Original Research Article

THE EFFECT OF FINANCIAL RATIO ON STOCK PRICE IN BANKS LISTED ON THE INDONESIA STOCK EXCHANGE (IDX)

Abstract

This study aims to analyze the effect of financial ratios on stock prices at banks listed on the IDX, how to influence Return on Assets (ROA), Debt Equity Ratio (DER), Price Book Value (PBV), and Net Profit Margin (NPM) on stock prices. This research method uses the descriptive method. The units of analysis of this study are companies listed on the Indonesia Stock Exchange (IDX) with the banks' sector. The research sample is 50 bank companies listed on the Indonesia Stock Exchange (IDX). The analytical method used in this study is using multiple linear regression method. The results showed that partially PBV has a positive effect on stock prices, while ROA has no positive effect. DER has no negative effect on stock prices, and NPM has no positive effect on stock prices. Simultaneously ROA, DER, PBV, and NPM affect stock prices at banks listed on the Indonesia Stock Exchange. The limitations of this study are the limitations of the processed data and the variables used. This study can be helpful in the community, especially investors, as a material consideration in investing in companies.

Keywords: ROA, DER, NPM, PBV, Stock Price

1. Introduction

The Indonesia Stock Exchange, also known as the IDX, provides securities trading facilities in the Indonesian capital market. The IDX also functions to control securities trading. The IDX as a capital market plays an essential role in a country's economy because one of them is as a means of funding. Companies can get funds from investors for additional working capital or business development. The company will always maintain its share price in the capital market to attract investors. The stock price must be maintained as optimal as possible because the stock price cannot be too high or too low. Stock prices that are too low will have a negative impact on investors' assessment of the company.

The stock price is one of the most important things in determining investor decisions (Safitri, 2013) and is closely related to company value. High stock prices will make the company value also high. The value of the company will indicate the level of success of the company. It will increase investor confidence in the company's performance both in the company's current performance and in the future. Meanwhile, suppose a stock price is low. In that case, the takeover opportunity is greater because the company becomes relatively cheaper, and the takeover opportunity increases. Under the takeover conditions, the old management has to leave (Hunjra et al., 2014). However, in data on the development of share prices at bank financial institutions listed on the IDX for 2014 - 2017, there was a decrease in share prices.

Table 1. Stock Price Development

Year	2014	2015	2016	2017
Stock Price	23.76 %	22.55 %	25.85 %	27.84 %

Table 1 above shows that the share price of bank financial institutions in 2015 decreased. In 2014 it was 23.76%, and in 2015 it was 22.55%, a decrease of 1.21%. Whereas in 2016 and 2017, it experienced an increase, although the decline in 2014 was not too significant, some factors influenced the decline in the share price of these financial institutions.

This phenomenon is a concern for a company to maintain stock prices as optimal as possible. This condition is because a company's stock price reflects investors' perceptions of its ability to obtain and grow its profits in the future. If shareholders are happy and the company is doing well, as reflected by its share price, its executives are more likely to keep their jobs and receive an increase in compensation. High share prices also tend to discourage potential takeovers. If a company's stock price performs well, the company is likely to receive better media and analyst commentary (Murphy, 2022). Several factors can affect the decline in stock prices of the company's financial ratios, such as Return on Assets (ROA), Debt to Equity Ratio (DER), Price Book Value (PBV), and Net Profit Margin (NPM).

Return On Assets (ROA) is a profitability ratio that shows a company's ability to obtain net profit after tax from the assets used by the company. ROA is measured by comparing net income after interest and taxes with the company's total assets. Debt Equity Ratio (DER) is a solvency ratio that shows a company's ability to fulfill its obligations. A comparison of total debt and total equity can measure DER. Price Book Value (PBV) is the ratio used to measure the net profit generated by each sale. PBV is calculated by dividing the stock price by the book value per share, then dividing the equity value by the number of outstanding shares. Net Profit Margin (NPM) is a profitability ratio that shows how much percentage of net profit is obtained from each sale. The ratio of net profit after tax to net sales measures NPM. Several recent studies discussing ROA, DER, PBV, and NPM on stock prices, namely Hutami (2012), Dewi & Suayana (2013), Pratama & Erawati (2014), Robert (2014), Septian et al (2019), Ono Tarsono (2021), Masrurah et al (2018), and Juwita & Diana (2012).

This paper consists of several sections of discussion, which are arranged progressively. In the first section, the rationalization of the importance of conducting research is explained based on the identified research gaps. The second section explains a literature review related to the definition of each research construct and the rationalization of the relationship between constructs as a basis for determining the research hypothesis. The third section explains the method used, from the sampling technique to the data analysis technique used to test the hypothesis. The fourth section describes the discussion of each of the findings successfully revealed from the results of empirical data analysis. In the last section, the conclusions of the research results are briefly presented.

