International Journal Administration, Business & Organization
Vol. 6 (3), 2025: 411-427 | E-ISSN 2721-5652
Available at https://ijabo.a3i.or.id/index.php/ijabo

The Effect of Current Ratio, Debt to Asset Ratio, and Debt to Equity Ratio on Return on Assets in Pharmaceutical Companies on the Indonesian Stock Exchange, Period 2015–2024

Rika Rahmawati[1*]
Management and Business
University of Indonesia Membangun, Bandung, Indonesia
rikarahmawati@student.inaba.ac.id

Erna Herlinawati[2]
Management and Business
University of Indonesia Membangun, Bandung, Indonesia
Erna.herlinawati@inaba.ac.id

Andre Suryaningprang[3]
Management and Business
University of Indonesia Membangun, Bandung, Indonesia
Andre.suryaningprang@inaba.ac.id

ABSTRACT

The pharmaceutical industry is an influential industrial sector in the Indonesian economy. However, by the end of 2024, almost all state-owned pharmaceutical companies experienced a decline in profits due to various problems such as the spread of vaccines and medicines due to the end of the Covid-19 pandemic, to serious problems such as accumulating debt and impacting the company's operational costs. Therefore, the author is interested in conducting research that impacts company profitability, namely the effect of the Current Ratio, Debt to Asset Ratio, and Debt to Equity Ratio on Return on Assets in the pharmaceutical industry listed on the Indonesian Stock Exchange for the period 2015-2024. Data were taken from annual report data and the sample used was 40 from four pharmaceutical industries, namely PT. Indofarma Tbk, PT. Kimia Farma Tbk, PT. Phapros Tbk and PT. Pyridam Farma Tbk. The data were analyzed using panel data regression and processed using Eviews 12 software. The results of partial hypothesis testing showed that the Current Ratio and Debt to Equity Ratio had no significant effect on Return on Assets, while the Debt to Asset Ratio had a significant effect on Return on Assets. Simultaneously, the variables Current Ratio, Debt to Asset Ratio and Debt to Equity Ratio had a significant effect on Return on Assets of pharmaceutical companies listed on the Indonesia Stock Exchange.

Keywords: Current Ratio; Debt to Asset Ratio; Debt to Equity Ratio; Return on Asset

Received: 29 November 2025
Accepted: 25 December 2025
Available online: 27 December 2025

DOI: 10.61242/ijabo.25.667

JEL Classifications: C1, C33

 *Corresponding Author: rikarahmawati@student.inaba.ac.id

INTRODUCTION

A company's financial health is a crucial reflection of management's proficiency in effectively utilizing economic resources. In the realm of industrial financial assessment, profitability is of paramount importance as it signals a firm's ability to achieve sustainable earnings. Among various profitability metrics, Return on Assets stands out for its comprehensiveness by assessing how productively a company employs its total assets to generate profit. Within the pharmaceutical industry, the significance of Return on Assets is heightened due to the sector's capital-intensive nature, high risk, and reliance on long-term investments such as manufacturing facilities, research and development, and intangible assets like patents and licenses. Therefore, effective asset management is vital for achieving commendable financial outcomes. In theory, profitability is shaped not just by operational efficiency but also by corporate financial strategies, particularly those related to liquidity and capital structure. These strategies are frequently evaluated using financial ratios, such as the Current Ratio for liquidity assessment, the Debt to Asset Ratio as an indicator of total leverage, and the Debt to Equity Ratio as a measure of capital structure.

The Current Ratio illustrates a company's ability to fulfill short-term liabilities with current assets. Sufficient liquidity is crucial for maintaining operational consistency and preventing financial trouble, especially in a sector like pharmaceuticals that faces regulatory limitations and demand unpredictability. However, excessive liquidity might suggest inefficient resource utilization.

The Debt to Asset Ratio and Debt to Equity Ratio indicate the degree of reliance on debt in financing assets and operations. Trade-Off Theory posits that moderate debt levels can enhance profitability through tax advantages, though excessive debt elevates the risk of bankruptcy and interest expenses, potentially diminishing Return on Asset. On the other hand, Pecking Order Theory suggests that more profitable firms often prefer internal funding over debt, indicating that a higher Debt to Equity Ratio might be linked with decreased profitability. Thus, the configuration and volume of debt are expected to have a bearing on Return on Asset in pharmaceutical companies.

Despite the abundance of research on liquidity and leverage impacts, empirical results remain varied, particularly in the pharmaceutical sector, possibly due to differing study periods, economic conditions, and industry traits. This study intends to investigate how Current Ratio, Debt to Asset Ratio and Debt to Equity Ratio influence Return on Asset in pharmaceutical firms listed on the Indonesia Stock Exchange, employing a theoretical framework rooted in financial management and capital structure concepts.

Although pharmaceuticals are in a strategic sector, pharmaceutical companies face financial problems, especially after the end of the Covid-19 pandemic. Product sales fell dramatically after the pandemic, resulting in a large amount of expired stock and increased losses. PT. Kimia Farma and Indofarma experienced a decline in return on assets despite an increase in assets, indicating operational inefficiencies and a large financial burden. Indofarma also faced major problems during the pandemic, such as poor management, fictitious transactions, bad debts, and inappropriate business decisions. Kimia Farma also faced similar problems due to high operational costs, low factory utilization, and alleged data manipulation. Phapros recorded a decline in asset value return on asset due to a decline in sales and an increase in operating expenses. Despite increased revenue, Pyridam Farma remained unprofitable because it was unable to control its operating expenses.

This research indicated that these issues affected the profitability of businesses, evaluated through Return on Assets. This measure assesses how successfully an industry

 DOI: https://doi.org/10.61242/ijabo.25.667

can produce profits using its total assets. A higher ROA reflects a better financial condition for the company, while a decline in this metric suggests deteriorating financial performance and efficiency (Sinamo et al., 2024).

