The Effect of Debt to Equity Ratio and Current Ratio on Return on Assets

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Abstract: The purpose of this study is to see how the Debt To Equity Ratio and Current Ratio affect the Return On Assets in pharmaceutical sub-sector manufacturing companies listed on the IDX from 2015 to 2019. Purposive sampling was used to determine the sample size in this study. Verificative and descriptive approaches were used in this study. Quantitative data analysis was used in this study. Based on the results of the partial test, it shows that the Debt To Equity Ratio has a significant negative effect on Return On Assets, and the Current Ratio has a significant positive effect on Return On Assets in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019. Simultaneously, the Debt To Equity Ratio and Current Ratio have a significant positive effect on Profitability (ROA) in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the Indonesia Stock Exchange in 2015-2019. The percentage contribution of the influence of Debt To Equity Ratio and Current Ratio to Return On Assets is 25%, while the remaining 75% can be explained by other factors not examined in this study.
Introduction

Companies are growing rapidly in Indonesia from year to year. The pharmaceutical business is one of the main drivers of the Indonesian economy, due to the relatively favorable economic context in which they operate (Ministry of Industry, 2019). Medicines, medical devices, and other chemicals are among the items manufactured by pharmaceutical companies. Indonesia's pharmaceutical business is one of the fastest growing in the ASEAN region, with the largest pharmaceutical market. The issuance of the Foreign Investment Law (PMA) in 1967 and the Domestic Investment Law (PMDN) in 1968, which encouraged the development of Indonesia's pharmaceutical sector to date (DPR RI, 2007), is a very big milestone in Indonesia. According to industry, one of the government's priority industries in the fourth industrial revolution is pharmaceuticals (Industry 4.0).

The growth of pharmaceutical companies in Indonesia slowed due to rising prices, currency depreciation, and a decline in foreign investment. In addition to a weakening currency, rising electricity prices and rising minimum wages have put pressure on domestic and international pharmaceutical companies. Financial reports are types of accounting reports that provide information in the form of financial data to assist interested parties in making choices. Investors who want to invest in a company will check its financial accounts to determine how far it is progressing. Profitability is a metric that assesses a company's ability to generate profits in terms of sales, assets, and return on equity.

Thus, long-term investors will be very interested in this profitability analysis, for example, shareholders will see the profits that will actually be received in the form of dividends (Mboka, 2020).

Return On Assets is one that assesses a company's capacity to generate profits by utilizing its total assets. The higher the profitability ratio, the greater the company's ability to earn profits that contribute to improving financial performance. The following is the average Return on Assets of Manufacturing Companies in the Pharmaceutical Sub-Sector Listed on the Indonesia Stock Exchange from 2015 to 2019.

Figure 1 explains that in the 2015-2019 period, the average return on assets of manufacturing companies in the pharmaceutical sub-sector listed on the IDX has changed. In
2016, 2017, and 2019, the return on investment fell. In 2018, Return On Assets increased. The largest decline in Return On Assets from the previous year was 10.32 percent in 2019. In the five years from 2015 to 2019, the average return on assets of pharmaceutical manufacturing companies listed on the Indonesia Stock Exchange was 11.16 percent. If the industry average for Return On Assets is 30%, then the company's annual profit is lower than the industry average.

Debt to Equity Ratio and Current Ratio are two characteristics that have an impact on the company's Return On Assets. The Debt to Equity Ratio is a useful tool for determining the amount of funds provided by creditors and company owners. In other words, it is the debt-to-equity ratio. When calculating this ratio, all debt, including current debt, is compared to total equity. If the company's leverage increases, it will have a negative effect on the company's profitability.

The higher the level of company leverage, the more the company will try to keep its profitability high. This is because the company's high level of profitability indicates a healthy and strong financial condition. However, if the company's leverage level is not regulated until it cannot be paid off, then the company will face risks in the future (Sari, 2019). The average Debt to Equity Ratio of Manufacturing Companies in the Pharmaceutical Sub-Sector Listed on the Indonesia Stock Exchange in 2015-2019 from 8 companies, as follows:

![Average Debt to Equity Ratio (DER)](https://equatorscience.com/index.php/jabter)

Figure 2. Average Debt to Equity Ratio (DER) Listed Pharmaceutical Sub-Sector Manufacturing Companies on IDX in 2015-2019

Figure 2 describes the DER increasing every year, as can be observed. DER grew by 1.47 percent in 2016, 9.89 percent in 2017, 21.28 percent in 2018, and 14.67 percent in 2019. DER has an average value of 98.14. If the industry average for DER is 80%, the average DER of the Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX from 2015 to 2019 is still higher than the industry average.

