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Analysis of Factors Affecting Return on Assets

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Abstract

Purpose: This study aims to analyze the factors influencing a company's financial performance, as measured by Return on Assets. The factors tested in this study include Working Capital Turnover, Sales Growth, Times Interest Earned Ratio, and Company Size.

Methodology: This study examines the impact of of Working Capital Turnover, Sales Growth, Times Interest Earned and Company Size on Return On Assets, using data from 10 IDX listed pharmaceutical companies during 2018-2024. Companies were selected through purposive sampling. Data were sourced from the IDX website and analyzed using statistical methods, including multiple regression analysis using SPSS Version 25.

Results: The results of this study indicate that there's a strong relationship between Times Interest Earned and Return On Assets. While Working Capital Turnover, Sales Growth, and Company Size do not affect Return On Assets.

Conclusions: This study shows that the there's a strong relationship between Times Interest Earned and Return On Assets in pharmaceutical companies. This means that a company's ability to cover interest expenses with its operating profit is a key indicator in increasing asset profitability.

Limitations: This study is limited by the number of pharmaceutical companies listed on the IDX during the 2018–2024 period.

Contribution: This study strengthens financial theory the relationship between Times Interest Earned on Return on Assets, and offers practical insights for company in planning effective financing strategies.

Keywords: *Company Size, Return on Asset, Sales Growth, Times Interest Earned*, *Working Capital Turnover.*

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1. Introduction

Indonesian society places great importance on health because it is the primary foundation for national development and well-being. Without a healthy population, productivity declines, quality of life is disrupted, and the economic burden on the nation increases. The availability, accessibility, and affordability of medicines and medical devices are key pillars for building an inclusive and equitable healthcare system for the Indonesian people. The pharmaceutical industry is the backbone of providing essential medicines, vaccines, and medical devices required for the diagnosis, treatment, and prevention of diseases. Without a strong pharmaceutical industry, Indonesia would be highly dependent on imports, which could risk both availability and pricing of medicines.

Every business entity is established with the goal of achieving profits. The pharmaceutical industry is not only established to provide healthcare access but also aims to achieve profitability (Restiana et al., 2025). According to data from the Badan Pusat Statistik (2024), "The Pharmaceutical, Chemical, and Traditional Medicine Industry contributes 0.48% of the total Gross Domestic Product amounting to Rp395,113,400,000,000.00". This increase in contribution has been driven by changes in lifestyle

during the pandemic, where vitamin consumption has become a regular habit for more people than before the pandemic.

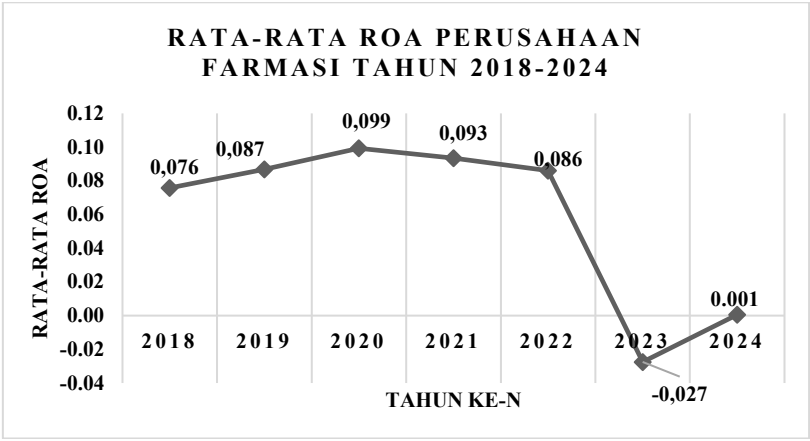

Figure 1. Average ROA of Pharmaceutical Companies from 2018 to 2024
Source: Financial Reports

The Indonesian pharmaceutical industry faces many challenges in 2023 and 2024. A striking phenomenon was that the Return on Assets (ROA) percentage for 2023 and 2024 was below zero. This percentage dropped significantly compared to previous years, which showed high ROA. During this period, pharmaceutical companies demonstrated instability, necessitating a deeper analysis to understand the dynamics affecting their performance.

Several factors are suspected to influence ROA, including Working Capital Turnover, Sales Growth, Times Interest Earned, and Company Size. It is assumed that there is a relationship between Working Capital Turnover and ROA. According to Hasibuan (2025), "*Working Capital Turnover is a crucial component for every business. Working capital functions as the 'engine' that drives the company's daily operations.*" These funds are used for all essential activities, such as purchasing raw materials, paying salaries, and financing the marketing activities. Sales Growth is also suspected to influence ROA. Based on Agustin & Sutjahyani (2023) "Sales Growth is a vital indicator that reflects fluctuations in a company's sales over a certain period." It is not merely a numerical change; these fluctuations in sales growth directly affect how well a company performs financially, particularly in relation to financial performance metrics such as Return on Assets.