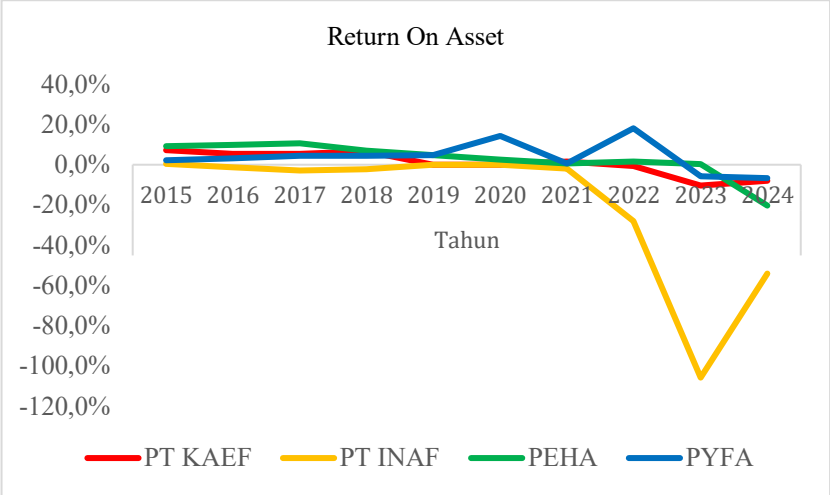

Figure 1. Return on Asset (ROA) of Pharmaceutical Companies for the Period 2015-2024
Source: Company Official Websites for the Period 2015-2024 (Data processed, 2025)

Based on figure 1, demonstrates that the Return on Asset for pharmaceutical companies experienced fluctuations, generally trending downward until eventually reaching a negative figure. At Kimia Farma, Return on Asset continued to decline even though it rose to 6.6% in 2018, but fell again to 0.1% in 2019. The return on asset value only increased slightly in 2021 by 1.6%. After that, the Return on Asset fell back to negative, with the lowest value in 2023 at -10.4%.

This condition indicates that the company suffered losses that could be influenced by indications of data inaccuracy and financial manipulation at Kimia Farma Apotek (KFA), increased operating costs and cost of goods sold that were not proportional to revenue, as well as the closure of five company branches in 2023. At Indofarma company, Return on Asset continued to decline from 2016 to 2018 and remained negative. In 2019 and 2020, Return on Asset reached only 0.002%, far below the standard.

The decline in Return on Asset indicates management's inability to generate profits, as the industry standard for Return on Asset is 30% (Kasmir, 2021). In 2023, PT Indofarma experienced a drastic decline of –106% due to critical financial conditions, high debt burdens, declining revenues, bad debts, and deficits (negative equity).

The situation worsened due to evidence of fraud, such as fake transactions and online loans. In addition, Indofarma subsidiary, Indofarma Global Medika (IGM), was declared bankrupt in 2025. This means that it no longer generates dividends or cash flow, and due to its poor net profit, the company may become even more stressed. There are various element that affect Return on asset, such as the Current Ratio, Debt to Assets Ratio, Debt to Equity Ratio, Total Assets Turnover, and Net Profit Margin (Hasanah & Enggariyanto, 2018).

Kasmir (2019) explain, the Current Ratio evaluates an industry ability to fulfill its short-term financial obligations that demand prompt payment.

 DOI: https://doi.org/10.61242/ijabo.25.667

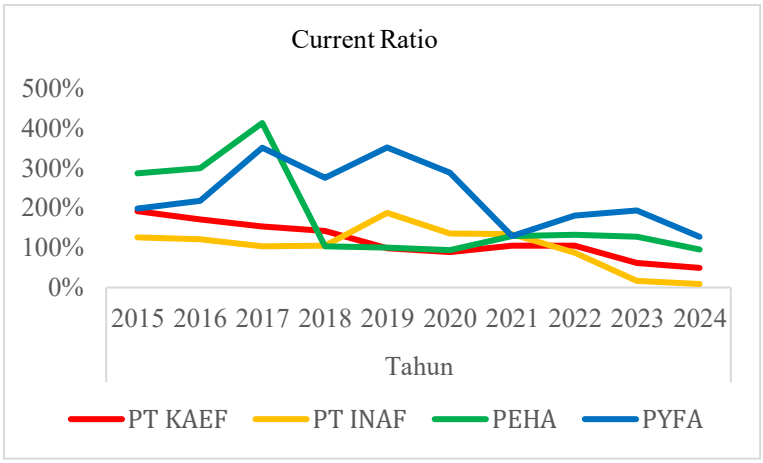

Figure 2. Current Ratio in Pharmaceutical Companies for the Period 2015-2024
Source: Company Official Websites for the Period 2015-2024 (Data processed, 2025)

Based on figure 2, the Current Ratio value in pharmaceutical companies fluctuated with a downward trend. At Kimia Farma, although the Current Ratio increased in 2021 and 2022 to 105.2% and 105.9%, respectively, the value fell sharply again in 2023 to 62.6% and in 2024 to 49.5%. At Indofarma company, the Current Ratio increased in 2019 to 188.1% at the beginning of the Covid-19 pandemic, but then continued to decline, reaching 8.9% in 2024.

At Phapros, there were variations in the Current Ratio over time. The peak of the Current Ratio was reached in 2016, standing at 300.7%, showing how effectively the industry can fulfill its short-term commitments using its current assets. Yet, the lowest values were recorded in 2020 at 94.3% and in 2024 at 95.2%. Pyridam Farma also experienced Current Ratio fluctuations. In 2015, the Current Ratio was 199.2%, increasing in 2016 and 2017 to 219.1% and 352.3%. This value declined again in 2018 to 275.8%, then increased again in 2019 to 352.8%. After that, the Current Ratio continued to decline, reaching its lowest value in 2024 at 127.8%. A Current Ratio is typically viewed as favorable when it surpasses the 200% mark (Kasmir, 2018).

According to Kasmir (2019), the Debt to Assets Ratio is a debt ratio used to measure the ratio between total debt and total assets.

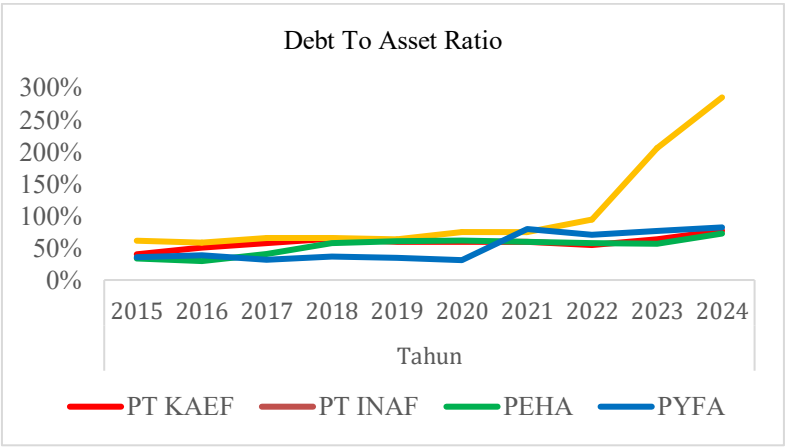

Figure 3. Debt to Assets Ratio in Pharmaceutical Companies for the Period 2015-2024
Source: Company Official Websites for the Period 2015-2024 (Data processed, 2025)

Based on table 3, the Debt to Assets Ratio of Kimia Farma increased from 40.1% in 2015 to 77.1% in 2024, indicating an increasing dependence on debt. After gradually

 DOI: https://doi.org/10.61242/ijabo.25.667

increasing to 64.5% in 2018, the Debt to Assets Ratio declined during 2019-2022 due to the impact of the pandemic, but rose again to 77.1% in 2024.

