Journal of Research in Business, Economics, and Education Volume 5
E-ISSN 2686-6056 Issue 3
DOI:10.55683/jrbee.v5i3.439 June Edition 2023

Analysis of Return on Asset, Net Profit Margin, Debt to Equity Ratio, on Stock Prices of Financial

Mari Ananda[1*], Fitri Diana Gulo[1], Mohd. Nawi Purba[1], Wenny Anggeresia Ginting[2]

[1]Universitas Prima Indonesia Medan
[2]Politeknik Negeri Manado
e-mail: marianda164@gmail.com

Abstract

This research aims to analyze the Return On Assets, Net Profit Margin, and Debt to Equity Ratio, and their impact on the Stock Prices of Financial Sector Banking Companies listed on the Indonesia Stock Exchange for the period 2016 – 2021. This study uses purposive sampling techniques based on secondary data and is classified as explanatory research, with a quantitative approach. The research sample consists of 37 banking companies, which are part of a total population of 46 banking companies. Multiple Linear Regression Analysis is used to test the hypothesis in this study. The test results indicate that, partially, Return On Assets (X1) significantly affects the Stock Prices of banking companies, while the other two independent variables, namely, Net Profit Margin (X2) and Debt to Equity Ratio (X3), do not significantly affect the Stock Prices. However, simultaneously, the variables of Return On Assets, Net Profit Margin, and Debt to Equity Ratio have been proven to have a positive effect on the Stock Prices of Financial Sector Banking Companies listed on the Indonesia Stock Exchange during the period 2016-2021.

Keywords: *Return on Asset, Net Profit Margin, Debt to Equity Ratio, and Stock price.*

1. Introduction

The banking sector is a critical segment in a country's economy. Banks, as financial institutions, provide a variety of financial services such as money storage, loan issuance, and other financial transactions (Fahlevi et al., 2020). An analysis of financial ratios in the banking sector generally can provide an overview of a bank's financial health. This ratio analysis can aid investors and decision-makers in selecting the right bank for investment or financing. In banking performance analysis, several commonly used ratios are the Return on Asset (ROA), Net Profit Margin (NPM), and Debt to Equity Ratio (DER) (Suwarni et al., 2020). ROA is used to measure a bank's ability to generate net profit from its assets. ROA is important in the banking sector as it illustrates improving bank performance. An increase in ROA can indicate improved company performance, attract investor interest in investing in the company, and potentially boost stock prices. The Net Profit Margin is also essential as banks need to generate enough profit to meet capital needs and provide returns to shareholders (Istan et al., 2021). An increase in the Net Profit Margin indicates good company performance as it can generate a large net profit through its sales activities, potentially increasing the stock price (Susanti et al., 2020). However, a too-high DER can adversely affect company performance as a higher debt level will increase the company's interest burden and reduce profits, potentially lowering stock prices. Below we present a table of phenomena that are problems in this research journal:

Table 1. Phenomena of Assets, Net Profit, Debt, Stock Prices of Banking Sector Companies Presented in Millions of Rupiah, except for Stock Prices presented in Rupiah