The next factor, Times Interest Earned (TIE), is also suspected to affect ROA. According to Kumalasari et al., (2024) "*Times Interest Earned indicates how well a company is able to cover its interest expenses using the operating income it generates*." The higher the ratio, the stronger the company's financial position in meeting its interest obligations, and vice versa. A high TIE ratio not only signifies solid financial stability but also increases investor and creditor confidence. This is because companies with high TIE ratios have greater flexibility. They can allocate more of their operating income toward profitable strategic investments or paying dividends to shareholders, demonstrating strong financial health and growth potential.

In addition, Company Size is suspected to influence ROA. According to Martha and Titiek (2022), Company Size serves as an important indicator for assessing how a company manages investment risks for its shareholders. Its main objective is to enhance shareholder prosperity and their well-being. A large number of assets indicates that a company has a greater capacity to manage and optimize them, thereby increasing its profitability. In other words, large-scale companies tend to be considered more capable of optimizing their resources to create value and generate returns for their owners.

This study is urgent because of the inconsistencies found in previous research. Moreover, there is a lack of studies that specifically use pharmaceutical sub-sector companies as research samples. Moreover, this study provides updated accuracy in light of post-pandemic economic changes that may influence

the relationship between working capital turnover, sales growth, times interest earned, and company size on ROA over the past seven years, from 2018 to 2024.

This study examines whether Working Capital Turnover, Sales Growth, Times Interest Earned, and Company Size influence ROA, using an empirical study of pharmaceutical companies listed on the Indonesia Stock Exchange (IDX). This study seeks to provide a deeper understanding of the financial practices that companies can apply to increase their market value. This study is expected to assist pharmaceutical industry management in managing finances. Additionally, this study may provide essential information for investors to assess the feasibility of investing in the pharmaceutical sector.

2. Literature Review and Hypothesis Development

2.1 Agency Theory

According to Hidayati et al., (2024) "Agency theory explains that financial statements function as a tool to eliminate the misalignment or conflicts that often arise between management decisions (agents) and the objectives of the company owners (principals)." By providing relevant and reliable information, these reports enable owners to monitor and evaluate the management performance. Agency theory focuses on the issue of conflict of interest between the objectives of company owners (principals) and management decisions (agents) (Almega & Yuliansyah, 2024). Its goal is to analyze the strategies that principals can use to align the actions of agents with their interests, even though agents may have personal agendas (Djafar, 2024).

Agency theory offers solutions to the problems between management and company ownership. Sales growth, working capital turnover, times interest earned, company size, and ROA are not merely mathematical calculations; they reflect the behaviors, decisions, and potential conflicts between management and company owners. By analyzing the impact of Working Capital Turnover, Sales Growth, Times Interest Earned, and Company Size in relation to ROA, company owners can diagnose the health of the agency relationship and ensure that the company is managed in their best interests.

2.2 Pharmaceutical Companie

Pharmaceutical companies are vital entities in the healthcare sector that focus on the research, development, production, and marketing of medicines and health-related products. They play a crucial role in combating various diseases, improving the quality of life, and extending life expectancy through innovation and access to medical therapies. The pharmaceutical industry has a significant impact in Indonesia. In addition to providing essential medicines that support national health programs and medical services across healthcare facilities, this industry serves as an economic pillar by creating jobs, driving investments in local research and development, and contributing to national revenue through taxes and exports. The development of pharmaceutical companies in Indonesia also contributes to independence in drug production, reducing reliance on imports, and ultimately strengthening the nation’s health resilience against current and future medical challenges.

2.3 Return On Asset

Return on Assets (ROA) is a profitability ratio commonly used to assess how efficiently a company utilizes its assets to generate profits (Putri et al., 2023). According to Hasibuan et al., (2023) “Return on Assets is a ratio that measures a company’s ability to generate profit from the assets they manage.” This ratio indicates a company’s capability to generate net income from each asset it owns. By analyzing historical profit data, ROA helps predict future profitability potential and serves as an important reference for management to optimize the use of company assets (Heryaman & Anasta, 2024).

Assets in the calculation of Return on Assets (ROA) encompass all the wealth of the company, whether acquired through its own capital or through loans from external parties, which have been allocated to meet operational needs. ROA is used to evaluate management’s ability to optimize assets. This ratio is used to assess a company's ability to convert each unit of asset into net profit (Oktavia & Titiek, 2022). The formula for ROA, according to (Sukamulja, 2022:150) is as follows:

$$ROA = \frac{Net\ Profit}{Total\ Assets}\ x\ 100\%$$

2.4 Working Capital Turnover

Hasibuan (2025) states, "Working Capital Turnover is a crucial asset that supports the company's daily operations." Working capital is an essential fund invested initially to ensure that the company can continue generating profits and grow sustainably. Working Capital Turnover is used to assess how effectively a company utilizes its working capital in operational activities. Working capital refers to the primary funds used by a company to run its daily business activities (Putra & Maharani, 2021:112) and is calculated as follows:

$$WCTO = \frac{Net\ Sales}{Current\ Assets - Current\ Liabilities}\ x\ 100\%$$

2.5 Sales Growth

According Yeni et al., (2024) "Sales growth is a growth ratio that refers to the quantitative increase in a company's sales volume over a certain period." To measure this, we can compare the percentage increase in annual sales. This figure serves as a key indicator for evaluating the success and financial health of a company.