PT Indofarma showed the sharpest increase in Debt to Assets Ratio, reaching 285.1% in 2024, indicating a condition of over leverage that could potentially cause financial difficulties. Phapros also experienced an increase in Debt to Assets Ratio from 33.9% in 2015 to 72.5% in 2020. Meanwhile, Pyridam Farma experienced an increase from 35.4% in 2015 to 82.1% in 2024.

In comparison to an industry standard of 35%, it's preferable for the industries Debt to Assets Ratio to fall below this benchmark. The lower the DAR, the more effectively a company can preserve its capital structure (Darmawan, 2020).

As Kasmir (2019) explain, the Debt to Equity Ratio serves as an indicator used to assess the balance between debt and equity. A higher Debt to Equity Ratio indicates a greater reliance on borrowing to finance growth and investment activities.

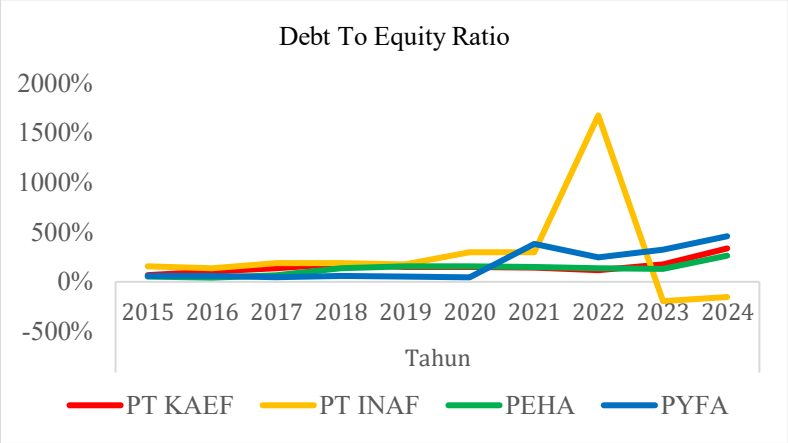

Figure 4. Debt to Equity Ratio in Pharmaceutical Companies for the Period 2015-2024
Source: Company Official Websites for the Period 2015-2024 (Data processed, 2025)

Based on Table 4, from 2015 to 2024, the Debt to Equity Ratio of all companies showed an upward trend, indicating an increase in debt dependence. Kimia Farma rose from 67% in 2025 to 336.5% in 2024, indicating an increase in financial risk. A higher Debt to Equity Ratio indicates a greater risk of bankruptcy for the organization, while a lower Debt to Equity Ratio suggests a stronger capability for the company to operate independently without relying heavily on debt (Saiful, Hakiki et al., 2023).

PT Indofarma Tbk experienced a very sharp increase of 1676.5% in 2023, even recording a negative Debt to Equity Ratio in 2023–2024 due to negative equity, which reflects high risk financial conditions and accumulated losses. Phapros also showed an increase from 51.4% (2015) to 263.8% (2024), while Piridam farma rose from 58% to 459% in the same period. When compared to the ideal industry average standard of 80%, all companies are at a much higher Debt to Equity Ratio level. The preferred benchmark for the Debt to Equity Ratio is 80% (Kasmir, 2021).

LITERATURE REVIEW

Management

Hasibuan (2019) describes Management as both a science and art focused on efficiently and effectively organizing the use of human and other resources to accomplish a particular objective. According to (Oktaviani et al., 2022) “Financial management encompasses all

 DOI: https://doi.org/10.61242/ijabo.25.667

corporate activities related to how to obtain funds, use funds, and manage assets within a corporate organization to create and maintain corporate value."

Financial Management

The planning, arrangement, mobilization, and supervision of the financial operations of an organization, institution, or company is called financial management. Various steps and procedures related to the management of company finances are referred to as financial management. According to (Sudaryo, 2017) Financial management encompasses all the activities within a company that deal with acquiring funds, utilizing these funds, and managing the company's assets in order to build and sustain the company's value.

Financial Statements

As Kasmir (2019) explains, financial statements are records that detail a company's current financial condition or its financial performance over a particular period.

Return on Asset

As Kasmir (2019) explains,"Return on asset serves to indicate a company's capability in generating profits by utilizing all its assets. A Return on Asset exceeding 30% is deemed positive, whereas a ratio under this benchmark is deemed negative. A reduction in Return on Assets implies that management struggles to produce profits, since the industry standard is 30%."
According to Kasmir (2018) the Return on Asset is defined as the following:

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

Current Ratio (CR)

Kasmir (2019) states that "The Current Ratio is a ratio to measure an industry ability to pay short term liabilities or debts that are due immediately when billed in full." Kasmir (2019) states that the industry standard for the Current Ratio is two hundred percent or double. This ratio is considered good if the result is greater than the standard, and conversely, if the result is less than the standard, then the company has poor working capital. In a previous study by (Oktaviani et al., 2022), it was found that "Current Ratio (CR) has a significant impact on Return On Asset (ROA)". The results of the study by Salwa et al. (2024) show that "CR has a positive and significant effect on ROA." Meanwhile, in the study by (Alfanti et al., 2024), "Current Ratio has no effect and is not significant on Return On Assets."According to Kasmir (2019) the Current Ratio defined as follows:

$$\text{CR} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \text{ x } 100\%$$

Debt to Asset Ratio (DAR)

A stated by Hery (2018), "The Debt to Asset Ratio is used to evaluate the proportion of an industry assets that are financed through debt or the extent to which its liabilities impact the funding of those assets."
If the Debt to Asset Ratio is high, it indicates that the industries relies on debt to finance its assets, thus posing a high risk in the event of a decline in revenue. Conversely, a low debt to asset ratio suggests that the industry relies less on debt to fund its assets, making