Company Name	Year	Total Asset	Net Profit	Debt	Stock Price
PT Bank Negara Indonesia, Tbk	2016	Rp 603.031.880	Rp 11.410.196	Rp 492.701.125	Rp 552.02
	2017	Rp 709.330.084	Rp 13.770.592	Rp 584.086.818	Rp 578.86
	2018	Rp 808.572.011	Rp 15.091.763	Rp 671.237.546	Rp 608.15
	2019	Rp 845.605.208	Rp 15.508.583	Rp 688.489.442	Rp 550.77
	2020	Rp 891.337.425	Rp 3.321.442	Rp 746.235.663	Rp 661.13
	2021	Rp 964.837.692	Rp 10.977.051	Rp 838.317.715	Rp 662.60
PT Bank Ina Perdana, Tbk	2016	Rp 2.359.089	Rp 18.236	Rp 1.876.384	Rp 193
	2017	Rp 3.123.345	Rp 18.340	Rp 1.919.161	Rp 990
	2018	Rp 3.854.174	Rp 11.395	Rp 2.646.122	Rp 675
	2019	Rp 5.262.429	Rp 7.115	Rp 4.041.333	Rp 855
	2020	Rp 8.437.685	Rp 19.376	Rp 7.220.541	Rp 690
	2021	Rp 15.055.850	Rp 39.748	Rp 12.682.175	Rp 3.810
PT Bank Danamon Indonesia, Tbk	2016	Rp 174.436.521	Rp 2.792.722	Rp 138.058.549	Rp 3.700
	2017	Rp 178.257.092	Rp 3.828.097	Rp 139.084.940	Rp 6.950
	2018	Rp 186.762.189	Rp 4.107.068	Rp 144.822.368	Rp 7.600
	2019	Rp 193.533.970	Rp 4.240.671	Rp 148.116.943	Rp 3.950
	2020	Rp 200.890.068	Rp 1.088.942	Rp 157.314.569	Rp 3.140
	2021	Rp 192.239.698	Rp 1.669.280	Rp 147.156.640	Rp 2.340

From the data, we can observe a phenomenon at PT. Bank Negara Indonesia, Tbk where the total assets increased in 2018-2019, but the stock price decreased. Another phenomenon is at PT Bank Ina Perdana, Tbk, where the Net Profit increased from 2019-2020, but the stock price declined. Meanwhile, the Total Debt phenomenon at PT. Bank Danamon Indonesia, Tbk increased from 2017-2018, while the stock price also increased.

2. Literature Review

Return On Asset

According to Sudana (2015:22), Return On Assets (ROA) is an indicator of a company's ability to generate after-tax profit using all its assets. The higher the ROA, the more efficient the use of company assets, meaning that with the same amount of assets, the company can generate greater profits, and vice versa. The study conducted by Sukmawati and Garsela (2016) shows that ROA has a positive and significant impact on stock prices.

Net Profit Margin

According to Sudana (2015:22), the Net Profit Margin is a measure of a company's ability to generate net profit from sales. According to Yuliana and Hastuti (2020), if a company succeeds in obtaining high profits and can manage unnecessary costs during operational activities, then the company's stock price can increase. This can provide high confidence for investors to invest in the company's shares. The research results of Sudirman, et al. (2020) show a significant positive effect of the Net Profit Margin on the stock price.

Debt to Equity Ratio

According to Jusuf (2016:55), this ratio identifies to what extent the equity can guarantee all the company's debts. This ratio can also be interpreted as a comparison between funds obtained from outside parties and funds owned by the company's owners that have been channeled into the company. The research conducted by Ulzanah and Murtaqi (2015) shows that the Debt to Equity Ratio (DER) has a significant influence with a negative direction on the stock price.

Stock Price

According to Tandelilin (2014:341), the stock price reflects investors' expectations regarding factors such as earnings, cash flows, and the level of return expected by investors. These three factors are also significantly influenced by macroeconomic performance.

Conceptual Framework

Based on the theoretical exposition above and previous research periods, the research model can be seen in the following figure:

