

THE EFFECT OF RETURN ON ASSETS, NET PROFIT MARGIN, AND DEBT TO EQUITY RATIO ON STOCK PRICES OF BANKING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE IN 2019-2023

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Abstract

This study aims to analyze the influence of Return On Assets (ROA), Net Profit Margin (NPM), and Debt to Equity Ratio (DER) on stock prices of banking companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. The research employs a quantitative approach using panel data regression. The sample was selected through purposive sampling and consists of 31 banking companies. Data was processed using EViews version 12 with the Random Effect Model (REM) approach, following a series of classical assumption tests. The results show that ROA and DER have no significant effect on stock prices, while NPM has a positive and significant effect. These findings indicate that net profit efficiency is a primary consideration for investors in evaluating the performance of banking companies in the capital market. The implications of this study can serve as input for bank management to strengthen profitability strategies in order to enhance company value in the eyes of investors.

Keywords *Return On Assets, Net Profit Margin, Debt to Equity Ratio, Stock Price, Banking*

INTRODUCTION

The capital market plays a vital role in Indonesia's economy, serving as one of the key indicators of a country's financial system progress and stability. One of the most popular instruments in the capital market is stocks, which are the main investment choice for both individual and institutional investors. In this context, stock price fluctuations have become a primary concern, as they reflect the market's response to a company's internal and external conditions (Halim, 2024). Banking institutions, as part of the financial sector, have a strategic role in driving the wheels of the national economy. Banks not only act as financial intermediaries but also as catalysts in managing public funds and providing financing. Therefore, the financial performance of banking companies significantly influences the investment decisions of shareholders. Stock prices are influenced by various factors, including external factors such as macroeconomic conditions and monetary policy, as well as internal factors such as the company's financial ratios. Three financial ratios that are most commonly used to evaluate a company's performance are Return on Assets (ROA), Net Profit Margin (NPM), and Debt to Equity Ratio (DER). ROA reflects a company's efficiency in utilizing its assets to generate profit (Setiawan et al., 2021), NPM indicates the company's ability to generate net profit from sales (Sulistiono & Nur, 2023), and DER represents the company's capital structure between equity and debt financing (Fitriati & Nurulrahmatiah, 2021).

A real-world example that underlines the importance of this study can be seen in the case of PT Bank Rakyat Indonesia Agroniaga Tbk (AGRO), which in 2020 experienced a decline in asset quality, high credit risk, and ultimately a decrease in profit and stock price. In contrast, companies like PT Bank Central Asia Tbk (BBCA) maintained relatively stable stock prices during the 2019-2023 period despite global and national economic pressures (OJK, 2023). Furthermore, historical data from five major banks BBRI, BBNI, BBCA, ARTO, and BMRI showed significant fluctuations in stock prices, ROA, NPM, and DER between 2019 and 2023. This indicates the necessity for investors to deeply understand the correlation between financial ratios and stock price movements in order to make more rational and data-driven investment decisions.

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Previous studies have shown mixed results. Majid et al. (2022) found that ROA had a positive effect on stock prices. On the other hand, Pratiwi et al. (2020) found that DER had no significant effect on stock prices in the banking sector. These varying findings highlight the need for further studies, especially in different timeframes and sectors. This study explores the influence of Return on Assets (ROA), Net Profit Margin (NPM), and Debt to Equity Ratio (DER) on stock prices. These three indicators are part of financial ratios frequently used by investors to assess a company's prospects. According to Kasmir (2018), ROA measures management efficiency in generating profit from total assets, NPM reflects the company's cost control efficiency, and DER represents its funding structure.

LITERATURE REVIEW

Stock Price

Stock price is one of the main indicators used to assess a company's value in the capital market. According to Siregar (2021), stock price is the market value of a share, determined by the forces of supply and demand in the stock exchange. This price reflects investors' perceptions of the company's financial performance, growth prospects, and associated risks. Changes in stock prices over time are influenced by a combination of the company's fundamental factors, macroeconomic conditions, and market sentiment.

Return on Assets (ROA)

Return on Assets reflects a company's ability to generate profit from the assets it utilizes (Halim, 2024). According to Setiawan et al. (2021), the higher the ROA, the better the company's financial performance, which in turn increases investor confidence. However, Dewi & Suwarno (2022) found that ROA does not always have a significant effect on stock prices, particularly in the banking sector.

Net Profit Margin (NPM)

NPM describes a company's efficiency in generating net profit from its revenue (Sulistiono & Nur, 2023). A high NPM indicates that the company is able to manage its costs effectively, which is generally appreciated by investors. Sari et al. (2022) found that NPM has a positive and significant effect on the stock prices of banking companies.

