

The Influence of ROA, ROE, CR, and DER, on Stock Returns of Non-Banking Companies Listed on the LQ-45 Index and the Sri-Kehati Index on the Indonesian Stock Exchange 2019–2023

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Abstract

When investing, investors really need certain indicators to assess the company whose shares will be purchased. These indicators are analysis of financial ratios such as Profitability Ratios where only two ratios are taken, namely Return on Assets (ROA) and Return on Equity (ROE). Apart from the Profitability Ratio, the Liquidity Ratio, namely the Current Ratio (CR) and the Solvency Ratio, namely the Debt to Equity Ratio (DER) as an indicator of the health of a company. In this research, the author uses panel data regression analysis which consists of time series data and also cross-section data, where the independent variable is regressed on the dependent variable, namely stock returns. The author chose the independent variables using Profitability Ratios where the author chose from these ratios for this research the Return on Assets (ROA) Ratio and the Return on Equity (ROE) Ratio. Meanwhile, for the Liquidity Ratio, the Current Ratio (CR) is chosen and for the Solvency Ratio, the Debt to Equity Ratio (DER). The independent variables consisting of ROA, ROE, and DER have a probability value greater than the significance level of 5% so this can be interpreted as meaning that the independent variables ROA, ROE, and DER have no influence on the dependent variable, namely stock returns. However, for CR, which is also an independent variable, the probability value is 0.0008, which is smaller than the 5% significance level, so it can be concluded that CR has an effect on the dependent variable.

Keywords

Stock Return, Return on Asset, Return on Equity, Current Ratio, Debt to Equity Ratio.



I. Introduction

One of the meeting places for investors, both local and foreign, is the stock exchange or also known as the capital market. In investing, all investors who play on the stock exchange definitely have the desire to obtain a high return (profit rate), but a high stock return also carries high risk and also stock returns are full of uncertainty which can suddenly rise or fall sharply. -arrive. Uncertainty in determining stock returns is greatly influenced by share price fluctuations which can rise and fall very quickly (Mladjenovic, 2024). One investment option can be done through the capital market. Logue (2016), explains that the capital market is a meeting place for parties who have excess funds and parties who need funds to buy and sell securities which generally have a lifespan of more than one year, such as shares. Investors' hopes in investing in shares are apart from being the owner of a company with a certain proportional ownership, the shares invested are expected to be able to provide a certain level of return. Return is the level of profit enjoyed by investors on an investment they make. If an investor invests in shares, the level of profit he obtains is called stock return. The return on shares of an investment comes from yield or dividends and capital gains (loss). Yield is a return that reflects cash flow or income

obtained periodically. Capital gain (loss) is the return obtained from the increase (decrease) in the value of securities. If the share price at the end of the period exceeds the share price at the beginning of the period, the investor is said to have received a capital gain and the investor is said to have received a capital loss if the opposite happens (Schultz, 2016).

Capital market players can come from individual retail investors, institutional investors (for example pension funds, investor groups, banks and various other institutions). Investing in shares is basically the same as investing anywhere because in principle investment is the activity of placing a certain amount of money or funds in the present and hoping for a profit in the future from the money invested (Strumeyer, 2017). Many companies enter the stock exchange with the aim of strengthening their capital structure because in the capital market, companies can seek additional cash or capital through debt instruments or equity instruments. One of the advantages of a company entering the stock exchange is that the company profile will be easily seen directly by potential investors who are interested in placing their funds in the company, and also by entering the stock exchange, the company has the potential opportunity to build relationships with investors or other companies.

The fair price of shares is generally formed based on the law of supply and demand on the stock exchange. If demand from investors increases for shares of a particular company, the share price will naturally also increase. Likewise, if many investors release and sell certain shares, the price will be corrected down. Apart from the laws of supply and demand, internal and external aspects can also determine and shape prices. Internal aspects are those related to things that come from the company itself, for example, among other things, an increase in company profits, corporate actions. External aspects are things that come from outside the company, where usually these aspects are difficult to predict and handle. Examples include political, economic, socio-cultural issues, government policies, interest rates, currency rates, rumors, market sentiment and even speculators who have large capital (Umiyati et. al., 2023). In general, although there are many aspects that can influence share prices, either coming from within the company itself or coming from outside the company as explained previously, however, for an investor who wants to invest in the stock exchange, experience and consideration are needed. mature and requires reliable and relevant information that can explain the company's actual performance. Thus, investors must also have reliable and relevant information to use as a basis for decision making. Currently, data or information that can be trusted and relevant is the Financial Report to assess the company's business performance.

