



## Analysis of BTN Stock Price Changes (Period 2017 To 2023)

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**KEYWORDS:** ROA, ROE, NIM, BOPO, LDR and Share Price

**ABSTRACT:** The capital market is a place for investors to invest in financial instruments such as shares, bonds and mutual funds. Investors expect profits from shares that are used as investment outlets in the Capital Market.

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The research objective is to find out what fundamental variables (financial ratios) have an impact on changes in BTN share prices. Research object at Bank Tabungan Negara (BTN) for 7 years (2017 to 2023).

**License:**

Data processing analysis uses correlation tests, multiple regression, t test and F test as well as the Determinant Coefficient (Adjuster R Square).

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The research results show that the ROA and BOPO variables have a significant effect and the ROE, NIM and LDR variables do not have a significant effect on BTN share prices, for the period 2017 to 2023.

### INTRODUCTION

The capital market and banking sector have a very important role in a country's economy. The capital market is a place for investors to invest in financial instruments such as; stocks, bonds, and mutual funds. Meanwhile, the banking sector functions as a financial institution that provides loans, collects funds, and provides various financial services to the public and companies.

The banking sector is one of the important sectors in the Indonesian economy, because banking is one of the variables that drives the Indonesian economy. Banking has a very vital role in achieving national goals through improving and equalizing people's living standards. Banking supports the running of the economy, because banks function as intermediary institutions, payment transaction organizers, and monetary policy transmission tools (Kasmir, 2019).

In carrying out its business, banks collect funds from the public and channel them back into various investment alternatives. In connection with the function of collecting funds, banks are often called trust institutions. In line with these business characteristics, banks are a business segment whose activities are largely regulated by the government. (Siamat, 2005).

Kasmir (2016), states that a bank is a financial institution whose main activity is collecting funds from the community and channeling these funds back to the community as well as providing other banking services. Meanwhile, according to A, Abdurrachman (2014) "A bank is a type of financial institution that provides various services, such as providing loans, circulating currency, monitoring currency, acting as a place to store valuable objects, financing the businesses of companies".

Prospective investors before making a decision to invest on the IDX will always consider developments in closing share prices, because share prices are a form of information about investors' trust in the issuer. This means that investors will always analyze the factors that influence changes in share prices. To analyze stock prices, fundamental analysis and technical analysis are usually used.

Fundamental analysis to find out whether share prices are overvalued or undervalued, with data sources in the form of the issuer's financial and economic conditions, including sales trends, employment relations, product or service competition. Fundamental analysis aims to assess the issuer's performance, whether it has effectively and efficiently achieved company goals. Generally, the fundamental factors of the banking industry include; ROA, ROE, PBV, DER, PER, DPR, LDR, NIM, NPM and CAR.

Technical analysis uses issuer market data, including stock price trends, trading volume, stock price index. Technical analysis aims to provide stock predictions in terms of price and transaction volume, so that we can know the direction of changes in the issuer's share price in the future. ROA describes the efficiency of using banking assets in generating profits, while NIM is the difference between interest income generated from lending activities and interest costs paid by banks.

BOPO is a ratio that measures the ratio of Operational Costs to Operational Income. Operational Income to determine the level of efficiency and ability of the bank in carrying out its operational activities by dividing total operational costs and total operating income calculated per position (not annual period).

Investors want to buy company shares, so investors must pay attention to the condition or condition of the company's shares as seen from the company's share price. The share price is an indicator of success in managing a banking company, because if the share price of a company increases, many investors will be interested in investing in the company. Stock prices during trading hours move up/down every second. This price can be formed dozens of times within a day of trading for one type of stock (Samsul, 2006).

For investors or shareholders, there are two benefits (returns) obtained by buying shares, namely getting dividends and/or capital gains. Dividends are a direct part of the company's net profits that are distributed to shareholders, while capital gains (losses) come from share price fluctuations. The supply and demand for stock trading is motivated by rational considerations from investors, so that investors really need various kinds of accurate information as analytical material in making investment decisions in the capital market.

Slamet Sugiri (2011), stated that the intrinsic value of shares is obtained from the results of analysis of the company's fundamental factors (internal conditions). Another opinion says, if a company's performance is good, which is indicated by the level of company wealth also increasing, then the impact is an increase in profitability enjoyed by shareholders (Husnan, 2015).

Conversely, if the company's performance is poor, the company's profitability will decrease, and shareholder returns will also decrease. This occurred in the opinion of James C. Van Horne (Nugroho, 2016) who said, the better the company's performance as reflected in its ratios, the higher the company's stock return.