Sales Growth reflects changes, both increases and decreases, in the sales level of a company over a given period. These fluctuations directly affect a company's financial performance. Sales growth also provides insight into the company's ability to realize investments from previous periods and functions as a predictive indicator of future growth in the coming years (Prabasari & Amalia, 2022). The formula for Sales Growth (Setyawati, et al,. 2024:104) is:

$$Sales\ Growth = \frac{Sales\ in\ the\ current\ year - Sales\ in\ the\ previous\ year}{Sales\ in\ the\ previous\ year}\ x\ 100\%$$

2.6 Times Interest Earned

According to "The Times Interest Earned (TIE) ratio indicates how much a company's operating profit can decrease before the company struggles to pay its annual interest expenses." If a company fails to pay its interest, creditors may take legal action, which could potentially lead to bankruptcy. In calculating the TIE ratio, earnings before interest and taxes (EBIT) are used as the numerator rather than net profit. This is because interest payments are made before taxes are calculated, meaning that tax obligations do not affect the company's ability to meet its interest payments.

The Times Interest Earned shows how well a company can pay its interest expenses using its operating income. The higher this ratio, the stronger the company's ability to meet its interest payment obligations. A high Times Interest ratio indicates financial stability, which can enhance investor and creditor confidence. A high TIE ratio indicates that more operating income is available. This surplus can be allocated for profitable investments or to pay dividends to shareholders (Kumalasari Nafiza Aida et al. 2024). The formula for Times Interest Earned is as follows (Wahyu & Yani, 2024:99):

$$Times\ Interest\ Earned = \frac{EBIT}{Interest\ Expense}\ x\ 100\%$$

2.7 Compay Size

Company size plays a crucial role in determining the overall value of a company. It reflects the financial strength and scale of an entity. Generally, a company's size is assessed using its total assets. A company with a larger total asset base is generally considered more stable than one with smaller assets. This stability often attracts investors who are more inclined to invest in larger companies. They view the development of such companies as a safer and more promising investment. The formula for Company Size, according to Yeni and Hamdy Hady (2024:42), is as follows:

$$Company\ Size = Ln(Total\ Asset)$$

2.8 Conceptual Framework

2.8.1 The Effect of Working Capital Turnover (X1) on Return on Assets (Y)

Working Capital Turnover (WCTO) is an efficiency indicator that shows how well a company utilizes its working capital to generate sales. This ratio measures the revenue generated by a company for each unit of working capital invested. WCTO indicates a company's capability of converting its working capital into income. The higher the WCTO, the more efficiently a company utilizes its working capital to generate revenue. A company demonstrates higher profitability (Return on Assets) because it can generate more sales from its available working capital. Based on previous research, Azmi1 et al. (2024) successfully proved that WCTO strongly influences ROA. Meanwhile, Hidayat (2024) stated that WCTO has no effect on ROA, meaning that the presence of WCTO does not influence ROA.

2.8.2 The Effect of Sales Growth (X2) on Return on Assets (Y)

Sales growth reflects how well a company can realize investments from the previous year and serves as an indicator of future growth. It shows the fluctuations in a company's sales level over a certain period, whether an increase or decrease occurs. Changes in the growth rate of sales have a significant impact on a company's overall financial performance (Return on Assets). The study by Dharma et al., (2023) stated, "Sales growth has a significant influence on Return on Assets (ROA)." However, Ramli & Yusnaini, (2022) argued that "Sales growth does not have a significant effect on Return on Assets (ROA)."

2.8.3 The Effect of Times Interest Earned (X3) on Return on Assets (Y)

Times Interest Earned (TIE) is a financial metric that evaluates how well a company can meet its interest obligations using the operating income it generates (Karlina & Sanoyo, 2021). This ratio shows how secure a company's position is in paying interest expenses on its debt. As a leverage ratio, TIE reveals how well a company can cover its annual interest expenses with the profits it generates. A company with a high Times Interest ratio indicates that its interest expenses are well managed and do not excessively drain its operating profit.