2. Literature review and hypothesis development

The Effect of Return On Assets (ROA) on Stock Price

Return On Assets (ROA) refers to a financial ratio that shows how profitable a company is to its total assets (Hargrave, 2022). Return on Assets (ROA) measures the ability to generate net income based on a certain level of assets (Sharma et al., 2020). Return On Assets financial ratios shows the company's ability to generate

profits and the assets used (Sari, 2018). There is adequate empirical evidence that ROA is positive and significant on stock prices. A study conducted by Robert (2014) revealed that ROA has a positive effect on stock prices. In line with research by Hunjra et al (2014), ROA significantly influences stock prices. Therefore, the first hypothesis of this study is as follows:

H1: ROA has significant effect on stock price

The Effect of Debt Equity Ratio (DER) on Stock Price

DER is used to evaluate a company's financial leverage and is calculated by dividing its total liabilities by its shareholders' equity. DER is an essential metric in corporate finance. It measures the degree to which a company finances its operations with debt rather than resources (Fernando, 2022). The DER ratio shows that the larger the balance, the greater the risk of the stock price declining, and vice versa (Juwita & Diana, 2012). The debt-to-equity ratio significantly and positively affects stock prices. Based on research conducted by Pratama & Erawati (2014), and in line with studies conducted by Ono Tarsono (2021), research results show that the Debt Equity Ratio (DER) has a significant positive effect on price shares. Thus, there is adequate empirical evidence that the Debt-to-equity ratio has a positive and significant effect on stock prices. Therefore, the second hypothesis of this study is as follows:

H2: Debt to equity ratio has significant effect on stock price

The Effect of Price to Book Value (PBV) on Stock Price

Companies commonly use price to Book Value (PBV) to compare a company's market capitalization with its book value (Fernando, 2022b). Based on the results of research conducted by Septian et al (2019), it can be seen that "price to book value has a significant effect on stock prices. Then supported by research by Masrurah et al., (2018) that Price to Book Value significantly influences stock prices. Therefore, adequate empirical evidence indicates that Price to Book Value positively and significantly affects stock prices. Therefore, the third hypothesis of this study is as follows:

H3: Price to Book Value has significant effect on stock price

The Effect of Net Profit Margin (NPM) on Stock Price

Net Profit Margin (NPM) is one of the most critical indicators of a company's overall financial health, commonly used to measure how much net profit is generated as a percentage of revenue received (Murphy, 2022a). Net Profit Margin (NPM) is very helpful for investors in assessing whether the company's management generates sufficient profits from its sales and whether operating costs and overhead costs can be controlled (Murphy, 2022a). Research by Hutami (2012) states that NPM positively and significantly affects company stock prices. Therefore, the fourth hypothesis of this study is as follows:

H4: Net Profit Margin has significant effect on stock price

The Effect of ROA, DER, PBV and NPM Simultaneously on Stock Price

ROA, DER, PBV, and NPM are indicators for financial ratio analysis, and companies use financial ratios to assess company performance while the company is running. So that companies can take appropriate financial policies.

Shareholders need ROA, PBV, and NPM information because it will show how much the company will generate optimal profits. A large ROA, PBV, and NPM will indicate a company's success. While the DER ratio analysis will show how much of the company's debt and capital will be used as funding.

Much research has been done on how much influence financial ratios have on company stock prices. This circumstance is to know more about how much influence financial ratios have on stock prices so that it will attract investors to invest their capital, ultimately increasing the company's stock price. Therefore, the fifth hypothesis of this study is as follows:

H5: ROA, DER, PBV and NPM simultaneously affect Stock Price

3. Methods

The research method used in this research is using descriptive method. This type of research is quantitative research. The population of this study is bank companies listed on the Indonesia Stock Exchange (IDX) with the banks' sector. The sample was determined using a purposive sampling method with a sample size of 50 bank companies listed on the Indonesia Stock Exchange (IDX). The data source in this study is secondary data of bank companies in the 2014 – 2017 period, which are listed on the Indonesia Stock Exchange (IDX). The data collection technique in this study is to use a documentation study. Data analysis in this study began with compiling multiple linear regression equations, then testing the classical assumptions and hypotheses. Data analysis was carried out using the SPSS version 25 computer program.

