with suppliers. These factors are likely to contribute positively to their overall profitability. Additionally, larger firms may have easier access to capital and resources, which can be channeled into research and development or expansion, further enhancing their competitive edge and profitability. However, the relationship between company size and profitability is not universally consistent across industries, and it is essential to investigate its specific impact within the context of the
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agricultural and food crop sub-sector. By exploring this relationship, the study aims to shed light on the importance of company size as a potential driver of profitability for companies operating in this particular industry, thereby providing valuable insights for stakeholders and guiding strategic decision-making. Based on the research results, the second hypothesis is formulated as follows:

\[ H_2: \text{company size has a positive effect on profitability} \]

Mukmin (2019) found sales growth influential negative and significant to profitability. Sales growth is a critical indicator of a company’s performance, reflecting its ability to expand market share, reach new customers, and increase revenue generation. A positive sales growth trajectory can lead to improved profitability as higher sales volumes often translate into greater economies of scale, allowing companies to spread fixed costs and negotiate favorable terms with suppliers. Additionally, increased sales can indicate successful product development or market adaptation, leading to enhanced customer satisfaction and loyalty. However, the impact of sales growth on profitability may vary depending on factors such as industry dynamics, competition, and management efficiency. This study seeks to investigate the specific relationship between sales growth and profitability within the context of the plantations, and food crops sub-industries, aiming to provide valuable insights for stakeholders and inform strategic decision-making for companies operating in these sectors. Based on the research results, the third hypothesis is formulated as follows:

\[ H_3: \text{sales growth has a positive effect on profitability} \]

3. **Method, Data, and Analysis**

Research in the field of accounting aims to investigate the factors influencing profitability based on financial report data. This investigation particularly focuses on the impact of working capital turnover, company size, and sales growth on profitability within sub-industrial companies in the plantation and crops sector listed on the IDX. The study employs quantitative data, primarily sourced from secondary data reports on finance from sub-industrial companies in the plantation and crops sector, obtained through the IDX website (www.idx.co.id).

The research population encompasses sub-industrial companies within the plantation and crops sector listed on the Indonesia Stock Exchange between 2016 and 2021, totaling 25 companies. The sampling technique employed is purposive sampling, aiming to select representative samples that fulfill predetermined criteria. The sample size comprises the top 6 companies.

The data collection methodology utilized is documentation, involving the use of financial report data. Subsequently, data analysis employs the SPSS 29 software to analyze the processed data. This analysis seeks to gain insights into the relationships and facts surrounding the impact of working capital turnover, company size, and sales growth on the profitability of sub-industrial companies in the plantation and crops sector listed on the IDX within the 2016–2021 period.

The data is subjected to descriptive statistical techniques, classic assumption tests (including normality, autocorrelation, multicollinearity, and heteroscedasticity tests), multiple linear regression, coefficient determination, and t and f statistical tests with one dependent variable and three independent variables.

4. **Results**

The descriptive statistics of this research variable for working capital turnover, company size, sales growth, and ROA are shown in the statistical test results in Table 1.
Table 1.
Descriptive statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Means</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital turnover (WCT)</td>
<td>36</td>
<td>0.75</td>
<td>130.00</td>
<td>11.1250</td>
<td>22.17525</td>
</tr>
<tr>
<td>Company size (SIZE)</td>
<td>36</td>
<td>28.39</td>
<td>31.33</td>
<td>29.9797</td>
<td>0.86533</td>
</tr>
<tr>
<td>Sales growth (GROWTH)</td>
<td>36</td>
<td>-0.20</td>
<td>0.41</td>
<td>0.0856</td>
<td>0.15883</td>
</tr>
<tr>
<td>Profitability (ROA)</td>
<td>36</td>
<td>0.00</td>
<td>0.15</td>
<td>0.0653</td>
<td>0.03851</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the descriptive test results presented in Table 1, column N indicates the validity of the data. Specifically, among the 6 companies considered for the descriptive analysis of their working capital turnover, the minimum value is 0.75, and the maximum value is 130, with an average (mean) value of 11.1250 and a standard deviation of 22.17525. For company size, the minimum value is 28.39, the maximum value is 31.33, the mean value is 29.9797, and the standard deviation is 0.86533. In terms of sales growth, the minimum value is -0.20%, the maximum value is 0.41%, the mean value is 0.0856%, and the standard deviation is 0.15883. Finally, for profitability (ROA), the minimum value is 0.00%, the maximum value is 0.15%, the mean value is 0.0653%, and the standard deviation is 0.03851.