With controlled interest expenses, more profit remains to be converted into net income, which, in turn, can enhance ROA. If the company does not struggle to pay its interest, resources, including profits, can be more effectively allocated to operations that increase sales and profitability, thereby improving ROA. Research by Sudryanto & Huda, (2023) found, "There is an influence between Times Interest Earned and Return on Assets (ROA)." However, Putri & Tandika (2019) stated, "Times Interest Earned does not affect Return on Assets (ROA)."

2.8.4 The Effect of Company Size (X4) on Return on Assets (Y)

Company Size is used as an indicator of investment risk management for shareholders, with the primary goal of maximizing their prosperity and well-being. A company with a large total asset base typically indicates effective asset management. By efficiently utilizing assets, companies can increase their profits. Larger companies often have greater economies of scale, meaning they can acquire raw materials, technology, or services at better prices through quantity discounts and spread fixed costs, such as research and development or marketing expenses, over larger production volumes.

If this efficiency is properly managed, operational profits can increase, which, in turn, can improve ROA. Dwi Shahfira, (2021) "There is an influence between Company Size and ROA." This is because a company with a larger asset base can produce more goods, thereby increasing its profitability. However, Hasti et al. (2022) argued that "There is no effect of Company Size on ROA, as high profitability is not necessarily found in larger companies."

2.9 Research Hypotheses

H1: The variable X1 (Working Capital Turnover) has an effect on the variable Y (Return on Assets) According to Putra & Maharani, (2021) "Working Capital Turnover (WCTO) shows how well a company utilizes its excess current assets to generate revenue." This ratio is used to assess how much sales a company generates for each unit of working capital. A high ratio indicates a highly efficient company. It can generate more sales from every unit of working capital, which automatically increases

the company's profits. As stated by Azmi1 et al., (2024), there is an influence between WCTO and ROA.

H2: The variable X2 (Sales Growth) has an effect on the variable Y (Return on Assets) According to "Sales growth reflects a company's ability to surpass the previous year's sales performance and can be used as an indicator to predict future growth." Sales growth reflects the increase or decrease in a company's sales revenue over a specific period. This change significantly affects the financial performance of the company, either positively or negatively. As stated by Dharma et al. (2023), there is an influence between sales growth and ROA.

H3: The variable X3 (Times Interest Earned) has an effect on the variable Y (Return on Assets) According to Siswanti, (2023) "Times Interest Earned (TIE) measures how well a company can cover its interest expenses using the operating income it generates." This ratio indicates a company's ability to meet its interest obligations on debts. The TIE directly measures a company's interest burden. A low TIE ratio indicates a high-interest burden, which tends to negatively impact ROA because the interest expense reduces net income. In contrast, a high TIE ratio indicates that the interest burden is well controlled, allowing for higher net income, which could potentially increase ROA. As noted by Tri Sudryanto and Nurul Huda (2023), there is an influence between Times Interest Earned and ROA.

H4: The variable X4 (Company Size) has an effect on the variable Y (Return on Assets) According to Oktavia and Titiek (2022), Company Size is used to measure how well a company manages investment risks for its shareholders, with the primary goal of increasing their value and well-being. Companies with large assets are generally better able to manage these assets effectively to operate and generate profit. This also indicates a better capacity to manage risks and generate returns. As stated by Shahfira (2021), there is an influence between company size and ROA.

3. Research Methodology

3.1 Type and Data Collection Method

This study was classified as a descriptive quantitative study because it focused on analyzing numerical data. The data used in this study are secondary data, specifically the companies' financial statements. The data were collected from the official website of the Indonesia Stock Exchange (IDX) at www.idx.co.id for the period from 2018 to 2024. The data collection method employed is documentation, which, according to Sugiyono (2013), means gathering information from documents relevant to the research topic.

3.2 Population and Sample

According to I Ketut Swarjana, S.K.M., M.P.H., (2022) "Population refers to the entire group, either individuals or objects, that share similar characteristics and are the primary target of the research." The characteristics were determined by the researcher based on the study objectives. In short, the population consists of the entire group that is to be described or from which the research findings will be generalized. This can include people, institutions, events, and other subjects relevant to the research question.

In contrast, a sample is a subset of the population selected to represent the whole. This selection is made through a certain process to investigate or understand the specific characteristics of the parent population. In other words, a sample is a group of cases taken from the population, usually to estimate or draw conclusions about the characteristics of an entire population. The population for this study consisted of 15 pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX).

Table 1. List of Companies in the Research Population

NO	KODE	NAMA EMITEN
1	MERK	PT Merck Tbk.
2	SCPI	PT Organon Pharma Indonesia Tbk.
3	KLBF	PT Kalbe Farma Tbk.
4	DVLA	PT Darya-Varia Laboratoria Tbk.
5	TSPC	PT Tempo Scan Pacific Tbk.
6	INAF	PT Indofarma Tbk.
7	KAEF	PT Kimia Farma Tbk.
8	PYFA	PT Pyridam Farma Tbk
9	SIDO	PT Industri Jamu dan Farmasi Sido
10	PEHA	PT Phapros Tbk.
11	SOHO	PT Soho Global Health Tbk.
12	PEVE	PT Penta Valent Tbk.
13	IKPM	PT Ikapharmindo Putramas Tbk.
14	OBAT	PT Brigit Biofarmaka Teknologi Tbk.
15	MDLA	PT Medela Potentia Tbk.