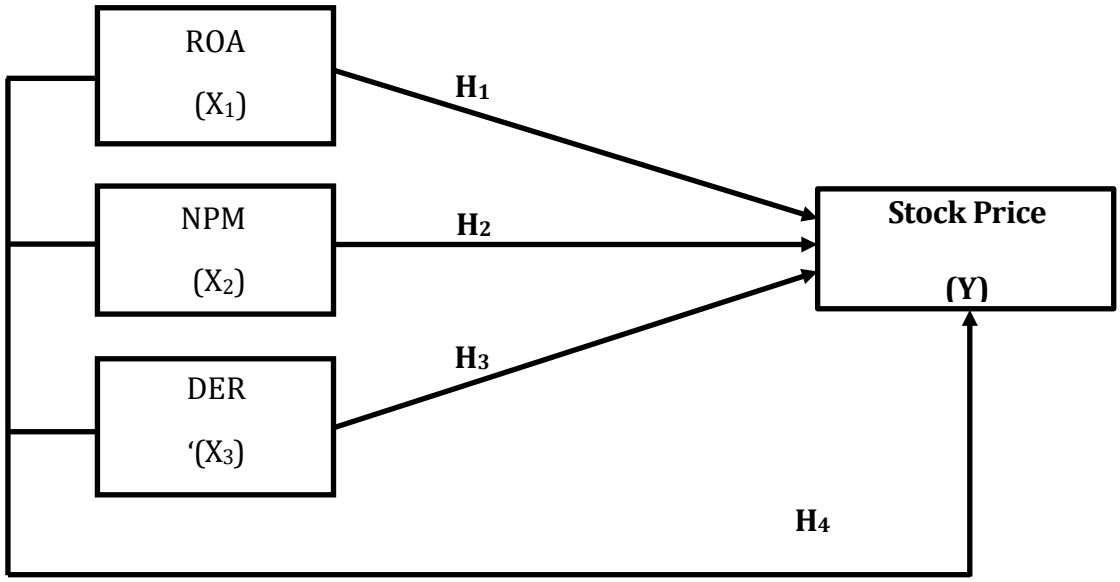

Figure 1 Conceptual Framework

Research Hypotheses

- H1: ROA affects the Stock Price of Financial Sector Banking Companies listed on the Indonesia Stock Exchange for the period 2016 – 2021.
- H2: NPM affects the Stock Price of Financial Sector Banking Companies listed on the Indonesia Stock Exchange for the period 2016 – 2021.
- H3: DER affects the Stock Price of Financial Sector Banking Companies listed on the Indonesia Stock Exchange for the period 2016 – 2021.
- H4: ROA, NPM, DER collectively influence the Stock Price of Financial Sector Banking Companies listed on the Indonesia Stock Exchange for the period 2016 – 2021.

3. Methodology

This study was conducted on banking sub-sector companies listed on the Indonesia Stock Exchange from 2016 to 2021 using information from the IDX website. The research process took place between September 2022 and March 2023. This is a quantitative descriptive study aimed at explaining the relationship between variables using numerical data, which is analyzed using statistical methods through hypothesis testing (Fahlevi, 2021).

The research population comprised of all 46 banking sector companies listed on the Indonesia Stock Exchange during the period 2016 – 2021. A purposive sampling method was used to determine the sample, considering specific provisions. The total number of observations resulted in 222, based on 37 sampled companies and six periods. The data collection technique used in this study was documentation, involving the extraction and utilization of research sources from company documents such as writings, images, and books (Itang et al., 2022). These documents served as references for this research.

The study employed quantitative research data, with the collected and analyzed data sourced from secondary data sources. The operational identification of the variables was presented to clarify the used variables and their indicators. These included Return on Assets (ROA), Net Profit Margin (NPM), Debt to Equity Ratio (DER), and Stock Price. Descriptive statistics were used to analyze the collected data objectively, without intending to draw general conclusions or make generalizations.

In the context of linear regression, normality tests were used to evaluate whether there is a relationship between error disturbance and residuals that have a normal or near-normal distribution. Multicollinearity tests were used to evaluate whether there is a correlation between one or more independent variables in the regression model. Autocorrelation tests were employed to evaluate whether there is a relationship between error disturbances in period t with error disturbances in period t-1 (previous), in the linear regression model. Heteroscedasticity tests were used to examine whether there is a difference in the variance of residuals between one observation and another in the regression model.