When investing, investors really need certain indicators to assess the company whose shares will be purchased. These indicators are analysis of financial ratios such as Profitability Ratios where only two ratios are taken, namely Return on Assets (ROA) and Return on Equity (ROE). Apart from the Profitability Ratio, the Liquidity Ratio, namely the Current Ratio (CR) and the Solvency Ratio, namely the Debt to Equity Ratio (DER) as an indicator of the health of a company. Financial ratio analysis has been widely used by the public and investors, currently many companies generally use financial ratio analysis such as ROA, ROE, CR and DER. The author took the object of his research, namely non-banking companies listed on the LQ-45 Index and the Sri-Kehati Index on the Indonesia Stock Exchange in 2019 - 2023. The LQ-45 Index is an index for blue chip shares and its trading is the most liquid. The Sri-Kehati Index is based on the principle of Sustainable Responsible Investment (SRI) and ESG (Environmental, Social and Good Governance) as its reference.

II. Review of Literatures

2.1 Return on Asset (ROA)

Blokdyk (2020) believes that ROA is an analytical tool to find out how far a company is able to use all the assets it owns to create profits. The ROA formula is:

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}} \times 100\%$$

Based on the formula above, ROA can be interpreted as a measuring tool used to determine how capable management is in creating company profits based on the use of assets owned by the company. In other words, if the ROA value is high, then the company is assumed to have implemented performance and used assets well. On the other hand, if the ROA value is low, it can be concluded that the company has not provided good performance and the utilization of assets is arguably not good.

2.2 Return on Equity (ROE)

ROE is used with the aim of finding out how efficient the company is in using funds from shareholders to create profits. Meanwhile, according to Belmonte (2015), ROE is usually calculated by net profit divided by ordinary shareholder capital. By drawing conclusions from these two opinions, it can be assumed that the Return on Equity Ratio is a ratio that measures the amount of capital contribution, especially from shareholders, to the creation of net profit or profit after tax. In other words, ROE calculates how much profit a company can create based on the amount of capital invested by shareholders. Basically, ROE is only calculated for common shareholders and does not include preferred shareholders. This is because preferred dividends will usually be excluded from the net profit calculation. The ROE formula is:

$$ROE = \frac{\text{Net Income}}{\text{Total Equity}} \times 100\%$$

Based on this formula, ROE is a measuring tool to determine management's ability to create the company's net profit based on the use of capital or equity owned by the company. This means that if the value of ROE is high, then the company is assumed to have implemented performance and used equity well. On the other hand, if the ROE value is low, it can be concluded that the company has not provided good performance and the use of equity can be considered not good.

2.3 Current Ratio (CR)

Coulon (2019) argues that "The current ratio is the most commonly used measure to determine the ability to meet short-term obligations because this ratio shows how far the demands of short-term creditors are met by assets that are expected to become cash in the same period as the debt maturity". If the CR results are higher, it can be indicated that the company can also pay its short-term debt. Franklin et. al. (2019) states that "The current ratio is a ratio to measure a company's ability to pay short-term obligations or debts that are due when they are fully collected." From the opinions of several people above, it can be interpreted that the current ratio is part of the liquidity ratio where this ratio shows how liquid the company's assets are, where this is related to how capable the company is of

paying off its short-term debt and can be seen from the comparison of current assets and current debt company. The CR formula is:

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

Based on this formula, it can be interpreted that if the CR number obtained is greater, the greater the Short-Term Assets (Current Assets) compared to Short-Term Debt (Current Liabilities), and it can be assumed that the company's short-term assets are able to pay off its short-term debt at maturity.

2.4 Debt to Equity Ratio (DER)

DER can help to analyze the amount of debt used by a company to finance its operations rather than the use of capital to finance its operations. DER in principle reflects the amount of financing proportionally between total debt and total company capital. If the result of the DER is getting smaller, it means good because the company does not have a large amount of debt and the company is not burdened by interest expenses which in the end can reduce profits. According to Graham et. al. (2016), DER is a financial ratio used with the aim of measuring the use of debt against company equity. The DER formula is:

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

According to this formula, it can be interpreted that if the DER result is greater, the worse the performance of a company will be because the company is burdened with large debts so that the interest burden is also very large. Conversely, the smaller the DER number, the better the company's performance in utilizing its debt to equity.