 DOI: https://doi.org/10.61242/ijabo.25.667

it more stable and less risky. According to Kasmir, (2019) Debt to Asset Ratio as following:

$$\text{DAR} = \frac{\text{Total Debt}}{\text{Total Assets}} \text{ x } 100\%$$

Debt to Equity Ratio

A stated by Kasmir (2018), the Debt to Equity Ratio is employed to evaluate the balance between a industries debt and its equity or capital. Generally, the industry norm for an optimal Debt to Equity Ratio is around 81% or 0.81 times (Kasmir 2021, p. 159). As the Debt to Equity Ratio increases,the financial risk the company assumes also rises. According to Kasmir (2019) the Debt to Equity Ratio defined as the following:

$$\text{DER} = \frac{\text{Total Debt}}{\text{Total Equity}} \text{ x } 100\%$$

Research Model

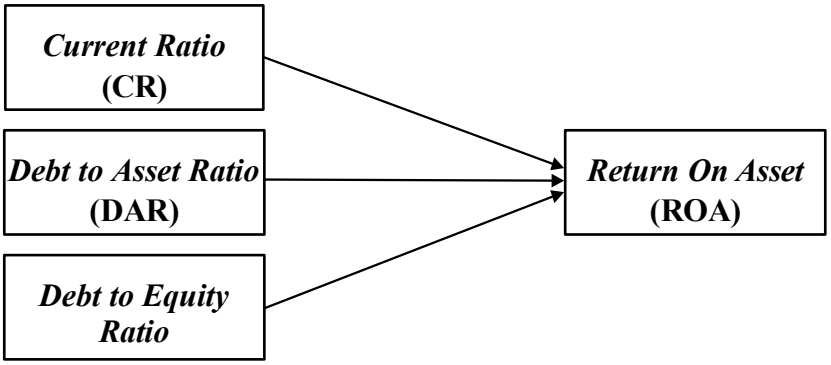

Figure 5. Research Model
Source: Own Compilation, 2025

This research examines three independent variables: Current Ratio (CR), Debt to Asset Ratio (DAR), and Debt to Equity Ratio (DER), alongside one dependent variable: Return On Asset (ROA).

Hypothesis

Ho 1: There is no effect between Current Ratio and Return On Asset.
Ha 1: There is an effect between Current Ratio and Return On Asset.
Ho 2: There is no effect between Debt to Total Asset Ratio and Return On Asset.
Ha 2: There is an effect between Debt to Total Asset Ratio and Return On Asset.
Ho 3: There is no effect between Debt to Total Equity Ratio and Return On Asset.
Ha 3: There is an effect between Debt to Total Equity Ratio and Return On Asset.

RESEARCH METHOD

This study was carried out using the official websites of PT Kimia Farma (KAEF), PT Indofarma (INAF), PT Phapros (PEHA), and PT Pyridam Farma (PYFA) as sources. To obtain the necessary data, the researchers conducted research on these pharmaceutical companies and collected data through the annual reports of PT Kimia Farma (KAEF), PT Indofarma (INAF), PT Phapros (PEHA), and PT Pyridam Farma (PYFA) www.kimiafarma.co.id, indofarma.id/laporan-tahunan/, www.phapros.co.id and

 DOI: https://doi.org/10.61242/ijabo.25.667

pyfa.co.id. The financial data obtained from these websites is secondary data, namely annual financial reports.

Sugiyono (2019) states that, a population is a broad area composed of objects or subjects that have certain characteristics and quantities, defined by researchers for investigation, from which conclusions are subsequently derived. The population in this research comprises all annual financial reports from pharmaceutical firms, specifically PT Kimia Farma, PT Indofarma, PT Phapros and PT Pyridam Farma.

A sample is a segment of the population chosen to represent its attributes accurately (Chaniago et al., 2023). Researchers often cannot analyze the entire population due to its expansive nature and constraints related to budget, resources, and time. As a result, researchers opt to use samples drawn from the broader population (Sugiyono, 2019, p. 127). In this study, the researcher employed purposive sampling, a technique for choosing samples based on specific criteria to ensure they are appropriate for the study (Muhyiddin, 2018, p. 74). The criteria used to select samples were complete financial reports from the 2015-2024 period. Financial reports featuring comprehensive research variables like Return on Asset, Current Ratio, Debt to Asset Ratio and Debt to Equity Ratio, as well as financial reports indicating issues. Considering these criteria, the researcher chose the financial statements of pharmaceutical companies to serve as the sample. These companies include Kimia Farma, Indofarma, Phapros, and Pyridam Farma.

The research utilized panel data regression analysis, implemented with the Eviews 12 software. Panel data analysis can be executed using three different methods. Common Effect Model merges cross-sectional data and time series, disregarding both temporal and spatial aspects of panel data (Ghozali & Ratmono, 2017, p. 214). This model overlooks temporal or specific individual aspects, assuming that a company's data behavior remains consistent over various time periods. The method utilized is the Ordinary Least Squares (OLS) or the least squares technique, which is used for estimating panel data models.

Fixed Effect Model demonstrates variations in constants among objects despite having identical regression coefficients This model assumes that there are differences in intercepts between objects, but there are no differences in intercepts between times that do not change (are the same). The level of experimental treatment differences is only a small part of the range of possible levels, according to Ghozali & Ratmono (2017). “In estimating the Fixed Effects panel data model, the dummy variable method is used to address variations in intercepts across different firms, reflecting differences in aspects such as work culture, management, and incentives” (p. 223). Despite these variations, the slope remains uniform across companies. This approach is also known as the Least Square Dummy Variable Method.

Random Effect Model investigates panel data in situations where disturbance variables could be correlated over time and across different individuals. In the Random Effect model, differences in intercepts between companies are determined by each company's error terms. The advantage of using the Random Effect model is its capacity to handle heteroscedasticity efficiently. This model is also referred to as the Error Component Model (ECM) or the Generalized Least Square (GLS) technique.

To select the most appropriate model to use in managing panel data, there are several tests that can be performed, namely:

1. Chow Test (Common Effect vs Fixed Effect)
   The Chow test helps decide if the Common Effect Model or the Fixed Effect Model is better suited for analyzing panel data. According to Ghozali & Ratmono (2017) “The decision criteria are as follows: If the probability (Prob) in Cross Section F <

 DOI: https://doi.org/10.61242/ijabo.25.667

0.05, then the better model is Fixed Effect. And if the probability (Prob) in Cross Section F > 0.05, then the better model is Common Effect Model" (p. 166).