When the company's debt is high, which can be seen from a high DER, the company's profitability will also increase. This is due to the use of debt to grow market share, thereby increasing profitability.

In addition to the Debt to Equity Ratio, Current Ratio is a factor that affects the company's profitability. Liquidity is described as the company's ability to meet short-term financial obligations or obligations that must be paid immediately.
The level of the company's Current Ratio can be measured by the company's working capital position from the profits earned in a certain period where the capital can show the level of security of short-term obligations. The company's short-term obligations are often met by using current assets such as cash, receivables, securities, or inventories. Companies that have large current assets will find it easier to fund their operational activities if additional funding is needed (Sumardewi, 2019).

Average Current Ratio in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019 from 8 companies, as follows:

Figure 3. Average Current Ratio in manufacturing companies Pharmaceutical Sub-Sector Listed on IDX 2015-2019

Figure 3 shows that the Current Ratio has decreased throughout 2015-2019. In 2016 the Current Ratio decreased by 14.8%, in 2017 by 11.33%, and in 2018 by 71.42%. The average value of CR reaches a value of 300.41%. If the industry average value for the Current Ratio is 200%, this shows that the average Current Ratio in the Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019 is already above the industry average. A number of previous studies regarding the relationship between the influence of leverage and liquidity on profitability have been carried out by several researchers. The results of this study are supported by research by Enggarwati (2016), and Mboka (2017), which state that the Debt To Equity Ratio has an influence on profitability. This is inversely proportional to the research conducted by Supriyadi (2015), which states that it has no significant effect on profitability. The results of research conducted by Wahyuni (2018), and Wedyaningsih (2019), the results show that the Current Ratio has an effect on Profitability. This is inversely proportional to the research conducted by Supardi, (2016), that the Current Ratio has no effect on profitability.

Hypothesis test

H1 = There is an effect of the Debt to Equity Ratio on Return On Assets in Manufacturing Companies of the Pharmaceutical Sub-Sector Listed on the IDX in 2015-2019.

H2 = There is an effect of the Current Ratio on Return On Assets in Manufacturing Companies of the Pharmaceutical Sub-Sector Listed on the IDX in 2015-2019.

H3 = There is an effect of Debt to Equity Ratio and Current Ratio on Return On Assets in Manufacturing Companies of the Pharmaceutical Sub-Sector Listed on the IDX in 2015-2019.
Research Method

Leverage

leverage ratio is a measure of how much the company is financed with debt. Irham Fahmi (2015)

The leverage indicator is

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

Liquidity

The liquidity ratio is a ratio that shows the company's ability to meet its obligations to pay its short-term debt. Harry (2015:175)

Liquidity indicators are

\[ \text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liability}} \]

Profitability

Profitability ratio measures the company's ability to generate profits by using the company's resources. Sudana (2011:22)

The indicators of dividend policy are:

\[ \text{ROA} = \frac{\text{Net Profit}}{\text{Total Asset}} \]

In this study, the author uses quantitative methods with descriptive and associative research approaches, because of the variables that will be examined in relation to it and the aim is to present a structured, factual picture of the facts of the relationship between the variables studied.

In this study, the population is pharmaceutical sub-sector manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2015-2019 period. The number of this population is 10 companies and not all of them will be used as objects of research so it is necessary to take samples.

The sampling technique used is purposive sampling technique. Purposive sampling is a sampling technique with certain considerations. The researcher selects the sample based on...
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2. Laporan keuangan lengkap menyajikan data atau rasio-rasio yang dibutuhkan dalam penelitian.

Pada penelitian ini sampelnya adalah perusahaan manufaktur sub sektor farmasi yang terdaftar di Bursa Efek Indonesia (BEI) periode tahun 2015-2019 berjumlah 8 perusahaan.

