The Effect of Return on Assets and Return on Equity on Price to Book Value in Banking Sector Companies Listed on the Indonesia Stock Exchange

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Abstract: *This study examines the effect of Return on Assets (ROA) and Return on Equity (ROE) on Price to Book Value (PBV) in banking sector companies listed on the Indonesia Stock Exchange during 2020–2023. A quantitative causal design was employed using secondary data from annual financial statements of private banks. The population consists of 47 banking companies listed on the IDX, with 16 companies selected through purposive sampling. Return on Assets and Return on Equity served as independent variables, while Price to Book Value was the dependent variable. Data were analyzed using descriptive statistics and multiple linear regression with SPSS Version 25, preceded by classical assumption tests (normality, multicollinearity, and heteroscedasticity). The results show that Return on Assets has a significant positive effect on Price to Book Value (p = 0.024), whereas Return on Equity does not significantly affect Price to Book Value (p = 0.135). The adjusted R-square of 0.105 indicates that ROA and ROE jointly explain 10.5% of PBV variation, while the remaining 89.5% is attributable to other factors. The conclusion is that market valuation of Indonesian banking stocks is more sensitive to asset-based profitability than to equity-based profitability, which should be considered both by investors and bank managements aiming to optimize shareholder value.*

Introduction

In the modern era like today, various companies have been established with their superior products, so every company must be ready to compete from competitors that already exist. This condition encourages companies to carry out their activities effectively and efficiently in order to maintain competitive advantages and maintain the company's sustainability.

The capital market in Indonesia is an organized system to bring together parties that need funds (issuers) with parties that have excess funds (investors) through financial instruments such as stocks, bonds, and mutual funds. The capital market is considered an indicator of a company's economy. When the capital market shows growth, it indicates that a country's economy is growing. On the other hand, if the capital market is falling, there are signs that the country's economy is declining. (Pratama and Purwanto, 2014).

An investor who will invest his funds in a certain company, should conduct a performance analysis of the company in question. The better a company's performance, the greater its influence on the increase in stock prices. And vice versa, the more the performance of a company decreases, the more likely it is that the price of shares issued and traded will decline. The state of the company will be a benchmark for how much risk will be borne by investors (Hasniawati, 2020).

The banking sector has an important role in the economy of a country, including Indonesia. Banks function as financial institutions that connect those who have excess funds with those who need funds.

Banks that are able to maintain this efficiency during the pandemic are more likely to have strong PBVs. In the 2020-2023 period, banks, both state-owned and private, faced major challenges due to the pandemic, such as declining interest income and increasing credit risk. At that time, SOE Banks received support in the form of equity injections, and subsidies from the government because of their status as government companies so that these challenges could be accommodated. In contrast to private banks as non-governmental companies, they have to face the crisis period independently. Despite facing it independently, private banks are able to maintain stability through efficiency strategies and digital innovation. This makes private banks a relevant and interesting research subject to examine the relationship between ROA, ROE, and PBV. To ascertain whether the company's condition is in a good or bad position by using the financial ratio analysis method (Sujarweni, 2021)

Price to Book Value (PBV) is used to measure the level of stock price whether overvalued or undervalued. The lower the Price to Book Value of a stock, the stock is categorized as undervalued, which is very good for long-term investment. Although PBV is

not directly measured using profitability, solvency, liquidity, or activity ratios, they can affect PBV indirectly because they reflect a company's financial performance that affects market valuations. (Magfiro, 2022).

Return on Assets (ROA) is one of the financial ratios that analyzes the performance of a company (Permana et al., 2021). The higher the ROA, the more efficient the company will be in utilizing its assets, which in turn increases investor confidence in the company's performance. ROA measures a company's efficiency in generating profits from the assets it owns (Choiriyah et al., 2021).

