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Banking Company Stock Price Model

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Abstract: In the realm of economics, the banking sector plays a pivotal role as an intermediary between depositors and borrowers. Unique to this industry are financial ratios like the Capital Adequacy Ratio (CAR) and Loan to Deposit Ratio (LDR). In order to explore the effects of changing economic trends on Indonesian banking companies listed on the Stock Exchange from 2011 to 2016, this study analyzes variables such as CAR, LDR, ROA, and SBI. The sample size includes 27 consecutive banking companies listed from 2011 to 2016, and the analytical tool of choice is Eviews version 8. The study utilizes Least Square Pooled analysis, preceded by Fixed Effects Model and Random Effect Model analysis. The findings of this study reveal that the stock price fluctuations can be attributed to the processing variables of CAR, LDR, ROA, and SBI, which altogether account for 21.90%. Notably, the variables of CAR and ROA have a significant impact on the stock price, while LDR and SBI have no such effect.

Keyword: CAR, LDR, ROA, SBI, Stock Price.

INTRODUCTION

Indonesia's banking sector faced adversity during the country's economic development. However, banks play a crucial role as a subsystem of the economy, offering financial services for individuals' everyday transactions. Despite the global financial crisis of 2008, the banking sector remained relatively stable throughout the year.

Banking is an essential business that acts as a mediator between depositors, who possess surplus funds, and borrowers, who require financial assistance. The success of this activity rests on the foundation of a robust banking institution, which can be measured by unique ratios such as the Capital Adequacy Ratio (CAR) and Loan to Deposit Ratio (LDR). In fundamental

analysis, financial ratios are used to gauge a company's profitability by comparing various elements within financial statements. These comparisons are utilized by investors to make informed decisions about their investment policies.

Public perception of a company's value is often based on its stock price. High stock prices are seen as an indicator of good corporate worth, while low prices suggest the opposite. Therefore, maintaining a favorable stock price is crucial in upholding the company's reputation in the public eye.

The variations in the stock market are subject to multiple factors, mentioned earlier. The capital market's supply and demand dynamics are the primary drivers of stock price fluctuations. Variations in financial statements also affect the value of stocks, as investors' financial ratio analysis alters with changes in financial information.

LITERATURE REVIEW
CAR

The significance of capital in driving business ventures and mitigating loss cannot be overstated. Its amount in a bank is a determining factor for the efficient execution of activities and can influence public confidence levels, particularly that of debtors, towards the bank's performance (Sinungan, 2000). The bank's capital serves the purpose of fulfilling all its requirements and facilitating operations, as well as ascertaining expansion opportunities. Public trust in the bank is measured by the volume of current account, time deposits, and savings that surpass the capital injection from shareholders. The trust element is an essential gauge of an effective bank management.

The banking industry commonly uses the Capital Adequacy Ratio (CAR) as a crucial metric for assessing capital strength. Maintaining a robust CAR ratio is crucial for central banks, which act as intermediaries, to remain in a safe position and ensure a healthy banking system. This ratio indicates the extent to which a bank's assets that contain risks (credit, investments, securities, bills on other banks) can be financed by its own capital instead of external sources such as public funds or loans. A high CAR ratio signifies a bank's robustness in bearing the risk of credit or other risky assets, thereby supporting its capital adequacy. It also indicates the bank's ability to offset any losses resulting from such assets. A high CAR ratio, therefore, reflects a bank's capacity to finance its operational activities. The ROA of a given bank can be heavily influenced by these factors. Bank Indonesia Circular Letter No. 3/30DPNP, issued on December 14th, 2001, describes the CAR ratio as the proportion of a bank's capital to its risk-weighted assets.

Mathematically speaking, the formulation for CAR is as follows, as stated in SE No.6/23/DPNP dated May 31, 2014.

$$CAR = \frac{Owner'S\ Equity\ (Core\ Capital + Suplementary\ Capital)}{Risk\ Weighted\ Asset} \times 100\%$$

LDR

One of the key metrics used to assess a bank's liquidity is its Loan to Deposit Ratio (LDR). This ratio is a measure of the bank's capacity to both repay its debts and meet the demands of depositors. Additionally, it assesses the bank's ability to satisfy credit requests. LDR also assists in determining the extent to which a bank's loans to customers have offset the bank's liability to meet its depositors' requests for withdrawals. In essence, LDR is a key indicator of a bank's ability to repay its depositors in the event of large-scale withdrawals.

LDR serves as a key indicator of a bank's security and capability. Loan failures can impede a bank's ability to repay its depositors, thereby triggering a crisis. Alternatively, a low LDR can signal idle money, depriving the bank of opportunities for greater profit. The LDR is subject to fluctuations based on the Indonesian economy's trajectory. According to

Muljono (1999), a bank is deemed healthy if its LDR ranges from 80% to 110% at the end of 2001. The amount of LDR is calculated in accordance with SE No.6/23/DPNP dated May 31, 2004.

$$LDR = \frac{Total\ of\ Credit}{Total\ of\ Third-party\ Fund}\ x\ 100\%$$

ROA

As a company's profits grow, so do its future prospects. For investors, profitability is a crucial factor in deciding whether to invest in a company, and they need accurate data to make informed decisions. A higher profitability ratio indicates excellent management skills in running a company.