4. Result

1) Classic assumption test

a. Normality test

The normality test used in this study is the Kolmogorov-Smirnov Monte Carlo Test, which is as follows:

Table 2. Normality test results

			Unstandardized Residual
N			50
Normal Parameters[a,b]	Mean		.0000000
	Std. Deviation		8.78310072
Most Extreme Differences	Absolute		.150
	Positive		.150
	Negative		-.110
Test Statistic			.150
Asymp. Sig. (2-tailed)			.007[c]
Monte Carlo Sig. (2-tailed)	Sig.		.191[d]
	99% Confidence Interval	Lower Bound	.181
		Upper Bound	.201

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.
d. Based on 10000 sampled tables with starting seed 624387341.

Based on table 2 above, a sig value of 0.191 is produced. It can be concluded that the research data does not occur residual or normally distributed because of the value of Sig > 0.05.

b. Multicollinearity test

Table 3. Multicollinearity test

		Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
Model		B	Std. Error	Beta	Tolerance	VIF
1	(Constant)	5.157	5.140			
	ROA	3.832	3.447	.491	.055	18.042
	DER	.044	.554	.009	.879	1.137
	PBV	13.344	2.087	.688	.932	1.073
	NPM	-.220	.337	-.290	.055	18.285

a. Dependent Variable: HS1

Table 3 shows that the VIF value for the ROA variable is above ten, and the tolerance is below 0.1, so it does not meet the assumptions. The same results also occur in the NPM variable. Whereas for DER and PBV, the VIF value is below ten, and the tolerance value is above 0.1. Therefore, it can be concluded that the regression model does not have multicollinearity.

c. Heteroscedasticity test

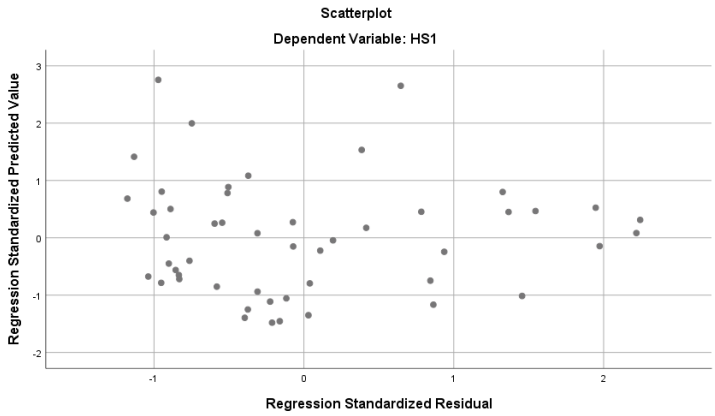

Figure 1. Heteroscedasticity test results

Referring to Figure 1 above can provide evidence that there is a spread of dots and no particular pattern is formed. It can be concluded that there is no heteroscedasticity.

d. Autocorrelation test

Table 4. Autocorrelation test

		Change Statistics				
Model	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.514	11.900	4	45	.000	1.494

a. Predictors: (Constant), NPM, PBV, DER, ROA

b. Dependent Variable: HS1

Referring to Table 4, essential information is revealed. A DW value of 1.494 is obtained. The DU value for 50 data of four variables is 1.7214, and the 4 – du value is (4 – 1.7214 = 2.2786). Therefore, the DW value lies between du and 4-du. Therefore, it can be concluded that the regression model in this study did not occur autocorrelation.

2) Regression analysis

The regression analysis results in this research model are comprehensively presented in Table 5 below.

Table 5. Regression analysis results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.157	5.140		1.003	.321
	ROA	3.832	3.447	.491	1.112	.272
	DER	.044	.554	.009	.080	.936
	PBV	13.344	2.087	.688	6.395	.000
	NPM	-.220	.337	-.290	-.652	.518

a. Dependent Variable: HS1

Referring to table 5 above, it can be presented in the regression equation as follows:

Y = 5.157 + 3,832ROA + 0,044 DER+ 13,344 PBV -220 NPM + ε

Referring to this equation, it can be concluded as follows:

a) A constant of 5.157 means that if the value of X1, X2, X3, and X4 = 0 or the ROA, DER, PBV, and NPM are 0, then the value of the variable y or the stock price is 5.157.
b) The ROA coefficient value is 3.8332, meaning that there is a direct comparison between the X and Y variables, that is, if ROA increases, the stock price also increases.
c) The DER coefficient value is 0.044, meaning that there is a direct comparison between the X and Y variables, that is, if the DER increases, the stock price will increase
d) The PBV coefficient value is 13.344, meaning that there is a direct comparison between the X and Y variables, that is, if PBV increases, the stock price will increase
e) The NPM coefficient value is -0.220, meaning that there is an inverse comparison between the X and Y variables, that is, if the NPM increases, the stock price will decrease

The next analysis stage is to carry out the t-test procedure to examine each existing research hypothesis.

3) t-test

The procedure for testing the research hypothesis was carried out through a t-test, with the results comprehensively presented in Table 6 below.