Return On Equity is the income available to company owners for the capital they invest in the Company (Silalahi et al., 2022). In contrast, ratios such as Gross Profit Margin (GPM), Operating Profit Margin (OPM), and Return on Capital Employed (ROCE) are not used because they are less relevant in the banking context. GPM and OPM are more suitable for manufacturing or trade sectors that focus on selling goods, rather than service-based activities such as banking. Therefore, ROA and ROE were chosen to provide a more focused and significant analysis of PBV in the banking sector. The ROA, ROE, and PBV levels of private banking companies can be seen in the table below:

Table 1. Ratio of Return on Assets, Return on Equity, and Price to Book Value of Banking listed on the IDX 2020-2022

Issue Code	*Return on Assets*				*Return on Equity*				*Price to Book Value*			
	2020	2021	2022	2023	2020	2021	2022	2023	2020	2021	2022	2023
BBCA	0,025	0,026	0,031	0,035	0,147	0,155	0,184	0,201	4,5	4,4	4,8	4,8
BSIM	0,003	0,002	0,005	0,001	0,020	0,017	0,030	0,010	1,4	2,3	2,3	2,2
BDMN	0,005	0,009	0,017	0,017	0,025	0,037	0,072	0,073	0,72	0,51	0,56	0,54
BNGA	0,007	0,013	0,017	0,020	0,049	0,094	0,113	0,133	0,61	0,56	0,66	0,86
MEGA	0,268	0,030	0,029	0,027	1,652	0,209	0,196	0,161	2,75	3,08	3,00	2,75
Average	0,062	0,016	0,019	0,065	0,378	0,102	0,119	0,116	1,99	2.17	2,26	2,23

Source : IDX Financial Report 2020-2023 (processed 2024)

Based on table 1.1, ROA, ROE, and PBV data from five banking companies (BBCA, BSIM, BDMN, BNGA, and MEGA) each represent interesting variations in financial performance and market valuation in Indonesia's banking sector. The combination of these banks provides a solid foundation for understanding financial performance patterns and PBV in the context of the private banking sector. BBCA is the largest private bank in Indonesia by market capitalization and total assets. BBCA and MEGA also have high PBVs that reflect market expectations for their profitability performance. On the other hand, BSIM, BDMN, and BNGA have lower PBVs, providing a balanced view in the analysis. BSIM, BDMN, and BNGA also provide an overview of medium and small banks facing different challenges and opportunities and implementing digital innovations, serving the MSME and retail segments during the pandemic to retain customers and improve operational efficiency.

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The difference in Price to Book Value among banks, such as BBCA and MEGA has a much higher PBV compared to BSIM, hinting at the influence of financial performance on market valuations. BBCA showed a PBV that increased from 4.5 in 2020 to 4.8 in 2022, reflecting investors' optimism about the bank's prospects. Instead, BSIM remains at a lower PBV, indicating less positive market perception or greater risk potential. The average Price to Book Value of the banking sector increased from 1.99 in 2020 to 2.26 in 2022, indicating an increase in overall market valuation. This increase may reflect an improvement in market perception of the stability and growth prospects of the banking sector amid the post-pandemic recovery.

The data also shows the difference in the Return on Asset and Return on Equity at BBCA, which experienced an increase in ROA from 0.025 to 0.035 in 2023 and ROE from 0.147 to 0.201 in 2023, in line with BBCA's PBV which increased from 4.5 to 4.8 in 2023. BDMN also experienced an increase in ROA from 0.005 to 0.017 as well as an increase in ROE from 0.025 to 0.073. But it has decreased in PBV from 0.72 in 2020 to 0.54 in 2023.

The above phenomenon shows that Price to Book Value is important to be studied in depth so that companies are able to compete and attract investors. There are many factors that affect the PBV ratio, one of which is ROA and ROE as the focus of the study. The Return on Assets (ROA) and Return on Equity (ROE) variables were chosen to study Price to Book Value (PBV) because they are able to reflect the company's financial performance and profitability.

Research related to the Effect of Return on Assets on Price to Book Value conducted by (Setiawati et al., 2020) on manufacturing companies shows that Return on Assets has an effect on Price to Book Value. Meanwhile, research conducted by (Putra & Sari, 2023) states that Return on Assets has no effect on Price to Book Value in Manufacturing Companies

Research related to Return On Equity conducted by (Jufri Sani Akbar, 2021) states that Return on Equity has an effect on Price to Book Value. Meanwhile, research conducted by (Adhiguna, 2023) states that Return on Equity has no effect on Price to Book Value.