Variabel yang digunakan dalam penelitian ini adalah variabel independen dan variabel dependen:

1. Variabel Independen (variabel bebas)
   Variabel independent (bebas) menurut Sugiyono (2018: 68) yaitu variabel yang mempengaruhi atau yang menjadi sebab perubahannya atau timbulnya variabel dependent (terikat). Pada penelitian ini yang menjadi variabel bebas adalah Debt to Equity Ratio dan Current Ratio.

2. Variabel Dependen (variabel terikat)
   Variabel dependent merupakan variabel yang dipengaruhi atau yang menjadi akibat, karena adanya variabel bebas (Sugiyono, 2018: 68). Pada penelitian ini yang menjadi variabel terikat adalah Return On Assets.

The data source is secondary data. This secondary data is data that supports purposes such as books, literature and readings related to and supporting this research. The ways to obtain data and information in this research are as follows: library research. The author also tries to collect, study, and examine secondary data related to the object that the author will examine. This method is carried out by recording or collecting data taken from the official website of the Indonesia Stock Exchange which is accessed through www.idx.co.id in the form of an Annual Report.

Methods of data analysis carried out include: (1) Descriptive statistics, this analysis is used to provide a description of the research variables (dependent variable (Return On Assets), independent variable (Debt to Equity Ratio) and Current Ratio) seen from the average value (mean), standard deviation, maximum, minimum. (2) Classical assumption testing, classical assumption testing is carried out to determine the condition of the existing data in order to determine the appropriate analysis model (normality, multicollinearity, heteroscedasticity, and autocorrelation) (3) Multiple linear regression analysis. (4) Multiple correlation test (5) Coefficient of determination. (6) Hypothesis Testing (t-test and F-test).

Result and Discussion

Based on the Current Ratio data, Debt to Equity Ratio and Return On Assets, the data are recapitulated and processed using SPSS 22 software and then analyzed using the Classical
Assumption Test, Multiple Linear Regression Analysis, Correlation Test, Determination Test, t Test and Simultaneous Test. Descriptive statistics are used to provide a description or descriptive of a data seen from the average value (mean), minimum value, maximum value, and standard deviation of the research data, the results of descriptive analysis of the data can be seen in table 1

<table>
<thead>
<tr>
<th>Table 1. Descriptive Statistical Results</th>
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<tbody>
<tr>
<td>N</td>
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<tr>
<td>DER</td>
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<tr>
<td>CR</td>
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<tr>
<td>ROA</td>
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<td>Valid N (listwise)</td>
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</table>

Source : SPSS v.22 output results data processed 2021

**Debt to Equity Ratio (DER)**
1) DER has a minimum value of 8%. The results showed that the lowest DER was in Sido Muncul Tbk's Herbal & Pharmaceutical Industry in 2015 and 2016.
2) DER has a maximum value of 233%. The results showed the highest DER at the company Kalbe Farma Tbk in 2018.
3) DER has an average value (mean) for 5 years of 86.65%.
4) DER has a standard deviation value of 72.17% which is smaller than the mean 86.65%, a standard deviation that is smaller than the mean indicates a small distribution of data variables or the absence of a large enough gap between the lowest and highest DER ratios.

**Current Ratio (CR)**
1) CR has a minimum value of 41%. The results showed the lowest CR at the Sido Muncul Tbk Herbal & Pharmaceutical Industry Company in 2019.
2) CR has a maximum value of 465.77%. The results showed the highest CR at the Kalbe Farma Tbk company in 2018.
3) CR has an average value (mean) for 5 years of 238.44 %.
4) CR has a standard deviation of 120.29 % which is smaller than the mean of 238.44 %, a standard deviation that is smaller than the mean indicates a small distribution of data variables or the absence of a large enough gap from the lowest and highest CR.

**Return On Assets (ROA)**
1) ROA has a minimum value of -3.02%. The results showed the lowest ROA at the Indofarma (Persero) Tbk company in 2017.
2) ROA has a maximum value of 22.80%. The results showed the highest ROA at the Sido Muncul Tbk Herbal & Pharmaceutical Industry company in 2019.
3) ROA has an average value (mean) for 5 years of 9.00 %.
4) ROA has a standard deviation of 6.95 % which is smaller than the mean of 9.00 %, a standard deviation that is smaller than the mean indicates a small distribution of data variables or the absence of a large enough gap between the lowest and highest ROA.
1. Normality test *Monte Carlo Sig.* (2-tailed) 0.141
2. Multicollinearity Test (mark Tolerance and VIF) 0.956 and 1.047
3. Heteroscedasticity Test (Glejser Test) Sig 0.589 and 0.852
4. Autocorrelation Test (Durbin-Watson value) 0.629