Source: www.idx.co.id

This study used a purposive sampling technique to select the sample. This means that the companies were intentionally chosen based on predetermined criteria. These criteria include:

1. Companies operating in the pharmaceutical subsector and listed on the Indonesia Stock Exchange (IDX).
2. Pharmaceutical sub-sector companies whose financial statements are complete and audited are available on the IDX from 2018 to 2024.

Based on these criteria, the sample of pharmaceutical subsector companies used in this study is as follows:

Table 2. Criteria for Determining the Research Sample

No	Criteria for the Research Sample	Total
1.	Pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX) | 15.	15
2.	Pharmaceutical sub-sector companies on the IDX that have not conducted an IPO or have not consistently and completely published audited financial statements from 2018 to 2024	(5)
Total number of companies meeting the sample criteria		10

Source: www.idx.co.id

Based on the predetermined criteria, there are 10 pharmaceutical sub-sector companies that are the subject of this study. These companies were listed on the IDX between 2018 and 2024. The following is a list of the companies included in the sample:

Table 3. List of Companies in the Research Sample

NO	KODE	NAMA EMITEN
1	MERK	PT Merck Tbk
2	SCPI	PT Organon Pharma Indonesia Tbk
3	KLBF	PT Kalbe Farma Tbk
4	TSPC	PT Tempo Scan Pacific Tbk

5	INAF	PT Indofarma Tbk
6	PYFA	PT Pyridam Farma Tbk
7	SIDO	PT Industri Jamu Dan Farmasi Sido Muncul Tbk
8	PEHA	PT Phapros Tbk
9	DVLA	PT Darya-Varia Laboratoria Tbk.
10	KAEF	PT Kimia Farma Tbk.

Source: www.idx.co.id

3.3 Data Analysis Tools

This study used SPSS Version 25 for data analysis. According to Wahyuni (2020), "Statistical Program and Service Solution (SPSS) is software commonly used for analyzing research data." This program is known for its ease of use and allows for self-learning. SPSS offers powerful data analysis capabilities, supported by its user-friendly graphical interface. The simple design of the menu and dialog boxes makes data management easy to understand.

3.4 Operational Variable

According to Hasbiah and Anwar (2024), operational variables explain how a research object is measured or manipulated, focusing on its dynamic behaviors or characteristics. The goal was to simplify the data, avoid ambiguity, and limit the scope of the variables under study. Therefore, it is important for operational variables to be measurable and assessable in a concrete manner.

The following is the operationalization of each variable.

1. **Working Capital Turnover** is the ratio between net sales and current assets minus current liabilities.
   Formula:

$$\text{WCTO} = \frac{Net\ Sales}{Current\ Assets - Current\ Liabilities}$$

Source: (Putra & Maharani, 2021:112)

2. **Sales Growth** measures the increase or decrease in sales from year to year by comparing the difference in sales between the current and previous years with the total sales of the previous year.
   Formula:

$$\text{SG} = \frac{\text{Sales of the current year} - \text{Sales of the previous year}}{\text{Sales on the previous year}}$$

   Source: (Setyawati et al.. 2024:104)

3. **Times Interest Earned (TIE**) measures how many times a company's operating profit is sufficient to cover its interest expenses.
   Formula:

$$\text{TIER} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

   Source: (Wahyu & Yani, 2024:99)

4. **Company Size** is calculated by applying the natural logarithm to the total assets owned by the company.
   Formula:

$$\text{CS} = Ln(Total\ Assets)$$

   Source: (Yeni & Hamdy Hady, 2024:42)

5. **Return on Assets (ROA**) is measured by dividing the company's net profit by its total assets. Formula:

$$\text{ROA} = \frac{\text{Net Profit}}{Total\ Assets}$$

Source: (Sukamulja, 2022:150)

Table 4. Operationalization of Variables

Variable	Indicator	Scale	Data Source
Variabel Independen			
Working Capital Turnover (WCTO) (Putra & Maharani, 2021:112)	$\frac{Net\ Sales}{Current\ Assets\ -\ Current\ Liabilities}$	Ratio	Financial Statements
Sales Growth, (Setyawati, et al,. 2024:104)	$\frac{\text{Sales of the current year} - \text{Sales of the previous year}}{\text{Sales on the previous year}}$	Ratio	Financial Statements
Times Interest Earned, (Wahyu & Yani, 2024:99)	$\frac{\text{EBIT}}{\text{Beban bunga}}$	Ratio	Financial Statements
Company Size, (Yeni & Hamdy Hady, 2024:42)	*Ln*(*Total Assets*)	Interval	Financial Statements
Dependent Variable			
Return On Asset, (Sukamulja, 2022:150)	$\frac{Net\ Profit}{Total\ Asset}$	Ratio	Financial Statements

4. Results and Discussion

4.1 Descriptive Statisti

The variables used are the independent variables: WCTO (X1), Sales Growth (X2), TIE (X3), and Company Size (X4), and the dependent variable: ROA (Y).