Previous research mentioned above shows a research gap because the results of the study show different significance values. Based on the background, phenomenon, and research gap prompted the researcher to conduct a study entitled "The Effect of Return on Assets and Return On Equity on Price To Book Value in Banking Sector Companies Listed on the Indonesia Stock Exchange".

Research Methods

This research was conducted on banking sector companies listed on the Indonesia Stock Exchange. The data can be accessed through https://www.idx.co.id. The objects in this study are Return On Assets (ROA) and Return on Equity (ROE) as independent variables. The dependent variable used is Price to Book Value (PBV). The objects in this study are Return On Assets (ROA) and Return on Equity (ROE) as independent variables. The dependent variable used is Price to Book Value (PBV).

In this study, the sampling technique used is purposive sampling where purposive sampling is a sample determination technique with certain considerations according to the author (Sugiyono, 2020). So that the number of samples is 13 companies. The types of data in this study are quantitative and qualitative data. The data sources used are primary data and secondary data. Primary data in this study can be in the form of interviews, surveys, or questionnaires. Meanwhile, secondary data is obtained through intermediaries, such as documents or archives, literature studies, and documentation publications.

The data source used in this study is secondary data in the form of publication of annual financial statements of private banking companies obtained from the official website of the Indonesia Stock Exchange http://www.idx.co.id. According to Sugiyono (2020), to obtain the expected research results, information data is needed that will support this research. The data collection method in this study is to use the documentation method. Documentation is data collection that is carried out in the form of notes and images related to the problem being researched (Dharmawati et al., 2021).

The data analysis methods in this study are: (1) Descriptive Statistical Analysis, (2) Multiple Linear Regression Analysis, (3) Classical Assumption Test, (4) Normality Test, (5) Multicollinearity Test, (6) Heterokedasticity Test. Meanwhile, for the hypothesis test: (1) Partial Test (t-test) (2) Coefficient of Determination (R2). The formulas used in the multiple linear regression model are:

$$Y = a + b1X1 + b2X2 + e$$

Description:

Y = Price to Book Value

a = constant number

b1, b2,= regression coefficient

X1 = ROA

X2 = ROE

E = Error Factor

Result and Discussion

1. Deskriptif Data

Descriptive Statistical Analysis includes the amount of data, mean value, median, maximum, minimum, and standard deviation in the variable data used in the research, namely the variables Return on Assets, Return on Equity, and Price to Book Value.

Table 1. Descriptive Statistical Analysis of Research Variables Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Hours of deviation
LENGTH	56	-.8030	.2680	-.007786	.1229085
ROE	56	-1.5030	1.4140	.049714	.2874630
PBV	56	-.0890	4.7780	1.308607	1.3459227
Valid N (listwise)	56				

Source: Processed Secondary Data (SPSS V25), 2025

 a. Return on Assets

The Return on Assets variable calculated by Net profit divided by the total assets of the current year for banking companies listed on the Indonesia Stock Exchange for the 2020-2023 period has a mean value (average) of -0.007786; a maximum value of 0.2680; and a minimum value of -0.8030; and a standard deviation value of 0.1229085

 b. Return on Equity

The Return on Equity variable calculated by Net profit divided by the total equity for the current year for banking companies listed on the Indonesia Stock Exchange for the period 2020-2023 has a mean value (average) of -0.049714; a maximum value of 1.4140; and a minimum value of -1.5030; and a standard deviation value of 0.2874630

 c. Price to Book Value

The variable Price to Book Value calculated by the share price divided by the book value per share share for the current year for banking companies listed on the Indonesia Stock Exchange for the 2020-2023 period has a mean value (average) of 1.308607; a maximum

value of 4.7780; and a minimum value of -0.0890; and a standard deviation value of 1.3459227