Source: SPSS version 22 output results, data processed 2021

The results of the normality test can be seen in table 4.2, that the normality value of the data is shown from the value of Monte Carlo Sig. (2-tailed) of 0.141. If the value of Monte Carlo Sig. (2-tailed) of 0.141 > alpha (0.05), it can be stated that the data comes from a normally distributed population. DER and CR variable tolerance value is 0.956. The variable VIF value is 1.047. If the tolerance value for each variable is > 0.10, and the VIF value is between numbers 1–10, then the model is declared free from multicollinearity symptoms. This means that the independent variables are not related or there is no correlation between the independent variables. The Glejser test proposes to regress the absolute value of the residual on the independent variable. Probability results are said to be significant if the significance value is above the 5 % confidence level or the significance value is > alpha (0.05), then it can be said that the research data is free from heteroscedasticity symptoms. Durbin-Watson value is 0.629, the D-W number is between -2 to +2. This indicates that there is no autocorrelation in the regression equation.

| Table 3. Multiple Linear Regression Coefficient |
|-----------------------------|---------------------|-----------------|-----------------|-----------------------------|
| coef. | Std. | t | F | R | R Square | Sign. |
| Constant | 7,814 | 2,396 | | | | |
| DER | -0.042 | 0.011 | -2.924 | | | 0.002 |
| CR | 0,020 | 0.128 | 2.347 | | | 0,006 |
| DER, CR | 5,842 | 0.500 | 0.250 | | | 0.006 |

Source: SPSS version 22 output results, data processed in 2021

Based on the value of constants t and a n k o e f i s i e n r e g r e si in table 4.3 above, the equation form of linear regression model is obtained multiple as follows:

Y = a + b1.X1 + b2.X2 + e

Y = 7.814 - 0.042DER + 0.020 CR + e

The numbers in the multiple linear regression equation can be interpreted that:

1. The constant value (α) is 7.814, meaning that if DER and CR are assumed to be zero, then the ROA variable will have a positive value of 7.814.
2. The regression coefficient value of DER (β1) has a negative value of 0.042, meaning that each increase of one DER unit will decrease ROA by 0.042 assuming other variables are fixed.
3. The regression coefficient value of the CR variable (β2) is positive at 0.020, meaning that every increase of one CR unit, will increase ROA by 0.020 assuming other variables are fixed.

The double correlation with the R number of 0.500, indicates that the relationship between the independent variables, namely DER and CR with the dependent variable, namely ROA is quite strong (within the interval 0.400-0.599). The value of R Square is 0.250, meaning that the percentage contribution of the influence of DER and CR to ROA is 25%, while the remaining 75% can be explained by other factors not examined in this study.

The DER variable has a tcount value greater than the ttable value (-2.924 > 2.028) and a significance level less than 0.05 (0.006 < 0.05). This shows that the DER variable has a significant negative effect on ROA in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019, the hypothesis (H1) is accepted. The CR variable has a tcount value that is greater than the ttable value (2.347 > 2.028), and a significance level that is smaller than 0.05 (0.025 < 0.05). This shows that the CR variable has a significant positive effect on ROA in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019, the hypothesis (H2) is accepted. The value of Fcount is 5.842 with a probability value (sig) = 0.000. The value of Fcount (5.842 > Ftable (3.259), and the value of sig is smaller than the probability value of 0.05 or the value of 0.006 <0.05. It means that simultaneously (simultaneous) DER and CR have a significant positive effect on ROA.

1. The Effect of Debt to Equity Ratio on Return On Assets in Manufacturing Companies Listed in the Pharmaceutical Sub-Sector on the IDX in 2015-2019

The regression coefficient value of DER (β1) has a negative value of 0.042, meaning that each increase of one DER unit will decrease ROA by 0.042 assuming other variables are fixed. By partial test (t test), it is known that DER has a tcount value greater than the ttable value (-2.924 > 2.028) and a significance level less than 0.05 (0.006 < 0.05). This shows that the DER variable has a significant negative effect on Return On Assets in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019, the hypothesis (H1) is accepted.