2.5 Stock Return

Stock return is the return received by investors or shareholders for the investment they have made and the main objective of an investor in investing is to gain profits from the results of the investment they make. According to Gumanti (2011), stock return is the rate of return or return on an investment which is measured as the total profit or loss received by investors during a certain period. Stock returns can be used as a measuring tool to measure the success of a company so that it can reflect the value of a company, because if the company achieves good performance, then the company's shares will be in great demand by investors. Meanwhile, Jogiyanto (2000) defines stock returns as the profits obtained by investors in stock investments. Stock returns can be divided into two types, namely realized returns and expected returns. Realized return is a return that has occurred which has been calculated using historical data, while expected return is the return that investors hope to obtain in the future. In general, investors expect high profits with the smallest possible risk of loss, so investors try to determine the optimal level of investment profit by determining an adequate investment concept. This concept is important because the expected level of profit can be measured. In this case the profit level is calculated based on the difference between capital gains and capital losses. Stock returns are calculated using the following formula:

$$\text{Stock Return} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

P_t : Current period share prices

P_{t-1} : Previous period share prices

2.6 Theoretical Framework

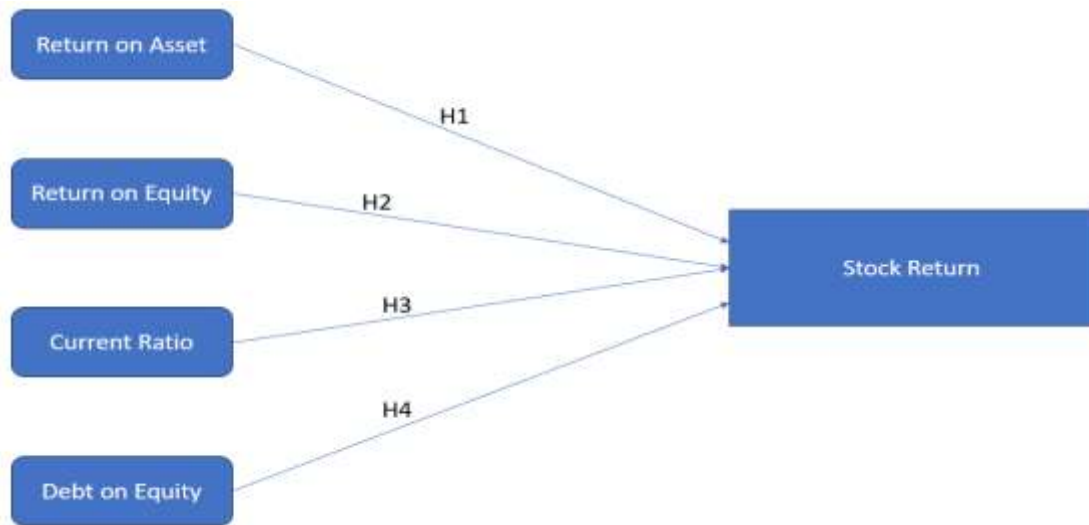


Figure 1. Theoretical Framework

Hypothesis 1: There is a significant impact of Return on Asset on return the shares of companies that are on the LQ-45 Index and the Sri-Kehati Index on the IDX in 2019 – 2023

Hypothesis 2: There is a significant impact of Return on Equity on return the shares of companies that are on the LQ-45 Index and the Sri-Kehati Index on the IDX in 2019 – 2023

Hypothesis 3: There is a significant impact of Current Ratio on return the shares of companies that are on the LQ-45 Index and the Sri-Kehati Index on the IDX in 2019 – 2023

Hypothesis 4: There is a significant impact of Debt on Equity on return the shares of companies that are on the LQ-45 Index and the Sri-Kehati Index on the IDX in 2019 – 2023

III. Research Methods

In this research, the author uses panel data regression analysis which consists of time series data and also cross-section data, where the independent variable is regressed on the dependent variable, namely stock returns. The author chose the independent variables using Profitability Ratios where the author chose from these ratios for this research the Return on Assets (ROA) Ratio and the Return on Equity (ROE) Ratio. Meanwhile, for the Liquidity Ratio, the Current Ratio (CR) is chosen and for the Solvency Ratio, the Debt to Equity Ratio (DER).