Normality Test

Figure 1. Normality Test Results
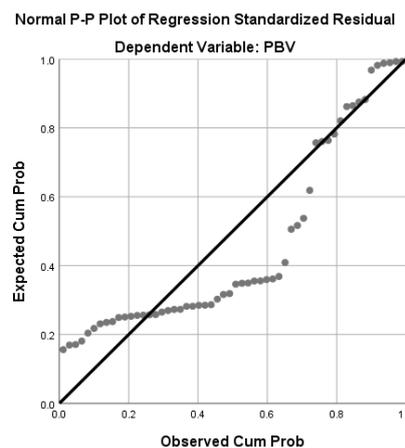
Source: Processed Secondary Data (SPSS V25), 2025

Based on figure 1, you can see the Normal P-P Plot of Regression Standardized Residual display which shows the distribution points around the diagonal line, as well as the distribution following the direction of the diagonal line. From the results above, the regression model is worth using. To be more convincing about the results of the normality of the data from the regression model, the following is shown the data from the normality test based on the value of histogram data.

Multicollinearity Test

Table 2. Multicollinearity Test

| Variabel	Collinearity Statistics		Remarks
	Tolerance	LIVE	
LN_X1	0.930	1,076	No Multicollinearity Occurs
LN_x2	0.930	1,076	No multicollinearity occurs

Source: Processed Secondary Data (SPSS V25), 2025

Based on the table, the value of the Variance Inflation Factor (VIF) for the Return on Assets (X1) variable is 1.076 and the Return on Equity (X2) variable is 1.076. The tolerance value of the Return on Assets (X1) variable is 0.930 and the Return on Equity (X2) variable is 0.930. It can be concluded that the regression model does not have multicollinearity.

Heterokedasticity Test

Figure 2. Heterokedasticity Test
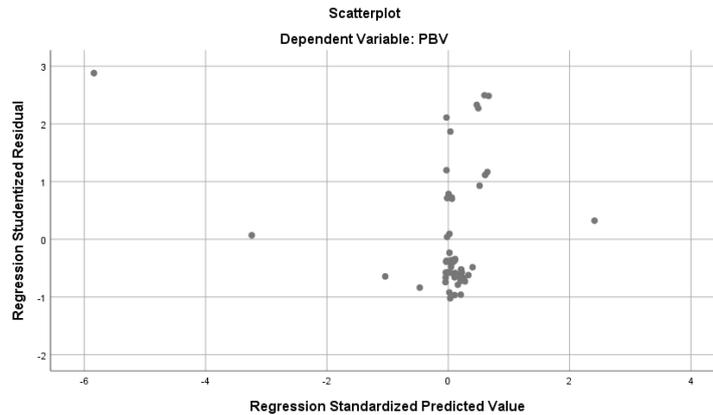
Source: Processed Secondary Data (SPSS V25), 2025

Based on Figure 2 of the scatter plot above, it can be seen that the residual value and the predicted value do not form a certain pattern (random), so it can be interpreted that the regression model in this study is free from heteroscedasticity problems and this model is suitable to be used to predict the Price to Book Value variable based on the input of the Return On Assets and Return On Equity variables.

Multiple Linear Regression Results

Table 3. Multiple Linear Regression Analysis Results

Model	*Coefficients*a				
	Unstandardized Coefficients		*Standardized Coefficients*	t	Say.
	B	Std. Error	Beta		
1. (Constant)	1.288	.176		7.319	.000
LENGTH	3.422	1.476	.312	2.319	.024
ROE	.956	.631	.204	1.516	.135
a. *Dependent Variable*: LN_Y					

Source: Processed Secondary Data (SPSS V25), 2025

Based on the multiple linear regression analysis equation, the following conclusions are obtained:

1. A constant value of 1.288 can be interpreted if the Return On Assets and Price to Book Value have a constant value or zero, then the Price to Book Value has a value of 1.288.

2. The value, which is the regression coefficient of the X Return On Assets variable of 3.422, this means that if the value of Return On Assets is getting higher or there is an increase of

1%, there can be an increase in the Price to Book Value of 3.422, assuming that other variables have a fixed (constant) value.