The hypotheses were tested using the method of multiple linear regression analysis using the SPSS program (Marhaeni et al., 2022). Regression analysis was used to determine the extent of the influence of independent variables and to evaluate their significance. The coefficient of determination was used as a measure of how far the model can explain the variation of the dependent variable. The t-test statistic was used as a partial significance test to test the level of significance of the influence of each independent variable separately on the dependent variable. Simultaneous hypothesis testing

was used to indicate whether all independent variables included in the model have a joint influence on the dependent variable.

4. Result and Discussion

Descriptive Analysis

In this study, it is necessary to conduct descriptive statistical measurements to get a general overview of each variable, namely ROA (X1), NPM (X2), DER (X3), and Stock Price (Y). These measurements include the average value (mean), highest value (max), lowest value (min), and standard deviation. The results of the descriptive statistical test can be seen in the following table,

Table 2: Results of the Descriptive Statistical Test

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	222	-18.06	4.14	0.2334	2.54335
NPM	222	-10.61	1.30	-0.1339	1.31200
DER	222	19.29	1607.86	563.0519	271.24077
Stock Price	222	-1.00	16000.00	1503.4505	2112.54404

Source: Secondary Data Output Results in SPSS 26

Based on the above descriptive test results, the explanation of the descriptive statistics acquisition in the table above can be explained as follows: The ROA variable (X1) indicates that the number of samples (N) is 222, with a minimum value of -18.06 and a maximum value of 4.14. The average value is 0.2334. The standard deviation of the ROA is 2.54335. The NPM variable (X2) indicates that the number of samples (N) is 222, with a minimum value of -10.61 and a maximum value of 1.30. The average value is -0.1339. The standard deviation of the NPM is 1.31200. The DER variable (X3) indicates that the number of samples (N) is 222, with a minimum value of 19.29 and a maximum value of 1607.86. The average value is 563.0519. The standard deviation of the DER is 271.24077. The Stock Price variable (Y) indicates that the number of samples (N) is 222, with a minimum value of -1.00 and a maximum value of 16000.00. The average Stock Price is 1503.4505. The standard deviation of the Stock Price is 2112.54404

Normality Test

The purpose of a normality test is to determine whether, in a regression model and residuals, the distribution is normal or not. Normality testing is one of the classical requirements or assumptions that must be met in parametric statistical data analysis. If the data analysis results show that the distribution is not normal, then non-parametric statistical methods are used in the data analysis. In this study, normality testing was performed using the non-parametric statistical method of Kolmogorov-Smirnov (K-S) and graphical analysis. The decisions taken are as follows: If the significance value is > 0.05, then the data can be considered to have a normal distribution. If the significance value is < 0.05, then the data is considered not to have a normal distribution. Below are

the results of the non-parametric statistical test Kolmogorov-Smirnov (K-S) which are listed in the following table:

Table 3. Kolmogorov-Simirnov Normality Test Results

N			222
Normal Parameters[a,b]	Mean		0.0000000
	Std. Deviation		2015.61299196
Most Extreme Differences	Absolute		0.217
	Positive	Negative	0.217
			-0.181
Test Statistic			0.217
Asymp. Sig. (2-tailed)			0.000[c]

Source: SPSS 26 Data Processing Results

Based on the table above, it can be seen that the Asymp. Sig. (2-tailed) value of 0.000 is smaller than 0.005, indicating that the test results show that the data does not have a normal distribution. To obtain clearer test results, graphical analyses such as Histogram and Normality Probability Plot are also performed. In decision making, if the data is scattered around the diagonal line and follows the direction of the diagonal line, and the histogram graph shows a pattern of normal distribution, then the regression model meets the classic assumption. However, if the data is far from the diagonal line, does not follow the direction of the diagonal line, or does not show a pattern of normal distribution on the histogram graph, then the regression model does not meet the classic assumption.