Research by Asti Nur Aryati et. Al (2022), shows that partially, Return On Equity (ROE) and Non-Performing Loans (NPL) have a significant effect on stock prices. Meanwhile, the ROA, LDR and CAR variables do not have a significant effect on share prices. The results of the coefficient of determination test (R<sup>2</sup>) show that the variables Return On Assets, Return On Equity, Loan to Deposit Ratio, Capital Adequacy Ratio, and Non-Performing Loans have an influence on stock prices of 38.60% and the remaining 61.40% is influenced by other factors not studied.

Research by Djoko Wijono, et Al (2023), based on the Common Effect Model using Eviews, the F test results show that the ROA, NIM and BOPO variables simultaneously have a significant effect on stock prices. Based on the t test results, ROA has a positive effect on share prices with a strong level of statistical significance. Furthermore, NIM is proven to have a negative influence on share prices, while BOPO has no effect on share prices. The prediction of the three independent variables on share prices reached 92.9%, while the remaining 7.1% was influenced by other factors that were not included in this research model.

Research, Munir Yapi (2010), shows simultaneously that Return On Equity, Return On Investment, Loan Deposit Ratio, Net Interest Margin, Operational Budget Operational Income, Net Profit Margin have a positive and significant effect on investment value. The research results also show that Return on Equity partially, Return on Investment has a positive and significant effect on investment value, Loan Deposit Ratio partially has a negative and insignificant effect on investment value, Net Profit Margin has a positive and insignificant effect on investment value and Operational Budget. Operating Income, Net Profit Margin have a negative and significant effect on investment value.

Research by Aini, et Al (2022), based on panel data regression analysis, can be explained that LDR has a negative effect on stock prices, CAR has a negative effect on stock prices, ROE has a positive effect on stock prices and BOPO has a negative effect on stock prices.

Bayu and Dedi's research (2024) shows that ROA has a positive effect on BTN share prices, while NIM and BOPO have a negative effect. This emphasizes the importance of Bank BTN to maximize ROA by paying attention to its assets.

The results of previous research by Wismaryanto (2013) and Purwanti (2020) show that ROA, NIM, and BOPO significantly influence banking share prices in the capital market. They found that banks with high ROA tend to have higher stock prices. Apart from that, banks with higher NIMs also tend to have higher share prices.

According to research conducted by Wijaya and Amelia (2017), Putri et al. (2022), and Hadi et al. (2021), ROA has a significant influence on banking share prices. They found that banks with high ROA tend to have higher share prices, because ROA reflects the level of profits generated by the company.

Research by Larasati et al. (2017) shows that NIM has a significant influence on banking share prices. The research results of Larasati et al. (2017), they found that banks with higher NIM tend to have higher share prices, because NIM reflects the bank's ability to generate higher interest income.

Research by Putri et al. (2022), Indah K. and Rasyid (2022), and Hadi et al. (2021) found evidence to the contrary, namely that NIM did not have a significant influence on banking share prices. Empirical evidence for banking companies on the IDX shows that NIM partially has a positive and significant effect on share prices (Chrisna, 2009).

Empirical evidence for banking companies on the IDX shows that BOPO partially has a negative and insignificant effect on share prices (Indriana, 2009). Research conducted by Wismaryanto (2013), BOPO has a significant influence on banking share prices. The results of their research show that banks with low BOPO tend to have higher share prices, because BOPO reflects the

bank's level of efficiency in its operational activities. The results of this research contradict the research results of Sembiring and Sinaga (2020), and Harahap and Hairunnisah (2017).

Previous studies by Wismaryanto (2013) and Purwanti (2020) found that ROA, NIM, and BOPO significantly influence banking share prices in the capital market. They also found that banks with higher ROA also tended to have higher share prices, and banks with higher NIM also tended to have higher share prices. These results indicate that there is a strong correlation between banking financial performance and their share prices.

Empirical evidence for banking companies on the IDX shows that LDR partially has a negative and insignificant effect on share prices (Munir, 2011). Seeing several research results on banking share prices on the IDX, I am interested in conducting more in-depth research on what variables influence changes in banking share prices in Indonesia, especially Bank Tabungan Negara (BTN), for the period 2017 to 2023 using the independent variables ROA, ROE, NIM, BOPO and LDR.

## LITERATURE REVIEW

### Stock Price (Stock Price)

According to (Mandagie et al., 2014), the share price is a share that is determined when the stock market is in progress, based on supply and demand. Meanwhile, according to Brigham et al. (2011), Share prices determine shareholder wealth. Maximizing shareholder wealth translates into maximizing the company's share price.