ROA, or return on assets, is a crucial financial ratio utilized to evaluate a company's profitability. This ratio measures the capability of a company's assets to generate profit. Essentially, it gauges how efficiently a company employs its assets to generate earnings. Investors rely on this information to assess management performance and overall company effectiveness in utilizing its assets.

An impressive ROA cements the notion that the company is an efficient operator, which is a magnet for investors seeking to put their money into it. The upswing in shareholder book value can be attributed to the increase in ROA value, resulting in higher expectations of dividend payback from investors. Consequently, the stock price rises as a direct consequence.

SBI

The evaluation of a country's economy relies heavily on the monetary indicator of interest rates. Higher interest rates often indicate a less favorable economic landscape. The allocation function responsible for guiding the use of goods and capital in producing goods and services is overseen by interest rates. This key indicator is used to determine the efficient utilization of goods and services, either in the present or future.

In a repayment agreement, the Interest Rate denotes the payment level of a loan or investment. As per Dornbusch, et. al. (2008), it is expressed as an annual percentage. Its impact on a company's financial standing is dual, as follows:

Assuming all other factors remain constant, an increase in the interest rate corresponds to lower profits for the company. This is because the interest rate is essentially the cost of borrowing.

Fluctuations in interest rates greatly impact economic activity, and consequently, the profits of companies are also at their mercy.

Increasing interest rates have a direct impact on a company's interest expenses. Companies with high leverage are particularly vulnerable to these increases, which can lead to unfavorable consequences. Such increases can reduce profitability, resulting in a negative impact on a company's stock price

STOCK PRICE

A stock represents a shareholder's ownership in a company, according to Manurung's (2009) definition of ownership duration. Typically, shares are held for a lengthy period of time, whether it be long or short-term.

When investors appraise a stock's price, they factor in expected income, cash flow, and rate of return. According to Tandelilin (2010), three methods can be employed for stock price assessment - using the book value of the stock, market value, or intrinsic value. The book value of a stock is calculated based on the company's issuer book value. Market value, on the other hand, is represented by the stock price in the stock market. The third approach

is to determine the stock's intrinsic book value, also known as the theoretical value, which is the genuine worth of the stock.

As per Dimiati (2012), shareholders commonly enjoy a dual advantage, which includes benefits highlighted by Darmadi and Fakhrudin.

Dividend refers to the earnings generated by distributing profits among shareholders, which is based on the company's overall profits.

Capital gain, an advantage highly coveted by short-term investors, results from the variance between the purchase and selling price of stocks on the stock exchange. This fluctuation in stock prices is the primary cause of such differences.

In his 2012 research, Hartono classified stock assessment into two distinct types of analysis: fundamental securities analysis (company analysis) and technical analysis. The fundamental analysis involves studying the company's financial statements to gather data, while the technical analysis relies on market data to evaluate the stock's value.

Investors find financial statements to be the easiest and most economical form of information when analyzing a company. A company's financial statements, which disclose its growth and future prospects, offer crucial insights. These insights may enable investors to make investment decisions based on future growth predictions (Tandelilin, 2010).

METHODS

In this study, the independent variables CAR (X1), LDR (X2), ROA (X3), and SBI (X4) are being examined with respect to their impact on the dependent variable SP (Y). It is believed that X1, X2, X3, and X4 have a direct effect on Y, and variable X may play a significant role in determining Y under the influence of these independent variables.

The focus of this investigation is on banking institutions registered with the Indonesia Stock Exchange. Nazir (2014:240) defines population as a group of individuals with established traits and characteristics. The sample, on the other hand, is a subset of the population. As of December 31, 2016, the total number of banking companies listed on the Indonesia Stock Exchange was 41.

Utilizing the purposive sampling method, this study will selectively collect samples based on specific criteria, as defined by Emory and Cooper (1999). The sample criteria for this research are as follows:

1. The Bank enjoyed a listing on the Stock Exchange spanning from 2011 to 2016.
2. In 2016, the asset value exceeded an impressive Rp. 142.5 trillion.
3. In 2012, Bank Indonesia and the FSA identified the top 10 banks with the largest assets, with three of them being companies under the umbrella of Bank 10.
4. The top 10 banks ranked by Asset Cash magazine include Banks, Tribune, Compass, and Viva, among others.
5. The Banks have released the complete financial statement for the year ending on December 31st.

This research utilized a panel data regression model to assess the potency of the determinant variables (CAR, LDR, ROAL, SBI) of the SP. Combining time series and cross-sectional data, this model was implemented through the statistical computer application Eviews 7.0. According to Gujarati (2008:213), panel data comprises periodic (time series) and individual (cross-sectional) data, making it an ideal approach for this study.