Debt to Equity Ratio (DER)

DER represents the proportion of a company's funding that comes from debt compared to its equity (Kasmir, 2018). A high DER may indicate greater financial risk; however, in the banking sector, high leverage is sometimes considered normal. The study by Nuradawiyah & Susilawati (2020) found that DER does not always have a significant impact on stock prices, as investors may have already factored in this risk.

METHOD (TNR, 12 BOLD)

Population and Sample

Population

Population is the entire object or subject of the research. According to Amiin et al. (2023), population can be defined as the entire elements in a study, including objects and subjects with certain characteristics and traits. In principle, the population consists of all members of a group of humans, animals, events, or things that live together in a planned location and become the target for conclusions from the final results of a study. In this research, the population is the banking companies listed on the Indonesia Stock Exchange, totaling 47 companies.

Sample

Sugiyono (2019) explains that a sample is a part of the total population and the characteristics possessed by that population. The sampling technique used in this study is purposive sampling. Sugiyono (2019) states that purposive sampling is a technique of determining the sample based on certain considerations. The criteria for sample selection in this study are as follows:

Table 3.1 Sample Selection Criteria

Kriteria sampel	Jumlah
All banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2019-2023	47
Banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2019–2023 that did not publish consecutive annual financial reports.	(16)
Total sample	31
Total observations over 5 years (31 x 5)	155

Data Type

The data used in this study is secondary data, meaning data that has been previously compiled from existing sources such as documents, websites, or data collected by other organizations or individuals. Secondary data supports primary data and is obtained indirectly through other parties or documents (Sugiyono, 2018). In this study, the secondary data used are stock summaries and financial reports obtained from www.idx.co.id.

Data Collection Techniques

The data collection techniques used in this study are literature review and documentation methods. The literature review involves examining, observing, studying, and analyzing relevant books, journals, and written sources related to this research. The documentation method involves using annual financial reports of banking companies listed on the Indonesia Stock Exchange (IDX) for the period 2019–2023.

Data Analysis Method

This research is quantitative with a descriptive-associative approach. The data used are secondary data taken from the annual financial reports of banking companies listed on the Indonesia Stock Exchange (IDX) during the period 2019-2023. The research population consists of 47 banking companies, and using purposive sampling, 31 companies that meet certain criteria were selected.

Data analysis was conducted using panel data regression with the Random Effect Model (REM) approach, chosen based on the Hausman test results. Classical assumption tests such as normality, multicollinearity, heteroscedasticity, and autocorrelation were also performed to ensure the validity of the model. Data processing was carried out using EViews version 12 software. The empirical panel data model can be written as follows:

$$Y_{it} = \alpha + \beta_1 ROA_{it} + \beta_2 NPM_{it} + \beta_3 DER_{it} + e_{it}$$

Explanation:

Y_{it}	= stock price of company iii at period ttt
Alpha	= constant
$\beta_1, \beta_2, \beta_3, \beta_4$	= regression coefficients
PER_{it}	= Return On Asset of company iii at period ttt
NPM_{it}	= Net Profit Margin of company iii at period ttt
DER_{it}	= Debt To Equity Ratio of company iii at period ttt
i	= cross-section (company/entity)
t	= time series (period)
e_{it}	= error term of company iii at period ttt

RESULTS AND DISCUSSION

Table 2 Descriptive Statistical Analysis

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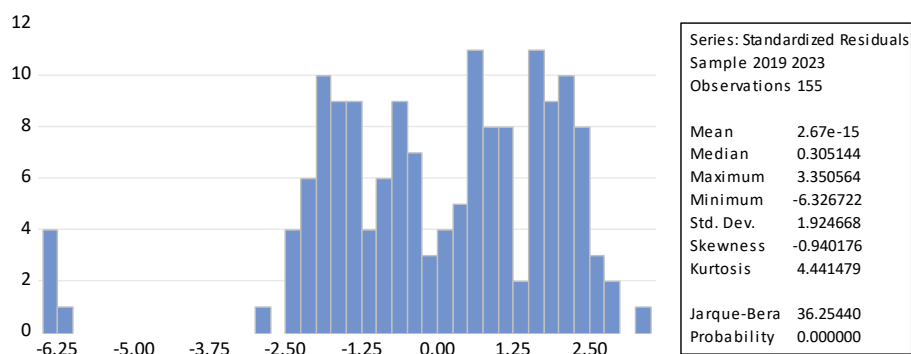
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	LN_HS	LN_ROA	LN_NPM	LN_DER
Mean	6.222485	2.781087	-0.582874	1.136766
Median	6.529419	0.000000	-1.139434	1.510722
Maximum	9.680344	36.00000	5.010635	6.340359
Minimum	0.000000	-6.907755	-4.605170	-1.660731
Std. Dev.	1.919227	10.20666	2.059673	1.079142
Skewness	-0.926936	1.849566	0.863336	-0.074939
Kurtosis	4.403208	5.334002	3.012343	5.667428
Jarque-Bera	34.91266	123.5553	19.25584	46.09724
Probability	0.000000	0.000000	0.000066	0.000000
Sum	964.4852	431.0684	-90.34552	176.1988
Sum Sq. Dev.	567.2487	16043.09	653.3072	179.3404
Observations	155	155	155	155