Regarding population, Shmatov & Castelli (2022), argue, in principle, population includes a group of people, events, or several things that are interesting and taken by researchers for further analysis and examination. The author uses the population in this study as a reference for obtaining related evidence and stating conclusions based on the evidence that has been collected. In this research, the author chose a population from several companies that are not from the banking industry on the Indonesia Stock Exchange which are included in the LQ-45 Index and the Sri-Kehati Index. The number of companies in the LQ-45 Index and Sri-Kehati Index is 45 companies and 25 companies respectively. The number of banking companies in the LQ-45 Index and Sri Kehati Index is 6 and 5 respectively, so the number outside banking companies is 39 and 20

respectively. The total sample population is 46 non-banking companies consisting of 39 companies in the Index LQ-45 and 7 companies in the Sri-Kehati Index. However, of the 39 companies in the LQ-45 Index, there are 13 companies that are also in the Sri-Kehati Index. So the number of companies in the Sri-Kehati Index is 20 companies (7 + 13).

According to Tille (2019), the sample is in principle part of the population. The sample also has a number of elements taken from the relevant population. In this research, the author took samples using a purposive sampling method. The purposive sampling method is a way of taking samples based on certain predetermined determinations or parameters. The author has set several parameters for this research, namely:

1. Non-banking companies that are in the LQ-45 Index and Sri-Kehati Index.
2. Companies listed on the Indonesian Stock Exchange (BEI) from 2019 to 2023.
3. Companies that were not removed from the IDX during 2019 to 2023.

In this research, the author took the data source from the audited financial reports of non-banking companies which are in the LQ-45 Index and the Sri-Kehati Index. In terms of data collection techniques, the author uses documentation, which is downloaded from the Indonesia Stock Exchange website, namely <http://www.idx.co.id/> and the websites of each company.

The data analysis technique in this research uses multiple linear regression analysis with the aim of analyzing whether or not there is an influence of the independent variable on the dependent variable. The author uses panel data. Panel data consists of two parts, namely time series data and cross section data. Baltagi (2021) believes that data that has several objects at one time is called cross section, while data that consists of one object but has a number of time periods is called time series data. The combination of cross section data and time series data will form panel data. In conducting this research, the author used the EViews 10 software application.

IV. Results and Discussion

4.1 Descriptive Statistic

Descriptive statistics aims to analyze data by explaining observation data, average value, standard deviation, middle value, maximum and minimum values for each variable used in this research.

Table 1. Descriptive Statistic

	CR	DER	RETURN	ROA	ROE
Mean	2.232321	1.004190	0.084133	0.078828	0.154822
Median	1.683437	0.617376	-0.050000	0.058406	0.134225
Maximum	8.076426	12.14695	5.810000	0.450000	1.420000
Minimum	0.180000	0.000000	-0.700000	-0.120000	-0.820000
Std. Dev.	1.540528	1.597034	0.597684	0.078084	0.201583
Skewness	1.651760	4.872719	6.187878	1.436969	2.742212
Kurtosis	5.642189	32.52060	57.66022	6.432731	24.11806
Jarque-Bera	111.8400	6040.244	19630.62	125.2697	2975.321
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	334.8482	150.6284	12.62000	11.82423	23.22329
Sum Sq. Dev.	353.6106	380.0270	53.22664	0.908480	6.054737
Observations	150	150	150	150	150

The highest stock return with a value of 5.81 according to Table 1 was held by PT Astra International Tbk in 2019, while the lowest with a value of -0.7 was owned by PT Wijaya Karya Tbk in 2023. The average value (mean) of the entire sample taken is 0.084. The highest ROA with a value of 0.45 according to Table 1 was held by PT Indo Tambangraya Megah Tbk in 2022, and the lowest at -0.12 was held by PT Wijaya Karya Tbk in 2023. The mean value of all samples taken was 0.079. The highest ROE with a value of 1.42 according to Table 1 was held by PT Unilever Indonesia Tbk in 2023, and PT Wijaya Karya Tbk occupied the lowest position, namely with a value of -0.82 for its ROE in 2023. The mean value of all samples taken was 0.155. The highest CR with a value of 8.076 according to Table 1 was achieved by PT Astra International Tbk in 2019, but PT Sarana Menara Nusantara Tbk in 2023 occupied the last position, namely 0.18. The average value of all samples taken is 2.232. The highest DER with a value of 12.147 according to Table 1 was achieved by PT Adaro Energy Indonesia Tbk in 2022, while the lowest value was 0.000000 which was held by PT AKR Corporindo Tbk in 2021. The mean value of all samples taken was 1.0042.