Table 5. Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
WCTO	70	-198.52	73.97	.7618	26.69479
SG	70	-.66	1.74	.0806	.32620
TIE	68	-9.98	6650.94	531.1053	1295.45165
CS	70	25.96	31.01	28.7438	1.25214
ROA	70	-.95	.31	.0538	.17493
Valid N (listwise)	68				

Source: Data processed using SPSS (2025)

Table 5 shows that the variable Working Capital Turnover (WCTO) has a minimum value of -198.52 and a maximum value of 73.97, with a mean of 0.7618 and a standard deviation of 26.69479. The Sales Growth (SG) variable has a minimum value of -0.66 and a maximum value of 1.74, with a mean of 0.0806 and a standard deviation of 0.32620. The TIE variable has a minimum value of -9.98 and a maximum value of 6650.94, with a mean of 531.1053 and standard deviation of 1295.45165. The Company Size (CS) variable has a minimum value of 25.96 and a maximum value of 31.01, with a mean of 28.7438 and a standard deviation of 1.25214. The ROA variable has a minimum value of -0.95 and a maximum value of 0.31, with a mean of 0.0538 and standard deviation of 0.17493. The TIE

variable has 68 data points, whereas the other variables have 70 data points. This is because one of the companies in the sample did not have interest expenses for two years, so the total valid data is 68.

4.2 Classical Assumption Test

4.2.1 Normality Test

This test was used to determine whether the data in the regression model followed a normal distribution using a statistical test (One-sample K-S).

Table 6. Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			41
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		.63745333
Most Extreme Differences	Absolute		.191
	Positive		.078
	Negative		-.191
Test Statistic			.191
Asymp. Sig. (2-tailed)			.001[c]
Monte Carlo Sig. (2-tailed)	Sig.		.088[d]
	99% Confidence Interval	Lower Bound	.081
		Upper Bound	.096
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. Based on 10000 sampled tables with starting seed 2000000.			

Source: Data processed using SPSS (2025)

The table above shows the Monte Carlo significance value (2-tailed) of 0.088 > 0.05, which means that the data used follow a normal distribution.

4.2.2 Multicollinearity Test

The purpose of the multicollinearity test is to determine whether the independent variables in the regression model have a strong correlation with one another. To detect this, we can look at the tolerance or Variance Inflation Factor (VIF) values.

Table 7. Multicollinearity Test

Coefficients[a]			
		Collinearity Statistics	
Model		Tolerance	VIF
1	LN_WCTO	.708	1.412
	LN_SG	.920	1.087
	LN_TIE	.715	1.398
	CS	.927	1.079
a. Dependent Variable: LN_ROA			

Source: Data processed using SPSS (2025)

From Table 7, it can be seen that each independent variable has a tolerance value of at least 0.1 and a Variance Inflation Factor (VIF) of no more than 10 in the SPSS output table for the coefficients. Therefore, it can be concluded that there is no multicollinearity problem among the independent variables.

4.2.3 Heteroscedasticity Test

The purpose of the heteroscedasticity test is to determine whether the variance (diversity) of the residuals from the regression model is uniform across the data. In other words, this test assesses whether consistent fluctuations exist in the residual data across observations. Spearman's rho test was used in this study to assess whether heteroscedasticity was an issue.

Table 8. Spearman's Rho Test

Correlations							
			LN_WCTO	LN_SG	LN_TIER	CS	Unstandardized Residual
Spearman's rho	LN_WCTO	Correlation Coefficient	1.000	.362*	-.635**	-.010	.006
		Sig. (2-tailed)	.	.013	.000	.941	.972
		N	41	41	41	41	41
	LN_SG	Correlation Coefficient	.362*	1.000	-.258	-.238	.122
		Sig. (2-tailed)	.013	.	.084	.093	.446
		N	41	41	41	41	41
	LN_TIE	Correlation Coefficient	-.635**	-.258	1.000	.116	-.096
		Sig. (2-tailed)	.000	.084	.	.374	.549
		N	41	41	41	41	41
	CS	Correlation Coefficient	-.010	-.238	.116	1.000	-.191
		Sig. (2-tailed)	.941	.093	.374	.	.233
		N	41	41	41	41	41
	Unstandardized Residual	Correlation Coefficient	.006	.122	-.096	-.191	1.000
		Sig. (2-tailed)	.972	.446	.549	.233	.
		N	41	41	41	41	41
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Source: Data processed using SPSS (2025)

Based on Table 8. Spearman's Rho Test above, the significance values for each independent variable are greater than 0.05. The LN_Working Capital Turnover variable has a significance value of 0.972 (0.972 > 0.05), LN_Sales Growth has a significance value of 0.446 (0.446 > 0.05), LN_Times Interest Earned has a significance value of 0.549 (0.549 > 0.05), and Company Size has a significance value of 0.233 (0.233 > 0.05). These results indicate that no heteroscedasticity problem was present in the data.