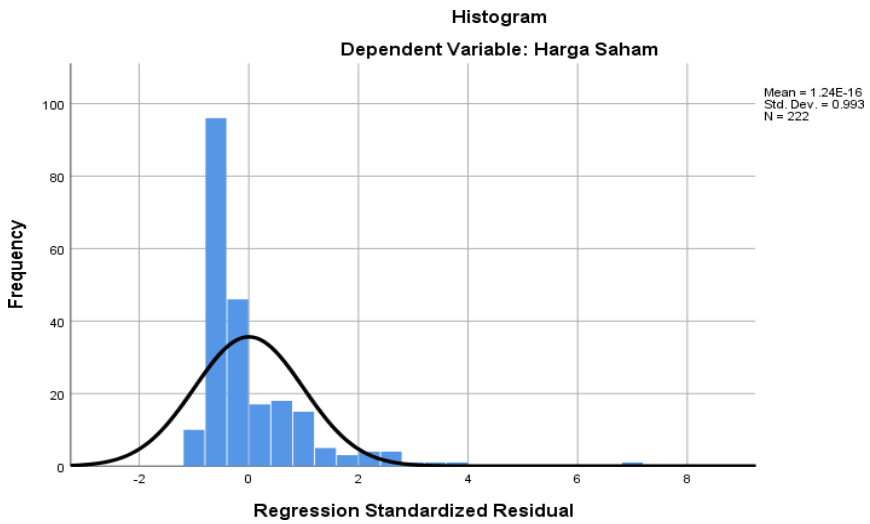

Figure 2. Histogram

Based on the results of the Histogram graph above, it is evident that the data pattern follows the bell-shaped curve, suggesting that the data is normally distributed.

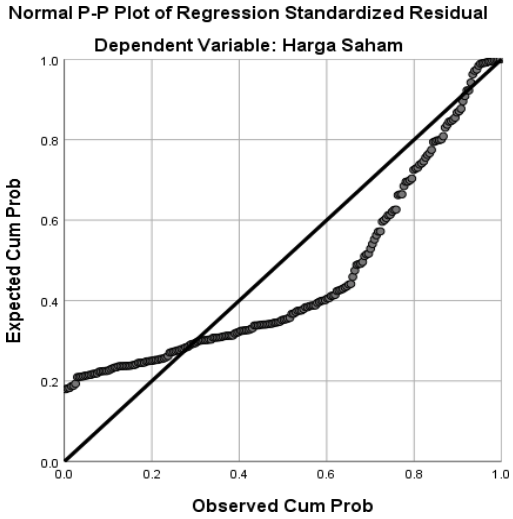

Figure 3. P-Plot

Based on the results of the Normal P-Plot graph above, it can be seen that the data is scattered around the diagonal line and follows the direction of the diagonal line, indicating that the data is normally distributed.

Multicollinearity Test

The multicollinearity test aims to check whether there is a correlation among independent variables in the regression model. The presence or absence of multicollinearity in a regression model can be detected from the Tolerance value and Variance Inflation Factor (VIF), with the decision-making threshold being a Tolerance value of ≥ 0.10 or a VIF value of ≤10. Based on the results of the multicollinearity test, it is known that: The tolerance value for ROA (X1) is 0.440 > 0.10, and the VIF score is 2.273 <10. The tolerance value for NPM (X2) is 0.436 > 0.10, and the VIF score is 2.293 <10. The tolerance value for DER (X3) is 0.985 > 0.10, and the VIF score is 1.015 <10. Therefore, it can be concluded that there is no multicollinearity among the independent variables in the regression model.

Multiple Linier Regression

Multiple linear analysis aims to determine the extent of the influence of ROA, NPM, and DER on stock price. The results of the multiple linear regression can be seen as follows:

Table 4. Multiple Linear Regression

			StandardizedCoefficients
	Unstandardized Coefficients		**Beta**
Model	**B**	**Std. Error**	

					t	Sig.
1	(Constant)	1892,851	320,820		5,900	0,000
	ROA	259,722	80,919	0,313	3,210	0,002
	NPM	-56,894	157,573	-0,035	-0,361	0,718
	DER	-0,813	0,507	-0,104	-1,603	0,110