4.2 Chow Test

Table 2. Chow Test

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.881388	(29,116)	0.6420
Cross-section Chi-square	29.870280	29	0.4205

This test aims to choose which regression model is most appropriate for this research, between the Common Effect Model (CEM) or Fixed Effect Model (FEM). After carrying out this test the result is FEM. Based on Table 2, the Chi-square probability value is 0.4205, where the value is > 0.05 , so the CEM model is the best and chosen. However, the Chow test cannot be a final conclusion that the CEM model is the best. After the Chow test, it is necessary to carry out further Hausman tests to determine whether the CEM model remains the best model or not.

4.3 Hausman Test

Table 3. Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.999246	4	0.4061

This test aims to choose which model to take between FEM and Random Effect Model (REM). Based on this test in Table 2, the random cross-section probability value is $0.4061 > 0.05$, so REM is the best model. After carrying out the Hausman test, it is

necessary to carry out further Lagrange Multiplier testing, to ensure that REM remains the best model.

4.4 Lagrange Multiplier Test

Table 4. Lagrange Multiplier Test

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
Test Hypothesis			
	Cross-section	Time	Both
Breusch-Pagan	0.339620	0.042384	0.382004
	(0.5600)	(0.8369)	(0.5365)

Through this test, it can be seen which model will be taken for this research between REM and CEM. Based on Table 4, the Breusch-Pagan value for Cross-section is 0.3396 with a probability value of 0.560 which is > 0.05 so the CEM model is the best model for this test.

4.5 Normality Test

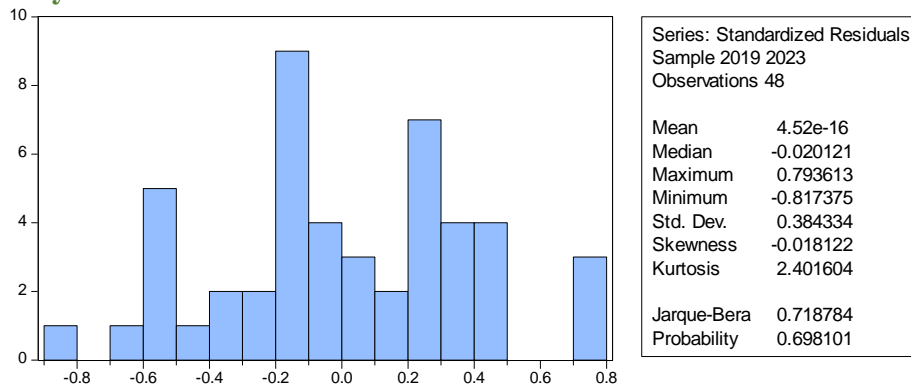


Figure 2. Normality Test

The aim of this test in principle is to find out whether the distribution of data within a group of data or variables is normally distributed or not. For this test, the author used Jarque-Bera. The data distribution is considered to be normally distributed if the probability value is > 0.05 . Figure 1 explains that the probability value is 0.698101, which is greater than 0.05, which means that the data is normally distributed.

4.6 Multicollinearity Test

Table 5. Multicollinearity Test

	ROA	ROE	CR	DER
ROA	1.000000	0.691954	0.455057	-0.219858
ROE	0.691954	1.000000	0.045716	0.261099
CR	0.455057	0.045716	1.000000	-0.364422
DER	-0.219858	0.261099	-0.364422	1.000000

Through this test, it can be seen whether or not there is a high or perfect relationship between the independent variables in the regression model. If there is a high relationship between the independent variables, the relationship between the independent variable and the dependent variable can be disrupted. Correlation between two independent variables that exceeds the value of 0.90 can be an indication or sign that multicollinearity is a problem that must be immediately corrected in this research. (Brooks, 2019). Based on Table 5, there are no values that exceed 0.9 among the independent variables, so there is no multicollinearity problem in this research. Thus, it can be concluded that the multicollinearity problem was not found among the independent variables.