The stock price at any given time will depend on the cash flows expected to be received in the future by the "average" investor if the investor purchases the stock."The share price that occurs on the stock exchange at a certain time is determined by market players and is determined by the demand and supply of the shares concerned in the capital market. The formula for calculating Share Prices can be formulated as follows. (Brigham et al., 2011. Share Price = End of year closing share price (Closing Price)

Share prices reflect the market value of a company which is influenced by various factors. Bodie et al. (2022) explains that the share price is the price per share which is determined by the demand and supply of company shares in the capital market. Share prices reflect the level of investor trust and confidence in the company's prospects. Larasati et al. (2017) suggest several factors that can influence share price fluctuations, both from within and outside the company. Internal factors that influence include company profits, annual asset growth, liquidity level, total wealth value, and sales volume.

The closing stock price is the price requested by the seller or the last trading price for a period. In general, the decision to buy or sell shares is determined by a comparison between the estimated intrinsic value and the market price (Abdul Halim, 2005:31).

### ROA (Return on Assets)

Return on Assets (ROA) is an indicator of a bank's ability to earn a profit on a number of assets owned by the bank. ROA can be obtained by calculating the ratio between net profit after tax and total assets (Mandagie et al., 2014). Calculation of Return On Assets (ROA) according to Bank Indonesia Circular Letter Number 13/24/DPNP/2011 is formulated as follows:  $ROA = (\text{Profit before Tax} / \text{Total Assets}) \times 100\%$ .

ROA (Return on Assets) is an important financial ratio in measuring the efficiency of using company assets to generate profits. According to Brigham and Houston (2021), ROA is considered a ratio that measures a company's ability to generate net profits from the use of its assets. ROA is calculated by dividing net profit by the company's total assets. Gitman and Zutter (2019) state that ROA reflects the rate of return a company generates from the assets used in its business operations.

Pandey (2020) explains that ROA provides information about the extent to which a company can optimize the use of its assets. A high ROA indicates that the company is more efficient in managing and utilizing its assets. ROA is seen as a financial ratio that measures the efficiency of a company's use of assets in generating profits. ROA is calculated by dividing a company's net profit by its total assets. ROA is an important indicator for evaluating the financial performance of banking companies.

### ROE (Return on Equity)

ROE has a positive relationship with changes in profit. ROE is used to measure a company's effectiveness in generating profits by utilizing its equity (Hanum, 2009: 1). This ratio shows the efficiency of using own capital. The higher this ratio, the better. This means that the position of the company owner is getting stronger, and vice versa (Kasmir, 2012: 204).

### Net Interest Margin (NIM)

NIM (Net Interest Margin) is an important ratio in measuring banking efficiency in generating interest income from its productive assets. The basic concept of NIM can be found in the literature of Saunders et al. (2018) stated that NIM is a ratio that measures the difference between the net interest income generated by the bank and the productive assets owned. NIM is calculated by dividing the difference between net interest income and productive assets. Mishkin and Eakins (2018) explain that NIM reflects a bank's ability to generate interest income from its asset portfolio. A high NIM shows the bank's efficiency in managing its productive assets.

NIM is also defined as the difference between the interest income generated by banks from lending activities and the interest costs paid by banks on the sources of funds obtained. NIM is an important indicator in measuring the efficiency of fund management and banking interest activities.

Net Interest Margin (NIM) is a profitability ratio to measure the ability of productive assets to generate net interest income. The ratio calculation is net interest income divided by average productive assets (SE BI, 2001). Operational Costs to Operating Income (BOPO)

Operating costs operating income is a profitability ratio, with a calculation of total operating expenses divided by operating income, with figures calculated per position not annualized (SE BI, 2001). According to Rachmawati and Kristijanto (2009), BOPO is one of the ratios used to assess profitability in the banking industry. The BOPO ratio describes the level of bank efficiency in its operational activities. The BOPO ratio is calculated by comparing operational costs with operational income in a certain period.

Bank Indonesia Circular (SE) number 15/29/DKBU dated 31 July 2013 states that BOPO (Operational Income Operating Costs) is a ratio that measures the ratio of Operational Costs to Operational Income. Operational income to determine the level of efficiency and ability of the bank in carrying out its operational activities by dividing total operational costs and total operating income calculated per position (not annualized).

**Loan Deposit Ratio (LDR)**

According to (Kasmir, 2019), LDR (Loan to Deposit Ratio) is a ratio used to measure the composition of the amount of credit given compared to the amount of public funds and own capital used. Meanwhile, according to (Riyadi, 2015) Loan to Deposit Ratio is a comparison of total credit to Third Party Funds (DPK) collected by the Bank. According to (Sudirman, 2013), this ratio can be formulated as follows:  $LDR = (\text{Amount of Credit} / \text{Third Party Funds}) \times 100\%$ .

LDR is the ratio of credit provided to third parties in the form of rupiah and foreign currency, excluding credit to other banks, to third party funds including current accounts, savings and deposits in the form of rupiah and foreign currency, excluding interbank funds. The lower limit of the target LDR is 78% and the upper limit of the target LDR is 92% (Bank Indonesia Regulation, 2013; 8).