Table 6. t-test Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.157	5.140		1.003	.321
	ROA	3.832	3.447	.491	1.112	.272
	DER	.044	.554	.009	.080	.936
	PBV	13.344	2.087	.688	6.395	.000
	NPM	-.220	.337	-.290	-.652	.518

a. Dependent Variable: HS1

Referring to Table 6 above, it can be interpreted as follows

1. *ROA*

   When examined from the Sig value of ROA is 0.272, the standard set is 0.05. So that states that ROA does not affect stock prices, as well if we look at the t-statistics value of 1.112, which is smaller than the t-table of 1.676. The standard set should be t-statistics greater than the t-table.

2. *DER*

   When examined from the Sig DER value of 0.936, it is greater than 0.05, and the t-statistics is 0.080, which is smaller than the t-table of 1.676. Thus, the interpretation is that DER does not affect stock prices.

3. PBV

   When examined from the Sig PBV value of 0.000, it is less than the standard set at 0.05. This result was confirmed by acquiring a t-statistics value of 6.395, greater than the t-table of 1.676. Referring to these results, PBV has a significant effect on stock prices.

4. NPM

   When examined from the acquisition of the Sig value on the NPM variable, it is known that the value is 0.518, which is smaller than the standard set at 0.05. The acquisition of a t-statistics value of -0.652 also confirmed this result. The value was smaller than the t-table of 1.676. Thus, NPM has no significant effect on stock prices.

4) F-test

The procedure for testing the simultaneous hypothesis is carried out through the f-test. The results are presented comprehensively in Table 7 below.

Table 7. F-test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3998.520	4	999.630	11.900	.000[b]
	Residual	3780.000	45	84.000		
	Total	7778.520	49			

a. Dependent Variable: HS1

b. Predictors: (Constant), NPM, PBV, DER, ROA

When examined from table 7 above, it can be seen that the F-statistics value is 11.900, with an F-table of 2.56. This result means that the F-statistics value is greater than the F-table value. Thus, all independent variables simultaneously or together significantly affect the dependent variable. In other words, the variables ROA, DER, PBV, and NPM simultaneously significantly affect stock prices.

5. Discussion

This study examines the effect of ROA, DER, PBV, and NPM on stock prices. Based on the results of testing the hypothesis showing that ROA does not positively influence stock prices, empirical data have not supported the hypothesis. The size of the stock price is not affected by ROA. The stock price is sometimes determined by how the company's profit is generated from the assets used. ROA data for bank companies was also inconsistent in 2014 – 2017. Likewise, with hypothesis testing for DER, the data shows that DER does not have a negative effect on stock prices. Thus, the research hypothesis has not been supported by empirical data. The size of the share price is not affected by the ability of capital to guarantee a debt. Based on the results of testing the hypothesis, the Price Book Value (PBV) can have a positive influence on stock prices. So, it can be concluded that the research hypothesis has the availability of adequate empirical data support. The greater the PBV, the stock price will increase. PBV is related to indicators to show company value, and shares also measure company value. Based on the results of testing the hypothesis, it can be concluded that NPM does not positively affect stock prices. Thus, there is no adequate empirical data support to test the hypothesis of this study. The rate of return does not always influence stock prices, and several factors influence it, one of which is the company's unstable financial condition.

ROA, DER, PBV, and NPM have an influence simultaneously or jointly on stock prices. ROA, DER, PBV, and NPM are indicators for financial ratio analysis. Companies use financial ratios to assess company performance while the company is running. So that companies can take appropriate financial policies. Based on the results of testing the hypothesis, ROA, DER, PBV, and NPM have

an effect simultaneously or together on stock prices. ROA, DER, PBV, and NPM are the components used to measure financial ratios. The measurement of financial ratios is used to measure company performance. The company's performance is related to the achievement of the company's value, and the company's value will look good if the company's stock price increases.

6. Conclusion

The results of the study state that ROA, DER, and NPM do not affect stock prices in banks listed on the Indonesia Stock Exchange. Only PBV affects stock prices in banks listed on the Indonesia Stock Exchange. Meanwhile, ROA, DER, PBV, and NPM simultaneously or jointly influence stock prices in banks listed on the Indonesia Stock Exchange. The findings of this study contribute as a reference and consideration for investors to find out the development of stock prices in bank companies on the Indonesian stock exchange. Future research is expected to develop variables that have not been studied, considering the accelerated development of stock prices. Furthermore, it is essential to include contextual factors influenced by other factors that previous authors have not studied, such as government regulatory factors, political turmoil, systematic risk, fundamental factors, and others. In addition, it is also necessary to involve internal and external factors that can affect stock prices.

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