Based on table 3.6, the research hypothesis of the multiple linear equation is obtained as follows: Stock Price (Y) = a + b1 . x1 - b2 . x2 - b3 . x3 = 1892.851 + 259.722 - 56.894 - 0.813 From the equation above, the interpretations are: The constant value α = 1892.851. This constant value indicates that if the independent variables, i.e., ROA (X1), NPM (X2), and DER (X3) with respect to Stock Price (Y) are considered constant or equal to 0, then the Stock Price in the banking sector of the financials registered in the Indonesia Stock Exchange (BEI) will increase by 1892.851. The regression coefficient of ROA (β1) indicates that ROA has a positive influence on the Stock Price, meaning that for every unit increase in the ROA variable, the Stock Price will increase by 259.722, assuming other variables are held constant. The NPM (β2) value has a negative regression coefficient of - 56.894, indicating that the NPM variable has a negative influence on the Stock Price. This means that for every unit increase in the NPM variable, the Stock Price will decrease by - 56.894, assuming other variables are held constant. The DER (β3) value has a negative regression coefficient, meaning that for every unit increase in the DER variable, the Stock Price Index will decrease by - 0.813, assuming other variables are held constant.

Discussion

The Effect of ROA on Stock Price

The hypothesis testing result for the ROA variable indicates that the calculated T-value of 3.210 is greater than the table T-value of -1.970707 and the significance value of 0.002 is less than 0.05. From this result, it can be concluded that the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected, meaning that the ROA variable partially has a significant positive effect on any increase or decrease in Stock Price.

The Effect of NPM on Stock Price

The hypothesis testing result for the NPM variable shows that the negative calculated T-value of -0.361 is greater than the negative table T-value of -1.970707, and the significance value of 0.110 is greater than 0.05. Based on these results, it can be concluded that the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected, meaning that the NPM variable partially does not have a significant effect on the Stock Price.

The Effect of DER on Stock Price

The hypothesis testing result for the DER variable shows that the calculated T-value of -1.603 is greater than the table T-value of -1.970707, and the significance value of 0.718 is greater than 0.05. From these results, it can be concluded that the null hypothesis (Ho) is accepted and the alternative

hypothesis (Ha) is rejected, meaning that the DER variable partially does not have a significant effect on the Stock Price.

5. Conclusions

In terms of partial influence, the Return on Assets (ROA) has a significant and positive effect on stock prices on the Indonesia Stock Exchange for the 2016-2021 period. This conclusion is supported by a calculated T-value of 3.210, which exceeds the table T-value of -1.970707, and a significance level of 0.002, which is less than 0.05, leading to the acceptance of the alternative hypothesis (Ha) and the rejection of the null hypothesis (Ho). On the other hand, the Net Profit Margin (NPM) and Debt to Equity Ratio (DER) do not have a significant partial influence on stock prices. This is indicated by their calculated T-values (-0.361 for NPM and -1.603 for DER), which are greater than the table T-value of -1.970707, and significance levels (0.110 for NPM and 0.718 for DER), which exceed 0.05. This leads to the acceptance of the null hypothesis (Ho) and the rejection of the alternative hypothesis (Ha) for both variables. However, the simultaneous testing revealed that all three independent variables—ROA, NPM, and DER—collectively exert a significant positive effect on the dependent variable (stock price). This is supported by a calculated F-value of 7.157, which exceeds the table F-value of 2.65, and a significance level of 0.000, which is less than 0.05, thus leading to the rejection of the null hypothesis (Ho) and the acceptance of the alternative hypothesis (Ha). In light of these findings, the study makes the following recommendations: Companies should pay greater attention to enhancing their financial performance to attract and boost investors' confidence. Investors, on their part, can use these research findings as a basis for making investment decisions. For future researchers, this study can serve as a comparison reference for future studies in different corporate sectors, extending beyond the banking industry to include other industries as well.

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