4.2.4 Autocorrelation Test

The autocorrelation test was implemented to examine the dependency or correlation between sequential data points in a time series. The goal is to ensure that the observations from one time period do not influence those from another time period, which is an important assumption in several statistical models. This study applies the Durbin-Watson Test. The Durbin-Watson test only applies to first-order autocorrelation, meaning that it only considers the relationship between current observations and previous observations. Additionally, the regression model being tested must have a constant, and the dependent variable must not be included among the independent variables.

Table 9. Durbin-Watson Test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.649[a]	.421	.357	.67193	2.093
a. Predictors: (Constant), CS, LN_TIE, LN_SG, LN_WCTO					
b. Dependent Variable: LN_ROA					

Source: Data processed using SPSS (2025)

The DW value was 2.093. The dL and dU values were 1.3779 and 1.7214, respectively. These values were determined from the table, considering the sample size (N) of 41 and the number of independent variables (k) equal to 4. Therefore, the DW value in this study satisfies the condition: $dU < DW < 4 - dU$, or $1.7205 < 2.093 < 2.2795$. This indicates that the data do not exhibit any autocorrelation problems.

4.3 Data Analysis Test

4.3.1 Coefficient of Determination (R^2)

This test explains how much the independent variables we are studying influence the dependent variable by examining the results in the Model Summary output from SPSS, specifically the Adjusted R Square column, as shown below:

Table 10. Coefficient of Determination (R^2)

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.649[a]	.421	.357	.67193
a. Predictors: (Constant), CS, LN_TIE, LN_SG, LN_WCTO				
b. Dependent Variable: LN_ROA				

Source: Data processed using SPSS (2025)

From the table, the adjusted R Square value is 0.357. This result indicates that WCTO, SG, TIE, and CS explain 35.7% of the variance in ROA, while the remaining 64.3% of the total variance in the data is influenced by factors that are not included in this study.

4.3.2 F-Test

This test determines whether the processed data are suitable for use.

Table 11. F-Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.827	4	2.957	6.549	.000[b]
	Residual	16.254	36	.451		
	Total	28.080	40			
a. Dependent Variable: LN_ROA						
b. Predictors: (Constant), CS, LN_TIE, LN_SG, LN_WCTO						

Source: Data processed using SPSS (2025)

From Table 11, it can be stated that the calculated F value ($F^o = 6.549$) is greater than the table F value ($F^t = 2.63$) ($6.549 > 2.63$), with a significance value of $0.000 < 0.05$. Therefore, the regression model used in this study was valid and suitable for implementation.

4.3.3 Multiple Linear Regression Analysis

Based on the results of the multiple linear regression analysis presented in the table, this study aims to examine the impact of several independent variables—WCTO, SG, TIE, and CS—on the dependent variable, ROA

Table 12. Multiple Linear Regression Analysis Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.495	2.507		-2.591	.014
	LN_WCTO	-.132	.175	-.114	-.755	.455
	LN_SG	.055	.106	.068	.515	.610
	LN_TIE	.189	.052	.549	3.659	.001
	CS	.125	.085	.192	1.461	.153
a. Dependent Variable: LN_ROA						

Source: Data processed using SPSS (2025)

From the table above, the regression equation obtained is as follows:

LN_ROA = – 6,495 – 0,132 LN_WCTO + 0,055 LN_SG + 0,189 LN_TIER + 0,125 CS + Ɛ

Based on the above results, the following conclusions can be drawn:

1. Constant Value
   The constant value is -6.495, meaning that if the independent variables, such as Working Capital Turnover, Sales Growth, Times Interest Earned, and Company Size, all have a value of 0, the ROA will be -6.495 units.
2. WCTO Variable
   The regression coefficient for WCTO was -0.132. This means that if the other independent variables remain constant and WCTO increases by one unit, then Return on Assets will decrease by 0.132 units. The negative coefficient indicates a negative relationship, meaning that as WCTO increases, ROA decreases.
3. SG Variable
   The regression coefficient for the Sales Growth (SG) variable is 0.055. This means that if the other independent variables remain constant and Sales Growth increases by one unit, ROA will increase by 0.055 units. The positive coefficient indicates a positive relationship, meaning that as Sales Growth increases, ROA will also increase.
4. TIE Variable
   The regression coefficient for the Times Interest Earned (TIE) variable is 0.189. This means that if the other independent variables remain constant and TIE increases by one unit, ROA will increase by 0.189 units. The positive coefficient indicates a positive relationship, meaning that as TIE increases, ROA increases.
5. CS Variable
   The regression coefficient for the Company Size (CS) variable is 0.125. This means that if the other independent variables remain constant and Company Size increases by one unit, ROA will increase by 0.125 units. The positive coefficient indicates a positive relationship, meaning that as Company Size increases, ROA will increase.