3. The value of bX, which is the regression coefficient of the X Return On Equity variable of 0.956, means that if the Return On Equity value is higher or there is an increase of 1%, there can be an increase in the Price to Book Value of 0.956, assuming that other variables have a fixed (constant) value.

Uji hypothesis

Table 4. Hypothesis Test

Variabel	B	Say.	Remarks
LN XI	3,422	0,024	Influential
LN X2	0,956	),135	Has no effect

Source: Processed Secondary Data (SPSS V25), 2025

Partial Test (t-test)

Based on the results of the t-test (partial test) above, the following conclusions were obtained:

1. Pengaruh Return on Assets terhadap Price to Book Value

Based on the results of the test table 4.7, the results of the t-test on the Return on Assets variable have a significance value of $0.024 < 0.05$, so the first hypothesis is accepted. This shows that Return on Assets has an effect on the Price To Book Value of banking sector companies on the Indonesia Stock Exchange.

2. The Effect of Return on Equity on Price To Book Value

Based on the results of the test table 4.7, the results of the t-test on the Return on Equity variable have a significance value of $0.135 > 0.05$, so the first hypothesis is rejected. This shows that the Return on Equity has no effect on the Price To Book Value of banking sector companies on the Indonesia Stock Exchange.

Coefficient of Determination (R2)

Table 5. Results of Detrmination Coefficient (R2)

Model Summaryb

Models	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.325a	.105	.072	1.2967504

Source: Processed Secondary Data (SPSS V25), 2025

From table 4.8, the adjusted R square value is 0.105, the adjusted R2 value is 10.5%, meaning that 10.5% of the dependent variable, namely Price to Book Value, can be explained by the variables Return on Assets and Return on Equity. The remaining 89.5% is explained by other variables not included in the research model such as revenue growth, dividend policy, credit risk and market risk.

Discussion

Pengaruh Return on Assets terhadap Price to Book Value

Based on the results of the study, it shows that Return on Assets affects Price to Book Value in banking companies on the Indonesia Stock Exchange. This can be interpreted that the higher the level of profitability generated by the company's assets, the higher the market valuation reflected in the Price to Book Value. From the results of the statistical test, a ROA regression coefficient value of 0.312 was obtained, which indicates that every 1% increase in ROA will increase the PBV by 312, assuming the other variables remain constant. The t-calculated value for ROA is 2.319 with a significance value (p-value) of 0.024, which is below the significance level of 5% (0.05). This shows that ROA has an influence on PBV.

The Effect of Return on Equity on Price to Book Value

Based on the results of the study, it shows that Return on Equity has no effect on Price to Book Value in banking companies listed on the Indonesia Stock Exchange. This can be seen from the results of the hypothesis test which shows a significance value of 0.135, which is greater than the significance limit of 0.05. Thus, the hypothesis that ROE has an effect on PBV is rejected, meaning that changes in ROE do not necessarily increase or decrease the value of PBV.

Conclusion and Recommendation

Based on the results and discussion, it can be concluded that Return on Assets (ROA) has a significant effect on Price to Book Value (PBV) in banking companies listed on the Indonesia Stock Exchange, indicating that higher profitability generated from company assets tends to increase market valuation, as investors perceive high ROA as a positive signal of effective business strategy, consistent profit generation, and good risk management in line with signal theory. Conversely, Return on Equity (ROE) does not have a significant effect on PBV, suggesting that although theoretically a high ROE should provide a positive signal regarding the company's ability to manage equity efficiently, in this study ROE was not strong enough to influence investors' valuation decisions, possibly because high ROE may result from unsustainable profits or accounting practices that do not fully reflect fundamental performance, leading investors to focus more on overall financial performance rather than solely on equity efficiency. Therefore, future researchers are recommended to expand the research object to other financial subsectors such as insurance or finance companies to obtain

broader insights, and to include additional variables such as solvency, liquidity, and activity ratios to better explain the factors affecting Price to Book Value.

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