The stock price (dependent variable) has a mean of 6.22, a standard deviation of 1.92, with a maximum of 9.68 and a minimum of 0.00 ($n = 155$). ROA has a mean of 2.78, standard deviation 10.21, maximum 36.00, and minimum -6.91 ($n = 155$). NPM shows a mean of -0.58, standard deviation 2.06, maximum 5.01, and minimum -4.61 ($n = 155$). DER has a mean of 1.14, standard deviation 1.08, maximum 6.34, and minimum -1.66 ($n = 155$).

Classical Assumption Test

Figure 1 Normality Test



Based on Figure 1, the Jarque-Bera test shows a value of 36.25440 with a probability of 0.000000, which is below the 0.05 significance level. This indicates that the data are not normally distributed. However, since the study uses panel data with varying trends across years, the normality assumption can be disregarded.

Table 3 Multicollinearity Test

	LNHS	LNROA	LNNPM	LNDER
LNHS	1	-0.0726637...	0.06771076...	0.18779930...
LNROA	-0.0726637...	1	0.04279019...	-0.0290885...
LNNPM	0.06771076...	0.04279019...	1	-0.0188458...
LNDER	0.18779930...	-0.0290885...	-0.0188458...	1

Based on Table 4.5 on the multicollinearity test, it can be seen that all cells between the independent variables in this study have correlation values below 0.8. Therefore, it can be concluded that there is no indication of multicollinearity in this study. This means that all independent variables in this study, namely Return on Assets, Net Profit Margin, and Debt to Equity Ratio, do not have a strong relationship or correlation with each other.

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Table 4 Heteroscedasticity Test

F-statistic	0.595760	Prob. F(3,151)	0.6187
Obs*R-squared	1.813165	Prob. Chi-Square(3)	0.6121
Scaled explained SS	1.739041	Prob. Chi-Square(3)	0.6283

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 04/26/25 Time: 17:28
Sample: 1 155
Included observations: 155

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.622718	0.136762	11.86524	0.0000
LN_ROA	-0.005527	0.008902	-0.620826	0.5356
LN_NPM	0.032912	0.044104	0.746223	0.4567
LN_DER	-0.079333	0.084137	-0.942902	0.3472

Based on Table 4 above, it can be seen that all independent variables in the Glejser test have significance values above 0.05. Therefore, it can be concluded that the data in this study is free from heteroscedasticity symptoms.

Table 5 Autocorrelation Test

R-squared	0.452004	Mean dependent var	1.14E-15
Adjusted R-squared	0.433615	S.D. dependent var	1.875263
S.E. of regression	1.411296	Akaike info criterion	3.564834
Sum squared resid	296.7716	Schwarz criterion	3.682644
Log likelihood	-270.2747	Hannan-Quinn criter.	3.612686
F-statistic	24.57998	Durbin-Watson stat	1.956245
Prob(F-statistic)	0.000000		

The autocorrelation test can be seen from the Durbin-Watson value. In this study, the Durbin-Watson value is 1.956245. This value falls within the acceptable range for the autocorrelation test, which is between -2 and 2. Based on the criteria put forward by Gujarati & Porter (2012), this value is still within the range indicating no autocorrelation symptoms. Therefore, it can be concluded that the model in this study is free from autocorrelation.

Table 6 Panel Data Regression Estimation Using Fixed Effect Model (FEM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	160.3796	23.08261	6.948070	0.0000
ROA	60.59021	39.88162	1.519251	0.1313
NPM	4.320144	2.147479	2.011728	0.0465
LOG(DER)	10.98428	16.18662	0.678603	0.4987
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.691924	Mean dependent var	168.8237	
Adjusted R-squared	0.607903	S.D. dependent var	257.2020	
S.E. of regression	161.0539	Akaike info criterion	13.19243	
Sum squared resid	3138541.	Schwarz criterion	13.86002	
Log likelihood	988.4133	Hannan-Quinn criter.	13.46359	
F-statistic	8.235145	Durbin-Watson stat	1.561949	
Prob(F-statistic)	0.000000			

The constant value in this study is 160.3796, indicating that if Return on Assets, Net Profit Margin, and Debt to Equity Ratio are zero, the stock price will remain constant at 160.3796. Return on Assets has a positive relationship with the stock price, with a regression coefficient of 60.59021, meaning that a 1% increase in Return on Assets will raise the stock price by 0.1313. Similarly, Net Profit Margin positively affects the stock price with a coefficient of