The classical assumption tests encompassed normality, autocorrelation, multicollinearity, and heteroscedasticity evaluations. The findings of these tests are as follows: (1) Normality Test: The results of the normality test indicated that the asymptotic significance (2-tailed) score is 0.200. Since this value is greater than 0.05 (0.200 > 0.05), it can be concluded that the data follows a normal distribution. (2) Autocorrelation Test: The autocorrelation test results revealed that the Durbin-Watson (DW) statistic yielded a value of 1.140. With a DW value falling between -2 and +2, it can be inferred that there is no presence of autocorrelation. (3) Multicollinearity Test: The results of the multicollinearity test indicated that the tolerance values for working capital turnover, company size (size), and sales growth were 0.939, 0.918, and 0.965, respectively. As these values are all greater than 0.1, it can be concluded that there is no occurrence of multicollinearity. Moreover, each variable’s Variance Inflation Factor (VIF) value was below 10, further confirming the absence of multicollinearity. (4) Heteroscedasticity Test: Analyzing the scatterplot diagram alongside the heteroscedasticity test results, it became apparent that no distinct patterns were observed, and the data points were distributed above and below the zero (0) line on the Y axis. This led to the conclusion that there are no symptoms of heteroscedasticity.

In summary, the classical assumption tests collectively indicated that the data adheres to the assumptions of normality, lacks autocorrelation, doesn't experience multicollinearity, and shows no signs of heteroscedasticity.

Table 2.
The result of F-test with ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df.</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>0.019</td>
<td>3</td>
<td>0.006</td>
<td>6.145</td>
<td>0.002 b</td>
</tr>
<tr>
<td>Residual</td>
<td>0.033</td>
<td>32</td>
<td>0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.052</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the information presented in Table 2, it is evident that the significance score for the influence of working capital turnover, company size, and sales growth on
profitability is 0.002, which is less than the significance level of 0.05. This finding substantiates that all three variables hold significance in impacting profitability within the sub-industrial companies in the plantation and crops sector listed on the IDX during the period 2016-2021.

Table 3.  
The result of T-test (multiple regression)

<table>
<thead>
<tr>
<th>Model</th>
<th>Beta</th>
<th>Prob.</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.819</td>
<td>4.203</td>
<td>0.001</td>
</tr>
<tr>
<td>Working capital turnover (WCT)</td>
<td>0.172</td>
<td>1.185</td>
<td>0.245</td>
</tr>
<tr>
<td>Company size (SIZE)</td>
<td>-0.573</td>
<td>-3.901</td>
<td>0.001</td>
</tr>
<tr>
<td>Sales growth (GROWTH)</td>
<td>0.352</td>
<td>2.456</td>
<td>0.020</td>
</tr>
</tbody>
</table>

Dependent variable: ROA

In accordance with Table 3 concerning the results of the t test with multiple regression analysis, the regression equation is arranged as follows:

\[ \text{ROA} = 0.819 + 0.172 \text{WCT} - 0.573 \text{SIZE} + 0.352 \text{GROWTH} + e \]

The working capital turnover (WCT) exhibits a t-value of 0.245, which is greater than 0.05, indicating that it is not statistically significant (Table 3). With a coefficient score of \( \beta=0.172 \), the data suggests that the hypothesis regarding the influence of working capital turnover on profitability is not supported. This implies that, within sub-industrial companies in the plantation and crops sector (plantations and crops) listed on the IDX during the period 2016-2021, the company’s ability to generate profit is not significantly affected by the speed at which the company manages its working capital.