2. Hausman Test (Fixed effect vs Random effect)
   A method for deciding whether the Random Effect Model or the Fixed Effect Model is more suitable for analyzing panel data, as suggested by Ghozali & Ratmono, (2017) "The criteria for making a decision are: if the probability (Prob) < 0.05, then the better model is Fixed Effect, And if the probability (Prob) > 0.05, then the better model is Random Effect Model" (p. 249).
3. Langrange Multiplier or LM-Test (Common Effect vs Random Effect)
   The LM-test is employed to decide if the Random Effect Model or Common Effect Model is the most suitable choice for estimating panel data. According to Ghozali & Ratmono (2017) "The decision criteria are: When the significance level is less than 0.05 for both, Random Effect Model is considered superior. However, if the significance level is greater than 0.05 for both, Common Effect Model is deemed more appropriate" (p. 323).

RESEARCH RESULTS

Table 1. Descriptive statistics

	CR	DAR	DER	ROA
Mean	149.3175	67.04000	183.7675	-3.036175
Median	128.7000	59.65000	146.4000	0.645000
Maximum	352.8000	285.1000	1676.500	18.12000
Minimum	8.900000	29.60000	-194.5000	-105.8300
Std. Dev.	82.66968	45.24425	271.6350	20.49012
Skewness	0.905659	3.566308	4.209257	-3.658708
Kurtosis	3.348911	16.59150	24.20140	17.80969
Jarque-Bera	5.671020	392.6717	867.2849	454.7857
Probability	0.058689	0.000000	0.000000	0.000000
Sum	5972.700	2681.600	7350.700	-121.4470
Sum Sq. Dev.	266536.7	79834.64	2877637.	16373.96
Observations	40	40	40	40

Source: Results from Eviews version 12.0/2025 data)

Based on the processing carried out by the researcher, it can be interpreted that for the Debt to Asset Ratio variable with a total of 40 data points from 4 industries over 10 years used as research samples, the average (mean), current ratio has been established as 0.505625, with a median of 0.435000. The values range from a minimum of 8.900000 to a maximum of 352.8000, and exhibit a standard deviation of 82.66968. In contrast, for the Debt to Asset Ratio variable, the mean is 67.04000, while the median stands at 59.65000.

Table 1 shows that variable X3 has 40 data points from 4 companies over 10 years used as research samples, the average Debt to Equity Ratio stands at 183.7675, with a median of 146.4000. The lowest value encountered is -194.5000, while the highest reaches 1676.500. The standard deviation here is 271.6350. Regarding the Return On Asset (ROA) data as analyzed, the mean is -3.036175 and the median is 0.645000. The minimum recorded value is -105.8300 and the maximum is 18.12000, accompanied by a standard deviation of 20.49012.

 DOI: https://doi.org/10.61242/ijabo.25.667

Hypothesis Testing: Panel Data Regression Analysis

Common Effect Model

Table 2. Common effect model

Dependent Variable : Y
Method : Panel Least Squares
Date : 11/22/25 Time : 15:12
Sample : 2015-2024
Periods included : 10
Cross-sections included : 4
Total panel (balanced) observations: 40

Variable	Coefficient	Std, Error	t-Statistic	Prob.
CROSSID	1.363404	2.161199	0.630855	0.5321
X1	0.061423	0.029150	2.107145	0.0421
X2	-	0.038006	-6.932439	0.0000
X3	0.263471	0.007354	0.622630	0.5375
	0.004579			

R-Squared	0.631871	Mean dependent	-3.036175
Adjusted R-Squared	0.601193	var	20.49012
S.E. of regression	12,93975	S.D. dependent var	8.053125
Sum squared resid	6027.738	Akaike info criterion	8.222013
Loq likelihood	-57.0625	Schwarz criterion	8.114189
Durbin-Watson stat	1.606804	Hannan-Quinn criter.	

Source: Results from Eviews version 12.0/2025 data)

Referring to Table 2 and utilizing the common effect model, the constant is 1.363404. The regression coefficients are as follows: Current Ratio at 0.061423, Debt to Asset Ratio at -0.263471, and Debt to Equity ratio at 0.004579. Therefore, the resulting regression equation is:

$$ROA = 1.363404 + 0.061423\ CR - 0.263471\ DAR + 0.004579\ DER$$

Fixed Effect Model

Table 3. Fixed effect model

Dependent Variable : Y
Method : Panel Least Squares
Date : 11/22/25 Time : 15:12
Sample : 2015-2024
Periods included : 10
Cross-sections included : 4
Total panel (balanced) observations: 40

Variable	Coefficient	Std, Error	t-Statistic	Prob.
CROSSID	1.363404	2.161199	0.630855	0.5321
X1	0.061423	0.029150	2.107145	0.0421
X2	-	0.038006	-6.932439	0.0000
X3	0.263471	0.007354	0.622630	0.5375
	0.004579			

 DOI: https://doi.org/10.61242/ijabo.25.667

R-Squared	0.631871	Mean dependent var	-3.036175
Adjusted R-Squared	0.601193	S.D. dependent var	20.49012
S.E. of regression	12,93975	Akaike info criterion	8.053125
Sum squared resid	6027.738	Schwarz criterion	8.222013
Loq likelihood	-57.0625	Hannan-Quinn criter.	8.114189
Durbin-Watson stat	1.606804		

Source: Results from Eviews version 12.0/2025 data)

Referring to Table 3 and employing the Fixed Effect Model, the constant is 20.075781. The regression coefficient for the Current Ratio is 0.005422. The Debt to asset Ratio displays a regression coefficient of -0.353622, and for the Debt to equity Ratio, the regression coefficient is -0.001169. Therefore, the resulting regression equation is:

$$ROA = 20.075781 + 0.005422\ CR - 0.353622\ DAR - 0.001169\ DER$$

Random Effect Model

Table 4. Random effect model

Dependent Variable : Y
Method: Panel EGLS (Cross-section random effects)
Date : 11/22/25 Time : 15:37
Sample : 2015-2024
Periods included : 10
Cross-sections included : 4
Total panel (balanced) observations: 40
Swamy and Arora estimator of component variances

Variable	Coefficient	Std, Error	t-Statistic	Prob.
C	21.25310	7.929054	2.680409	0.0110
X1	0.006634	0.029951	0.221499	0.8260
X2	-0.370417	0.054060	-6.851986	0.0000
X3	-0.007443	0.007443	-0.326876	0.7457