**RESEARCH METHODS**

**Research Population and Sample**

This research uses a quantitative research design and the research population consists of Financial Ratios from National Savings Bank (BTN) data. The research sample is BTN financial ratio data from the 2017 to 2023 period.

**Data Collection Techniques and Instruments**

Data collected from the Bank Tabungan Negara (BTN) annual financial report is available on the BTN website and website. The data required for this research includes Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Rational Income Operating Expenses (BOPO) and Loan Deposit Ratio (LDR) as well as stock prices (Stock Price) State Savings Bank (BTN) for the period 2017 to 2023.

Data Analysis Methods Analysis of research data using correlation tests, multiple regression, partial tests (t tests), simultaneous tests (Anova test or F test).

*The multiple regression is as follows:*

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

Information :

a= Constanta b1,b2,b3,b4,b5

X1 = Return on Assets (ROA)

X2 = Return on Equity (ROE)

X3 = Net Interest Margin (NIM)

X4 = Operational Costs to Operational Income (BOPO)

X5 = Loan Deposit Ratio (LDR).

**RESULTS AND DISCUSSION**

**Model Summary**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.999 <sup>a</sup>	.999	.991	75.37445

a. Predictors: (Constant), LDR, NIM, ROA, BOPO, ROE

The results of data processing using SPSS software version 26, Model Summary Adjusted R Square is 0.991 or 99.1%, meaning the joint influence of the independent variables (ROA, ROE, NIM, BOPO and LDR) on Bank BTN Share Prices for the 2017 period

until 2023 amounting to 99.1%. This figure means that the influence of the independent variables together on the dependent variable is very strong.

#### ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3887140.120	5	777428.024	136.840	.065 <sup>b</sup>
Residual	5681.308	1	5681.308		
Total	3892821.429	6			

a. Dependent Variable: Stock Price

b. Predictors: (Constant), LDR, NIM, ROA, BOPO, ROE

The results of the Anova model analysis (F test) between the independent variables (LDR, NIM, ROA, BOPO and ROE) on the dependent variable (BTN share price) with a Sig value of 0.650 > 0.050, meaning that the simultaneous influence of the independent variables on the dependent variable is not significant.

#### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	-60128.888	3652.012		-16.465	.039
ROA	5967.869	307.800	3.713	19.389	.033
ROE	171.487	97.372	.647	1.761	.329
NIM	70.956	388.576	.054	.183	.885
BOPO	630.618	37.778	4.103	16.693	.038
LDR	-20.805	5.751	-.254	-3.618	.172

a. Dependent Variable: Stock Price

#### *The results of multiple regression analysis are:*

$$Y = -60,128.88 + 5,967.86 \text{ ROA} + 171.48 \text{ ROE} + 70.95 \text{ NIM} + 630.61 \text{ BOPO} - 20.80$$

LDR Partial test results (t test), between the independent variable and the dependent variable, it turns out that only the variables Return on Assets (ROA) and Operational Costs on Operating Income (BOPO), have a significant effect, because the Sig of ROA is 0.033 < 0.050 and the Sig of BOPO is 0.038 < 0.050, so it has a significant influence on share prices. Meanwhile, the Return on Equity (ROE), Net Interest Margin (NIM) and Loan Deposit Ratio (LDR) variables each have a Sig ROE value of 0.329 > 0.050, Sig NIM of 0.885 > 0.050 and Sig LDR of 0.172 > 0.050, so the three variables (ROE, NIM and LDR) have no significant influence on BTN share prices for the period 2017 to 2023.

#### CONCLUSION

An investor's goal is to expect an increase in the funds invested in the Indonesian capital market (BEI), through purchasing shares. Share prices will be influenced by several fundamental variables (financial ratios), as well as technical variables or macroeconomic variables.

The independent variables that influence BTN's share price are the ROA variable and the BOPO variable, while other independent variables such as; ROE, NIM and LDR do not significantly influence BTN share prices for the period 2017 to 2023. Together the five independent variables (ROA, ROE, NIM, BOPO and LDR) do not significantly influence BTN share prices during the research period.

#### RECOMMENDATION

Prospective investors before investing their capital in the Indonesian Capital Market (BEI), need to carry out fundamental analysis and technical analysis of the company whose shares will be purchased to be used as an investment portfolio. Fundamental analysis of financial ratios also has a significant influence on changes in BTN share prices.

Technical analysis also needs to be analyzed, because macroeconomic variables (inflation, economic growth, dollar exchange rate, SBI, Gini index, unemployment rate, poverty rate, etc.), of course also have a significant influence on changes in BTN share prices, during the research period (2027 to 2023).



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