For the company size variable (SIZE), the t-test result reveals a value of 0.01, which is less than 0.05, signifying statistical significance (Table 3). Thus, the hypothesis regarding the influence of company size on profitability is accepted. This indicates that the company’s ability to generate profit is influenced by its size. With a coefficient score of \( \beta=-0.573 \), it’s evident that smaller company size are associated with larger profits. In the context of sub-industrial companies in the plantation and crops sector listed on the IDX from 2016 to 2021, smaller companies are proven to be more efficient in their management, leading to the generation of larger profits.

The sales growth variable (GROWTH) shows a t-value of 0.020, which is less than 0.05, indicating statistical significance (Table 3). Thus, the hypothesis regarding the influence of sales growth on profitability is accepted. This implies that a company’s ability to generate profit is influenced by its sales growth. With a coefficient score of \( \beta=0.352 \), the sales growth and the return on assets (ROA) value move in the same direction. This suggests that within sub-industrial companies in the plantation and crops sector listed on the IDX from 2016 to 2021, a company’s ability to generate earnings is highly supported by the continuous improvement in sales from year to year.

Table 4.  
The result of determination coefficient (model summary)

<table>
<thead>
<tr>
<th>R</th>
<th>R-Square</th>
<th>Adjusted R-Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.605 *</td>
<td>0.366</td>
<td>0.306</td>
<td>0.03208</td>
</tr>
</tbody>
</table>

Predictors: Working Capital Turnover, Sales growth, Company size  
Dependent Variable: ROA

Based on Table 4, the R-squared (R2) value is 0.605 or 60.5%. The p-value associated with the score adjustment of R-squared suggests that when the adjusted R-squared value
is greater than 0.5, it can be reasonably concluded that the ability of the independent variables to explain the variation in the dependent variable is satisfactory.

In this context, the R-squared value indicates that approximately 60.5% of the variability in the dependent variable can be explained by the independent variables considered in the analysis. The fact that the adjusted R-squared value is greater than 0.5 adds support to the conclusion that the chosen independent variables effectively contribute to explaining the variations in the dependent variable, indicating a good fit of the model.

5. Discussion

The study aims to demonstrate that the research model concerning the influence of working capital turnover, company size, and sales growth on profitability in the sub-industries of plantations and food crops for the period 2016-2021, among companies listed on the Indonesia Stock Exchange, has been a good fit.

Analysis of the effect of working capital turnover on profitability showed no significant effect. This shows that the company’s ability to generate profits does not affect the effectiveness of working capital utilization. Several factors can influence the analysis of the effect of working capital turnover on profitability in the sub-industries of plantations and food crops among companies listed on the Indonesia Stock Exchange, leading to insignificant results. Efficient working capital management, the cyclical nature of the industry, operational scale, capital structure, and economic conditions may all play a role.

If companies manage their working capital efficiently or experience fluctuations in commodity prices or market demand due to external factors, the significance of working capital turnover on profitability might diminish. Additionally, large-scale operations and financial leverage can impact the relationship between these variables. A comprehensive understanding of these factors is crucial to accurately interpret the findings and identify other contributing elements influencing profitability in this industry. Variable working capital turnover own level significant 0.245> 0.05 which means working capital turnover no influential significant to profitability sub-industrial company plantations and crops which are listed on the Stock Exchange Indonesia. It is show that ability company in produce profit no influenced effectiveness utilization of working capital. This research is in line with several studies compiled (Öztürk, 2018) that working capital turnover does not always affect profitability.