Effect Spesification		
	S.D	Rho
Cross-section random	1.70E-07	0.0000
Idiosyncraticrandom	12.23925	1.0000

Weighted statistics			
R-Squared	0.693530	Mean dependen var	-3.036175
Adjusted R-Squared	0.667991	S.D dependent var	20.49012
S.E. of regression	11.80646	Sumsquare resid	5018.129
F-statistic	27.15554	Durbin-watson stat	2.105525
Prob (F-statistic)	0.000000		

Underweight statistics			
R squares	0.693530	Mean dependen var	-3.036175
Sum square resid	5018.129	Durbin-watson stat	2.105525

Source: Results from Eviews version 12.0/2025 data)

 DOI: https://doi.org/10.61242/ijabo.25.667

In the Random Effect Model analysis, the constant is recorded as 21.25310. The regression coefficient for the Current Ratio is noted at 0.006634. Meanwhile, the Debt to asset ratio has a regression coefficient of -0.370417, and the Debt to Equity Ratio shows a regression coefficient of -0.002433. Therefore, the resulting regression equation is:

$$ROA = 21.25310 + 0.006634\ CR - 0.370417\ DAR - 0.002433\ DER$$

In this study, the model employed involves data processing via data panel regression, utilizing three methods: the Common Effect Model, Fixed effect Model and Random Effect Model. The first move is to identify the regression model that best fits the situation. This involves testing to evaluate model specifications and the alignment of theory with reality. Data processing is conducted electronically through the Eviews 12 application.

Chow Test

The Chow test is employed to determine whether it is more appropriate to analyze the data using ordinary linear regression analysis or through panel data. This is done by utilizing the probability results from the Chow test in conjunction with the redundant fixed effect test., one can choose the most fitting approach for data analysis. The hypothesis for this test is:
H0: Common Effect Model
Ha: Fixed Effect Model

Table 5. Chow test

Redundant Fixed Effect Tests Equation : Untitled Test cross-section fixed effects			
Effect Test	Statistic	d.f	Prob
Cross-section F	1.049735	(3.33)	0.3836
Cross-section Chi-square	3.645895	3	0.3023

Source: Results from Eviews version 12.0/2025 data)

The results of the Chow test for the Current Ratio, Debt to Asset Ratio, and Debt to Equity Ratio, that the probability value for the Cross section F test is 0.3836, which exceeds 0.05, indicating that the alternative hypothesis (Ha) is rejected, while the null hypothesis (H0) is accepted. which means that the Common effect Model approach is used. We can then proceed to the Lagrange Multiplier (LM Test).

Lagrange Multiplier (LM) test

The testing hypothesis used is:
H0: Common Effect Model
Ha: Random Effect Model

Table 6. LM test

Lagrange Multiplier Tests for Random Effect Null hypotheses: No effects Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives		
	Test Hypothesis	
	Cross-section	Time
Both		

 DOI: https://doi.org/10.61242/ijabo.25.667

Breusch-Pagan	0.525000 (0.4687)	0.454178 (0.5004)	0.979179 (0.3224)
Honda	-0.724569 (0.7656)	0.673928 (0.2502)	-0.035809 (0.5143)
King-Wu	-0.724569 90.7656)	0.673928 (0.2502)	-0.357794 (0.6398)
Standardized Honda	-0.350207 (0.6369)	0.824116 (0.2049)	-3.239927 (0.9994)
Standardized King-Wu	-0.350207 (0.6369)	0.824116 (0.2049)	-3.194222 (0.9993)
Gourieroux, et al.	--	--	0.454178 (0.4494)

Source: Results from Eviews version 12.0/2025 data)

The p-value (Probability Cross Section *Breusch-Pagan*) of 0.4687 > 0.05, therefore Common Effect Model has been chosen. According to the findings from both the Chow test and LM test, the Common Effect Model emerges as the most suitable model for this study.

Model Conclusion:

In examining the panel data model, the Common effect Model was employed to analyze the factors influencing the Return on Asset of pharmaceutical companies included in this study for the period 2015-2024.

Table 7. Panel data regression model testing conclusions

No	Method	Test	Result
1	*Chow-Test*	*Common Effect vs Fixed effect*	*Common Effect*
2	*LM Test*	*Common Effect vs Random effect*	*Common Effect*

Classical Assumption Test

The Common Effect Model has been chosen, so it's necessary to carry out a classical assumption test. However, with panel data regression, not every classical assumption test applicable to the *Ordinary Least Squares* (OLS) method is utilized. In this context, the classical assumption tests that are employed include checks for heteroscedasticity and multicollinearity (Napitupulu et al., 2021, p. 120).

Multicollinearity Test

Table 8. Multicollinearity test

	X1	X2	X3
X1	1.000000	-0.578888	-0.164355
X2	-0.578888	1.000000	-0.053921
X3	-0.164355	-0.053921	1.000000

Source: Results from Eviews version 12.0/2025 data)

 DOI: https://doi.org/10.61242/ijabo.25.667

The correlation coefficient between X1 and X2 is -0.578888 <0.85, between X1 and X3 is -0.164355 < 0.85, and between X2 and X3 is -0.053921 < 0.85. Hence, we can conclude that multicollinearity is not present, or that the multicollinearity test has been successfully passed (Napitupulu et al, 2021, p. 141).

Heteroscedasticity Test

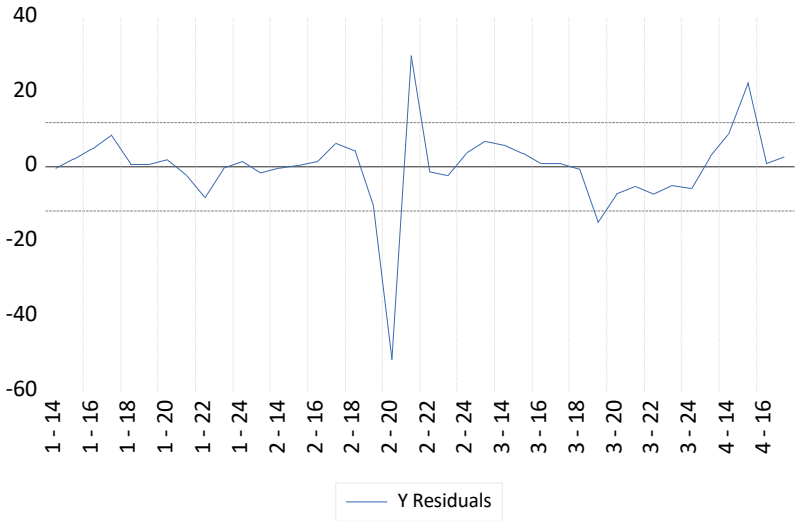

Figure 6. Heteroscedasticity Test
Source: Results from Eviews version 12.0/2025 data)

Observing the residual graph (in blue), it's clear that the residuals remain within the bounds of 500 and -500. This indicates a consistent residual variance, suggesting an absence of heteroscedasticity (Napitupulu et al., 2021, p. 143).