4.3.4 t-Test

The t-test results below are used to determine whether there is a significant effect of each independent variable on the dependent variable.

Table 13. t-Test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.495	2.507		-2.591	.014
	LN_WCTO	-.132	.175	-.114	-.755	.455
	LN_SG	.055	.106	.068	.515	.610
	LN_TIER	.189	.052	.549	3.659	.001
	CS	.125	.085	.192	1.461	.153
a. Dependent Variable: LN_ROA						

Source: Data processed using SPSS (2025)

Based on Table 13, the following conclusions can be drawn:

1. The calculation result for Working Capital Turnover (X1) shows a significance value (0.455) > 0.05 and a t-statistic of -0.755 < 1.690. This result indicates that H0 is accepted, meaning that there is no effect between working capital turnover and ROA.
2. The calculation result for Sales Growth (X2) shows a significance value (0.610) > 0.05 and a t-statistic of -0.515 < 1.690. This result indicates that H0 is accepted, meaning that there is no effect between sales growth and ROA.
3. The calculation result for Times Interest Earned (X3) shows a significance value (0.001) < 0.05 and a t-statistic of 3.659 > 1.690. This result indicates that H1 is accepted, meaning that there is a positive and significant effect between Times Interest Earned and ROA.
4. The calculation result for Company Size (X4) shows a significance value (0.153) > 0.05 and a t-statistic of 1.46 < 1.690. This result indicates that H0 is accepted, meaning that there is no effect between company size and ROA.

4.4 Discussion

4.4.1 Effect of Variable (X1): Working Capital Turnover on Return on Assets (Y).

The findings of this study indicate that there is no effect between Working Capital Turnover and ROA. This is because the average WCTO was 0.7618 during the study period and remained relatively stable. Therefore, it is unlikely that these two variables will have an impact on each other. A similar result was found by Hidayat (2024), who showed no effect between WCTO and ROA.

4.4.2 Effect of Variable (X2) sales growth on return on assets (Y).

The findings of this study indicate that there is no effect between Sales Growth and ROA. This is because the average Sales Growth was 0.0806 during the study period, which remained relatively stable. Therefore, it is unlikely that these two variables will have an impact on each other. A similar result was found by Ramli and Yusnaini (2022), who showed no effect between Sales Growth and ROA.

4.4.3 Effect of Variable (X3) Times Interest Earned on ROA (Y).

The findings of this study show a strong and positive impact between the Times Interest Earned (TIE) and Return on Asset (ROA) variables. This indicates that the higher the TIE generated by the company, the higher the ROA. Conversely, the lower the TIE generated by a company, the lower the ROA. A higher TIE ratio indicates a better ability to pay interest, and it also increases the opportunity to obtain additional loans to optimize profits. A higher TIE indicates that the company has more remaining income after paying interest obligations. This remaining income can then be used for other purposes, including reinvesting in the business to generate higher profits, which, in turn, can contribute to a higher ROA. Similar findings were shown in the research by Tri Sudryanto and Nurul Huda (2023), which also highlighted the impact between TIE and ROA.

4.4.4 Effect of Variable (X4) Company Size on Return on Assets (Y).
The findings of this study show that there is no impact between **Company Size** and **ROA**. This is because the average **Company Size** was 28.7438 during the study period, which remained relatively stable, and thus is unlikely to have an impact between these two variables. A similar result was found in the study by Hasti et al. (2022), who also found no effect between **Company Size** and **ROA**.

5. Conclusion and Recommendations

5.1 Conclusion

The research findings are summarized as follows:
1. There is no impact of WCTO on ROA.
2. There is no impact of Sales Growth on ROA.
3. There is a positive and strong effect between the Times Interest and ROA variables.
4. Company Size has no impact on ROA.

5.2 Recommendations

Based on this discussion, the following suggestions are made for future researchers:
1. The analysis model can be improved by including other independent variables known to affect ROA.
2. Expanding the study time range would help generate more accurate findings.
3. By using more recent references and journals, this study will produce better findings and offer new insights.

Limitations and Future Research

1. The study has a limited scope as it only analyzes four independent variables: Working Capital Turnover, Sales Growth, Times Interest Earned, and Company Size.
2. The study period was limited to 7 years (2018–2024).
3. This study focuses only on pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX).

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