4.7 Heteroskedasticity Test

Table 6. Heteroskedasticity Test

Periods included: 5				
Cross-sections included: 27				
Total panel (unbalanced) observations: 48				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.315480	0.079752	3.955783	0.0003
ROA	0.791445	0.766342	1.032758	0.3075
ROE	-0.252494	0.321922	-0.784333	0.4371
CR	-0.015525	0.031495	-0.492939	0.6246
DER	0.007801	0.024080	0.323979	0.7475

The purpose of this test is to analyze whether there is inequality in the variance of the residuals in the research model. By using this test, it can be seen whether there are symptoms of heteroscedasticity in the model or not. If a research model is said to be good, it is a research model that is homoscedastic or does not have heteroscedasticity problems. If the probability value is <5%, then the research model has a heteroscedasticity problem. However, if the probability value is > 5%, then the research model is free from heteroscedasticity problems. To carry out heteroscedasticity testing, you can use the Glejser Test which aims to regress the absolute value of the residual on the independent variable (Baltagi, 2022). All independent variables as explained in Table 6, namely ROA, ROE, CR, and DER have probability values of 0.3075, 0.4371, 0.6246, and 0.7475 respectively, all of which are > 0.05. It can be concluded that there is no heteroscedasticity problem from the data used in this research.

4.8 Autocorrelation Test

Table 7. Autocorrelation Test

Mean dependent var	-0.603982
S.D. dependent var	0.398181
Akaike info criterion	1.112673
Schwarz criterion	1.307590
Hannan-Quinn criter.	1.186332
Durbin-Watson stat	2.905143

The author carried out this test with the aim of analyzing whether or not in a linear regression model there is a correlation or relationship between residual errors in period t and errors in the previous period t-1. (Brooks, 2019). The Durbin Watson (DW) test is used by the author to analyze whether there is an autocorrelation problem or not. The final results of this test come from the results of comparing the DW values with the DW Table. In Table DW it has an upper limit value (upper bound or dU) and a lower limit value (lower bound or dL). After looking at the dU and dL figures in the Durbin Watson Table with a significance of 5%, the results of the autocorrelation test can be obtained as reflected in Table 7 below. The test results concluded that there were no autocorrelation problems, both positive and negative.

4.9 Hypothesis Testing

Table 8. Hypothesis Testing

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.192518	0.104059	-1.850084	0.0663
ROA	-0.823567	1.166679	-0.705907	0.4814
ROE	0.380799	0.421196	0.904090	0.3674
CR	0.130567	0.037986	3.437225	0.0008
DER	-0.008815	0.037509	-0.234996	0.8145

The purpose of this test is to analyze the influence of each independent variable partially on the dependent variable by comparing its probability value to the significance level, namely 5% or 0.05. From Table 8, the independent variables consisting of ROA, ROE, and DER have a probability value greater than the significance level of 5% so this can be interpreted as meaning that the independent variables ROA, ROE, and DER have no influence on the dependent variable, namely stock returns. However, for CR, which is also an independent variable, the probability value is 0.0008, which is smaller than the 5% significance level, so it can be concluded that CR has an effect on the dependent variable.

R-squared	0.096839
Adjusted R-squared	0.071924
S.E. of regression	0.575789
Sum squared resid	48.07221
Log likelihood	-127.4960
F-statistic	3.886816
Prob(F-statistic)	0.004980

The probability value (F-statistic) is $0.00498 < 0.05$, this means that all the independent variables contained in this research together have an influence on the dependent variable, namely stock returns. So, researchers can proceed to the R-squared test and t test. The R-Squared value is 0.096839 or 9.7%, which shows that the independent variables in this research, namely ROA, ROE, CR, and DER have influenced 9.7% of the proportion of the dependent variable, namely stock returns. Meanwhile, the remaining 90.3% is influenced by other variables not included in this research.

V. Conclusion

The independent variables consisting of ROA, ROE, and DER have a probability value greater than the significance level of 5% so this can be interpreted as meaning that the independent variables ROA, ROE, and DER have no influence on the dependent variable, namely stock returns. However, for CR, which is also an independent variable, the probability value is 0.0008, which is smaller than the 5% significance level, so it can be concluded that CR has an effect on the dependent variable. The probability value (F-statistic) is $0.00498 < 0.05$, this means that all the independent variables contained in this research together have an influence on the dependent variable, namely stock returns. So, researchers can proceed to the R-squared test and t test. The R-Squared value is 0.096839 or 9.7%, which shows that the independent variables in this research, namely ROA, ROE, CR, and DER have influenced 9.7% of the proportion of the dependent variable, namely stock returns. Meanwhile, the remaining 90.3% is influenced by other variables not included in this research

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