DISCUSSION

T-test result

Table 9. T-test result

Dependent Variable : Y
Method: Panel Least Squares
Date : 11/22/25 Time : 17.05
Sample : 2015-2024
Periods included : 10
Cross-sections included : 4
Total panel (balanced) observations: 40
Swamy and Arora estimator of component variances

Variable	Coefficient	Std, Error	t-Statistic	Prob.
C	21.25310	7.929054	2.680409	0.0110
X1	0.006634	0.029951	0.221499	0.8260
X2	-0.370417	0.054060	-6.851986	0.0000
X3	-0.007443	0.007443	-0.326876	0.7457

Source: Results from Eviews version 12.0/2025 data)

The influence of the independent variable on the dependent variable is outlined as follows: For the Current Ratio variable (X1), the t-test resulted in t-value of 0.221499 < t-table, which is 2.059538, and a sig. value of 0.8260 > 0.05, so Ha is rejected and H0 is accepted, indicating that the Current Ratio variable does not have a significant effect on ROA in pharmaceutical companies.

 DOI: https://doi.org/10.61242/ijabo.25.667

The t-test result for the Debt to Asset Ratio variable (X2) obtained a t-value of 6.851986 > the table t-value of 2.059538 and a sig. value of 0.0000 < 0.05, so H0 is rejected and Ha is accepted, meaning that the Debt to Asset Ratio variable has a significant effect on Return on Asset in pharmaceutical companies.

The t-test result for the Debt to Equity Ratio variable (X3) obtained a t-value of 0.326876 < t-table, which is 2.059538, and a sig value of 0.7457 > 0.05, so Ha is rejected and H0 is accepted, meaning that the Debt to Equity Ratio variable does not have a significant effect on Return on asset in pharmaceutical companies.

F-test result

Table 10. F-test result

R-squared	0.693530
Adjusted R-squared	0.667991
S.E of regression	11.80646
Sum squared resid	5018.129
Log likelihood	-153.3962
F-statistic	27.15554
Prob (F-statistic)	0.000000

Source: Results from Eviews version 12.0/2025 data)

The calculated F value is 27.15554 > the table F value of 2.866265 and the sig. value is 0.00000 < 0.05, so H0 is rejected and Ha is accepted, meaning that the Current Ratio, Debt to Asset Ratio and Debt to Equity Ratio variables have a significant simultaneous effect on the dependent variable Return on Asset in pharmaceutical companies.

Determination Coefficient test (R^2)

Table 11. Coefficient determination test result

R-squared	0.693530
Adjusted R-squared	0.667991
S.E of regression	11.80646
Sum squared resid	5018.129
Log likelihood	-153.3962
F-statistic	27.15554
Prob (F-statistic)	0.000000

Source: Results from Eviews version 12.0/2025 data)

The adjusted R Square stands at 0.667991 or 66.7991%. indicating that the independent variables, which include Current Ratio, Debt to Asset Ratio and Debt to Equity Ratio, account for 66.7991% of the variation in the Return on asset variable within Pharmaceutical Companies. The remaining 33.2009% (100-Adjusted R Square value) is atributed to other variables not considered in this research model.

CONCLUSIONS

Based on the research results and discussion, it can be deduced that the Current Ratio (X1) does not significant impact Return on Assets (Y). This is supported by the t-value test result of 0.221499 < t-table, which is 2.059538, and the sig. value is 0.8260 > 0.05, then Ha is rejected and H0 is accepted. Debt to Asset Ratio (X2) has a significant effect on Return on Asset (Y). Where from the test results, the t-value is 6.851986 > t-table, which is 2.059538, and the significance value is 0.0000 < 0.05, then H0 is rejected and Ha is accepted.

 DOI: https://doi.org/10.61242/ijabo.25.667

The Debt to Equity Ratio (X3) does not have a significant effect on Return on Asset (Y). From the test results, the t-value is 0.326876 < t-table, which is 2.059538, and the sig value is 0.7457 > 0.05, so Ha is rejected and H0 is accepted. The insignificant effect of Current Ratio implies that short-term liquidity is not a direct driver of a pharmaceutical company's ability to profit from its assets. From a managerial standpoint, this suggests that maintaining high levels of current assets, like cash and inventories, doesn't automatically boost operational efficiency. Given the capital-intensive nature of the pharmaceutical field, where production and distribution cycles are lengthy, surplus cash and inventory often remain underutilized in the short term, thus not contributing significantly to asset profitability. This aligns with findings by Purnasari & Damayanti (2024) that indicate CR has no significant impact on ROA.

Conversely, Debt to Asset Ratio notably affects Return on Asset, supporting the conclusions drawn by Puspitasari (2021) and Rendra et al. (2021). This underscores the importance of debt financing in maximizing asset utilization for operational and growth activities, thereby increasing profitability. Nonetheless, these results also highlight the necessity for prudent debt management, as excessive leverage can elevate financial risk and interest costs, potentially diminishing firm performance. The non-significant impact of Debt to Equity Ratio hints that the Debt to Equity Ratio does not have a direct effect on the efficiency of assets in generating profits. This partly resonates with findings by Satria, (2022) and Puspitasari (2021) which observed a negative yet significant connection between Debt to Equity Ratio and Return on Asset. In the pharmaceutical industry, this could result from long-term investments, especially in R&D, where financial returns are not immediately visible in short-term earnings. Thus, shifts in capital structure might not instantly influence Return on Asset.

Comparing to past research, these findings display mixed alignment with existing studies. The lack of significant Current Ratio impact supports theories suggesting that too much liquidity might lead to inefficiencies without always boosting profitability. The positive significant influence of DAR is in line with trade-off theory and capital structure theory, which propose that leverage can enhance firm performance to a certain optimal level. Meanwhile, the non-significant effect of Debt to Equity Ratio contrasts with studies showing a negative impact, highlighting that the relationship between capital structure and profitability is context-specific, fluctuating across industries and study periods.