The company size variable is proven to negatively affect profitability in plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange. The negative effect of the company size variable on profitability in plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange can be attributed to certain factors. Firstly, larger companies might face higher operating costs due to increased bureaucratic structures and complexities, which can erode profit margins. Additionally, larger firms could be more risk-averse, leading them to invest in safer but lower-return projects, limiting their profitability potential. Moreover, the management of larger companies may encounter challenges in adapting quickly to changing market conditions and innovations, hindering their ability to seize profitable opportunities. Furthermore, economies of scale may not always translate effectively into cost savings, particularly in industries like plantation and food crops, where production is subject to natural and market-related uncertainties. As a result, smaller and more agile companies might be better positioned to respond to market dynamics and achieve higher profitability. Overall, the negative relationship between company size and profitability suggests that smaller firms in the sub-industries of plantation and food crops have advantages that enable them to achieve better financial performance compared to their larger counterparts. Study this in
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line with results research researched by (Rini et al., 2019) found that size company influential negative and significant to profitability.

The variable sales growth is proven to positively affect profitability in plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange. The positive effect of the variable sales growth on profitability in plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange can be attributed to several key reasons. Firstly, an increase in sales growth indicates higher revenue generation, which can lead to improved profit margins, assuming that costs are managed effectively. As companies experience higher sales volumes, they can spread fixed costs over a larger revenue base, thereby enhancing profitability. Second, sales growth is often an indicator of successful product innovation, market expansion, or improved marketing strategies, which can lead to increased customer demand and loyalty, ultimately driving higher profitability. Additionally, sales growth can also reflect a company's ability to adapt to changing market conditions and consumer preferences, positioning them for sustained success. In summary, the positive relationship between sales growth and profitability suggests that companies experiencing robust revenue growth in the plantation and food crop sub-industries are more likely to achieve better financial performance and long-term success. This is contrary to (Mahirun & Kushermanto, 2018) that found growth sale influential negative and significant to profitability.

6. Conclusion

The study's results indicate that working capital turnover does not significantly affect profitability in the plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange. This suggests efficient working capital management may not be a critical factor influencing profit margins in the plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange. The lack of a significant effect of working capital turnover on profitability in the plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange may be attributed to several reasons. Firstly, the nature of the plantation and food crop industries, which are subject to various external factors such as weather conditions, commodity prices, and market demand, may overshadow the impact of working capital turnover on profitability. In such industries, profitability may be more sensitive to other factors such as technological advancements, crop yields, and operational efficiency rather than the speed at which working capital is converted into revenue. Both companies within these sub-industries may have already optimized their working capital management practices, reaching an optimal level where further improvements in turnover do not significantly affect profitability. Additionally, variations in accounting policies and financial reporting practices among the companies may influence the results, making it challenging to establish a consistent relationship between working capital turnover and profitability. Lastly, external macroeconomic conditions and regulatory changes might impact profitability more significantly than working capital turnover itself. Overall, the findings suggest that while efficient working capital management is essential for business operations, its direct impact on profitability in the plantation and food crop sub-industrial companies listed on the Indonesia Stock Exchange might not be pronounced.

Several limitations should be acknowledged in this study. Firstly, the research may have been limited to specific time frames and companies listed on the Indonesia Stock Exchange, which may not fully represent the entire population of plantation and food crop sub-industrial companies. Secondly, the study might not have considered other relevant
factors that could mediate or moderate the relationship between working capital turnover and profitability, potentially influencing the findings.

Based on the study’s results and limitations, several recommendations are proposed for future research. Firstly, researchers should explore additional variables and factors that may interact with working capital turnover to impact profitability in the specified sub-industries. Both conducting longitudinal studies that span different time periods could provide insights into how the relationship between working capital turnover and profitability evolves over time. Additionally, expanding the scope of the study to include companies from other financial markets and industries may offer a more comprehensive understanding of the subject. Lastly, researchers should consider using different methodologies or statistical models to validate the findings and ensure the robustness of the results.

References


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