According to Frankl (2005: 18), panel data regression analysis offers various benefits and advantages.

1. The incorporation of individual-specific variables in the data panel enables explicit consideration of individual diversity.
2. The panel data's usefulness in developing intricate behavioral models is enhanced by its capacity to regulate individual heterogeneity.

3. Panel data relies on the repeated observation of cross-sections over time, making it an ideal method to analyze dynamic adjustments.
4. With a large number of observations, the data becomes more diverse and informative. Additionally, colinearity between variables tends to lessen, and the degrees of freedom increase (also known as "df") leading to more efficient estimation results.
5. Panel data proves useful in exploring intricate patterns of behavior through the application of complex models.
6. Aggregation-induced bias can be minimized through the use of panel data.

According to experts such as Gujarati (2003) and Wibisono (2005), due to the aforementioned advantages, it is recommended to abstain from conducting classical assumption tests, including but not limited to assessing multicoloniality, heteroscedasticity, autocorrelation, and normality, when utilizing the panel data model.

Gujarati (2003) described three approaches to panel data regression, namely: the least squares approach (pooled least square), fixed effects approach (fixed effect), and random effects approach (random effect).

RESULT AND DISCUSSION

The testing process initiates with the presentation of descriptive data describing the research. Following that, it moves towards Classic assumptions and a pre-built hypothesis test. Utilizing EViews® 8, the analysis uses a multiple linear regression model for processing.

Descriptive Data

Data used in the data processing for the next stage will be described in this part. The descriptive data in that period is as follows:

	SHARE	CAR	LDR	ROA	SBI
Mean	2053,144	16,29636	80,06167	1,637407	6,670000
Median	945,0000	15,38500	83,06500	1,745000	6,540000
Maximum	13200,00	46,49000	113,3000	5,150000	7,540000
Minimum	50,00000	3,290000	8,110000	-12,90000	5,770000
Std. Dev.	2782,460	5,343234	14,57814	2,137363	0,560062
Observations	162	162	162	162	162

Classic Assumption Test

Multicolinearity Test			
	Criteria	**Result**	**Conclusion**
Sub-Part One	F table 2,49	Fcalculation value 0,46 – 0,83	Not multicolinearity
Heteroskidastity Test (Glejser Test)			
	Criteria	Result	Conclusion
Sub-Part One	Variable Coefficient> 5%	Variable Coefficient > 5%	Heteroskidastity
Autocorrelation Test (Breusch-Godfrey Test)			
	Criteria	Result	Conclusion
Sub-Part One	Prob value > 5%	Prob value > 5%	uncontaminated autocorrelation

Model Selection Test

This study employs the Model Selection Test to determine the optimal equation for Data Panel analysis, utilizing three models as previously discussed. Among these models, Fixed Effect Approach (FE) and Random Effect Approach (RE) are the most frequently utilized for regression estimation. To select between Pooled Least Square (PLS) Approach and Fixed Effect Approach (FE), the Perform Redundant Fixed Effect LR/Chow-Test is

conducted. On the other hand, to select between Random Effect Approach (RE) and Fixed Effect Approach (FE), the Hausman Test is performed.

To commence testing, a decision must be made between the common effect model and fixed effect model. This is determined through the Chow test, where the probability result of Cross Section F and Chi Square must be 1,0000 lower than Alpha 0.05, resulting in the acceptance of the zero hypothesis. The sorting model is deemed the best model by the Chow test, and is paired with Pooled Least Square (PLS).

Hypothesis Test

	R2	Conclusion
Determination Coefficient	21,90%	Dependent Variable can explain the change stock price of 21,90%
	Prob(F-statistic)	Conclusion
Statistic Test F	0.000001	Independent Variable jointly affects stock price

From the result of the test, it can be concluded that linear regression is
Stock price = 0.008 + 0.031D(CAR) + 0.005D(LDR) + 0.261D(ROA) + 0.036D(SBI)

CONCLUSION

Based on the findings of the hypothesis test and the preceding chapter's discussion, it is possible to draw the conclusion that: After conducting a test, it can be concluded that the Capital Adequacy Ratio (CAR) has a partial yet significant positive impact on the stock price of banking companies listed on the Indonesia Stock Exchange. In other words, the CAR exerts a positive influence on the stock price. In the context of this study, the Loan to Deposit Ratio (LDR) indicates a partially positive, yet insignificant correlation to the stock prices of listed banking companies in the Indonesia Stock Exchange.

The banking companies listed in the Indonesia Stock Exchange experience a partially positive and significant impact on their stock prices as a result of variations in Return on Asset (ROA).

The impact of the interest rate offered by SBI on the stock price of banking companies listed on the Indonesia Stock Exchange is marginally positive and statistically insignificant.

The stock prices of banking companies listed in the Indonesia Stock Exchange are influenced by a combination of CAR, LDR, ROA, and SBI variables. These four factors account for a 21.90% effect on the fluctuation of stock prices.

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