This study contributes by enriching the empirical literature concerning profitability in the Indonesian pharmaceutical subsector, a less explored area. It specifically shows that total leverage, as measured by Debt to Asset Ratio, better explains variations in Return on Asset compared to liquidity or capital structure ratios measured by Current Ratio and Debt to Equity Ratio, indicating that not all financial ratios equally impact corporate profitability. Practically speaking, the findings suggest pharmaceutical managers should emphasize efficient debt management over merely enhancing liquidity or adjusting capital structures. For investors, Debt to Asset Ratio becomes a pivotal indicator of potential profitability and financial risk. Moreover, regulators and market authorities might use these findings to shape policies that advocate for transparency and oversee corporate financing and leverage, especially in high-risk, capital-heavy sectors like pharmaceuticals. That said, the study has certain limitations. It focuses on three financial ratios, excluding factors such as company size, sales growth, R&D intensity, and broader economic conditions that might also impact Return on Asset. Additionally, the sample is limited to pharmaceutical companies listed in Indonesia, which might restrict the generalizability of the results to other sectors or international scenarios. These limitations present opportunities for future research to expand on variables, observation

 DOI: https://doi.org/10.61242/ijabo.25.667

periods, and analytical frameworks for a more comprehensive understanding of the factors influencing corporate profitability.

REFERENCES

Alfanti, R. N., Herlinawati, E., & Wijaya, F. (2024). Pengaruh Non Performing Loan (NPL), Biaya Operasional Pendapatan Operasional (BOPO), Net Interest Margin (NIM), Debt to Equity Ratio (DER) terhadap Return On Asset (ROA) pada Bank KB Bukopin periode 2012-2022. *JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi)*, *10*(1), 445–453.

Anisya, Salwa; Herlina, Listri; Winarnugroho, I. (n.d.). *Pengaruh Current Ratio, Debt to Asset Ratio, dan Total Asset Turnover Terhadap Return on Asset Pada PT IndoFarma (INAF) Tbk Periode 2014 - 2023*.https://doi.org/ 10.47747/jism

Chaniago, H., Muharam, H., & Efawati, Y. (2023). Metode Riset Bisnis dan Permodelan. *Bandung: Edukasi Riset Digital, PT*.

Darmawan, (2020). *Dasar-dasar Memahami Rasio dan Laporan Keuangan*. UNY Press.

Ghozali, I., & Ratmono, D. (2017). *Analisis Multivariat dan Ekonomi Teori, Aplikasi dan Konsep dengan eviews 10 Edisi 2*. Badan Penerbit Universitas Diponegoro.

Hasanah, A., & Enggariyanto, D. (2018). Analisis faktor-faktor yang mempengaruhi return on asset pada perusahaan manufaktur yang terdaftar di bursa efek Indonesia. *Journal of Applied Managerial Accounting*, *2*(1), 15–25.

Hasibuan, M. S. P. (2019). *Manajemen: Dasar, Pengertian, dan Masalah*. Bumi Aksara.

Hery. (2018). *Pengantar Manajemen Cetakan pertama*. PT. Grasindo.

Kasmir. (2018). *Analisis Laporan Keuangan*. PT. Raja Grafindo Persada.

Kasmir. (2019). *Analisis Laporan Keuangan (Edisi 1).* (Cetakan Ke). PT. Raja Grafindo Persada.

Kasmir. (2021). *Analisis Laporan Keuangan Edisi Revisi*. PT Raja Grafindo Persada

Moh. Saiful Hakiki, S. T. M. M. T., drh. Dwi Aprilia Anggraini, M. V, Riyan Sisiawan Putra, S. E. M. S. M., Denis Fidita Karya, S. S. M. M., & Mohamad Rijal Iskandar Zhulqurnain, S. M. M. C. (2023). *Buku Ajar Manajemen Keuangan 1A Konsep-Konsep Dan Studi Kasus Dalam Bidang Keuangan*. Uwais Inspirasi Indonesia .

Muhyiddin. (2018). *Metodologi Penelitian Ekonimi & Sosial: Teori, Konsep, dan Rencana Proposal* (Cetakan Ke). Salemba Empat.

Napitupulu, R. B., Simanjuntak, T. P., Hutabarat, L., Damanik, H., Harianja, H., Sirait, R. T. M., Tobing, L., & Ria, C. E. (2021). *Penelitian Bisnis, Teknik dan Analisa dengan SPSS-STATA-Eviews* (1 ed). Madenatera.

Oktaviani, F., Suryaningprang, A., Herlinawati, E., & Sudaryo, Y. (2022). Pengaruh CR, QR, DER dan TATO terhadap ROA PT Pyridam Farma Tbk Periode 2012-2021. *Journal of Business, Finance, and Economics (JBFE)*, *3*(2).https://doi.org/ 10.32585/jbfe. v3i2.3474

Puspitasari, E., & Keuangan, J. M. (2021). Pengaruh Current Ratio (Cr), Debt To Asset Ratio (Dar) Dan Debt To Equity Ratio (Der) Terhadap Return On Asset (Roa) Pada Perusahaan Manufaktur Sub Sektor Food And Beverage Yang Terdaftar Di Bursa Efek Indonesia (Bei) Periode 2015-2019. *Journal of Business, Finance, and Economics (JBFE)*, *2*(1). https://doi.org/ 10.32585/jbfe.

Satria, R. (2022). Pengaruh Current Ratio (Cr) Dan Debt To Equity Ratio (Der) Terhadap Return On Asset (Roa) Pada Pt Mayora Indah Tbk Periode 2009 – 2020. *Scientific Journal Of Reflection*, *Vol 5 No 2*.https://doi.org/1 0.37481/sjr.v5i2

Sinamo, M. A., Sudaryo, Y., Ismail, G. D., Suryaningprang, A., Supiyadi, D., & Aziz, D. A. (2024). The influence of current ratio (CR), debt to assets ratio (DAR), debt to equity ratio (DER), total assets turnover (TATO) on return on assets (ROA) in swarga farma pharmacies. *Jurnal Scientia*, *13*(01), 832–847.https://doi.org/ 10.58471/scien tia.v13i01.226 3

Sudaryo, Yoyo., dkk. (2017). *Keuangan Di Era Otonomi Daerah*. ANDI.

Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

 DOI: https://doi.org/10.61242/ijabo.25.667