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4.320144, so a 1% increase leads to a 0.0465 increase in stock price. Debt to Equity Ratio also shows a positive effect with a coefficient of 10.98428, indicating that a 1% increase results in a 0.4987 rise in the stock price. The model's Adjusted R-squared value is 0.6079 or 60.79%, which means that these variables explain 60.79% of the variation in stock prices, while the remaining 39.21% is influenced by other factors outside the scope of this study. Hypothesis testing in this study uses the t-test to examine the partial influence of independent variables on the dependent variable. The rule is: if the t-statistic > t-table, the independent variable significantly affects the dependent variable; otherwise, it does not. The t-table value with degrees of freedom (n-k) = 155 - 4 = 151 at a 5% significance level is 1.975.

1. The t-value for Return on Assets is 1.519, which is less than 1.975, indicating that Return on Assets does not have a significant effect on the stock price. This is supported by a p-value of 0.1313 > 0.05.
2. The t-value for Net Profit Margin is 2.012, greater than 1.975, indicating a positive and significant effect on the stock price. The p-value is 0.0465 < 0.05.
3. The t-value for Debt to Equity Ratio is 0.679, less than 1.975, showing no significant effect on the stock price, supported by a p-value of 0.4987 > 0.05.

Table 7 Coefficient of Determination Test (R²)

Cross-section fixed (dummy variables)			
R-squared	0.691924	Mean dependent var	168.8237
Adjusted R-squared	0.607903	S.D. dependent var	257.2020
S.E. of regression	161.0539	Akaike info criterion	13.19243
Sum squared resid	3138541.	Schwarz criterion	13.86002
Log likelihood	988.4133	Hannan-Quinn criter.	13.46359
F-statistic	8.235145	Durbin-Watson stat	1.561949
Prob(F-statistic)	0.000000		

Based on Table 7, it can be seen that the R-squared value is 0.691924. This indicates that the variables Return on Assets, Net Profit Margin, and Debt to Equity Ratio explain 69.19% of the variation in stock prices, while the remaining 30.81% is influenced by other variables not included in this study.

Discussion

Effect of Return on Assets on Stock Price

This indicates that Return on Assets does not have a significant effect on stock prices of banking companies listed on the Indonesia Stock Exchange during 2019-2023. Therefore, hypothesis H1 is rejected, contradicting the initial hypothesis that Return on Assets significantly influences stock prices. This result aligns with previous studies by Kadek Ardana Ria Wardhani et al. (2024) and Akbar & Djawoto (2021), which also found that Return on Assets does not significantly affect stock prices. This suggests that investors do not consider Return on Assets as a primary factor in investment decisions, as the increase in asset efficiency is not statistically strong enough to impact stock prices significantly.

Effect of Net Profit Margin on Stock Price

Based on Table 4.8 of the Fixed Effect Model regression results, Net Profit Margin has a t-value of 2.012 with a probability of 0.0465. This indicates that Net Profit Margin has a positive and significant effect on stock prices of banking companies listed on the Indonesia Stock Exchange during 2019-2023. Thus, hypothesis H2 is accepted, supporting the hypothesis that Net Profit Margin positively and significantly influences stock prices. This finding is consistent with previous studies by Leonatan & Yuniur (2022) and Sari & Trisnawati (2022), which also found a positive and significant impact of Net Profit Margin on stock prices. It shows that a higher Net Profit Margin, reflecting better operational efficiency and cost management, tends to attract investors and increase stock prices.

Effect of Debt to Equity Ratio on Stock Price

This indicates that the Debt to Equity Ratio has no significant effect on the stock prices of banking companies listed on the Indonesia Stock Exchange during 2019-2023. Thus, hypothesis H₃ is rejected, contradicting the initial hypothesis. This result aligns with previous studies by L. Sari et al. (2022) and Kadek Ardana Ria Wardhani et al. (2024), which also found no significant effect of Debt to Equity Ratio on stock prices. The Debt to Equity Ratio

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measures the extent to which a company is financed by debt compared to equity. A high DER usually indicates higher financial risk, which could lower stock prices due to investor caution. However, the insignificant effect may be because the market is not highly sensitive to debt levels as long as the company meets its obligations and earns profits. Additionally, some industries typically have high DER, and investors may not view this negatively.

CONCLUSION

The Return on Assets variable has no significant effect on the stock prices of banking companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. In contrast, the Net Profit Margin variable has a positive and significant effect on stock prices for the same companies and period. Meanwhile, the Debt to Equity Ratio variable also shows no significant influence on stock prices of banking companies listed on the IDX during 2019-2023.

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