This study is in line with the results of research by Mboka and Cahyono (2019), which states that, partially, there is an effect of the Debt to Equity Ratio on profitability.

Thus, based on the results of this study, DER has a negative and significant effect on Return On Assets. This indicates that DER is one of the factors that affect Return On Assets. The higher the debt to equity ratio means the smaller the amount of owner's capital that can be used as debt security. The smaller the amount of capital owned the company can have a greater impact on the company's burden on creditors. The amount of debt burden borne by the company can reduce the amount of profit earned by the company.
2. The Effect of Current Ratio on Return On Assets in Manufacturing Companies of the Pharmaceutical Sub-Sector Listed on the IDX in 2015-2019

The value of the regression coefficient CR (β2) is positive at 0.020, meaning that every increase in one CR unit will increase ROA by 0.020 assuming other variables are fixed. CR has a tcount value that is greater than the ttable value (2.347 < 2.028), and a significance level that is smaller than 0.05 (0.025 < 0.05). This shows that the CR variable has a significant positive effect on ROA in Pharmaceutical Sub-Sector Manufacturing Companies Listed on the IDX in 2015-2019, the hypothesis (H2) is accepted.

This study is in line with the results of research by Sari (2019), and Surya Kusuma (2018) explaining that, the Current Ratio has a significant positive effect on the profitability of the company. This indicates that the Debt to Asset Ratio is one of the factors that affect Return On Assets.

Current Ratio will result in a high Return On Assets because a high current ratio value indicates that the availability of current assets to pay off current liabilities is also high. The higher level of liquidity can increase the credibility of the company which causes a positive reaction from investors to provide capital that can be used by the company for investment in an effort to increase profitability.

3. The Influence of Debt to Equity Ratio and Current Ratio on Return On Assets in Manufacturing Companies of the Pharmaceutical Sub-Sector Listed on the IDX in 2015-2019

Simultaneous testing (F test), obtained the Fcount value of 5.842 with a probability value (sig) = 0.000. The value of Fcount (5.842 > Ftable (3.259), and the value of sig is smaller than the probability value of 0.05 or the value of 0.006 <0.05. It means that simultaneously (simultaneous) DER and CR have a significant positive effect on ROA.

This study is in line with the results of Wahyuni's research (2018), explaining that, Current Ratio and Debt to Equity Ratio have a significant and significant effect on Return On Assets. Thus, based on the results of this study, DER and CR simultaneously have a positive and significant effect on Return On Assets. This indicates that DER and CR together are one of the factors that affect Return On Assets. The higher the company's DER and CR will affect the company's ability to generate profits.

Based on the correlation test, it has an R value of 0.500, indicating that the relationship between the independent variables, namely DER and CR with the dependent variable, namely ROA is quite strong (within the interval 0.400-0.599), and R Square is 0.250, meaning that the percentage contribution of the influence of DER and CR to ROA is equal to 25%, while the remaining 75% can be explained by other factors not examined in this study.

Conclusion

Based on the results of data analysis and discussion that has been described, the conclusion of this study is that the Debt to Equity Ratio partially has a significant negative effect on the Return On Assets hypothesis (H1) is accepted, the Current Ratio partially has a significant positive effect on the Return On Assets hypothesis (H2) is accepted, the Debt to
Equity Ratio and Current Ratio simultaneously have a significant positive effect on the Return On Assets hypothesis (H3) is accepted. The magnitude of the influence of the Debt to Equity Ratio and Current Ratio on Return On Assets is 0.250, meaning that the percentage contribution of the influence of DER and CR to ROA is 25%, while the remaining 75% can be explained by other factors not examined in this study.

Based on the conclusions that have been described previously, the authors can provide suggestions, namely From the results of research DER and CR affect ROA. It is recommended for companies to pay attention to the level of company leverage, namely by optimizing the use of funds obtained from short-term and long-term debt, both current assets and fixed assets for company operations so that the burden on the company is not too heavy. For investors, investors should be able to consider the factors that affect the company's profitability before making investment decisions so that investors can minimize the risk of loss and should conduct a review of the company in question. For the next researcher, the variables studied should be reproduced beyond the existing variables, the period and observations to be further extended.

References


https://equatorscience.com/index.php/jabter
Susilawati, et al.


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