# The Capital Adequacy Ratio And The Loan To Deposit Ratio Influence On The Price Of Banking Companies: Evidence From Indonesia

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| Article Info | Abstract |
|---|---|
| | *This paper aims to examine the effect of macroeconomics as measured by the exchange rate of the Capital Adequacy Ratio and Loan to Deposits Ratio to the stock prices of banking sector companies. This paper uses a quantitative approach, with the process of finding knowledge that uses numerical data as a tool that can be generalized to prove the hypothesis. Variable data for measuring of Capital Adequacy Ratio and Loan to Deposits Ratio are obtained from financial statements of banking companies found on the Stock Exchange website Indonesia www.idx.co.id, www.ojk.go.id, www.bi.go.id and www.yahoofinance.com. The results of this study Capital Adequacy Ratio and Loan to Deposits Ratio do not have an influence on stock prices, which bear in mind that even though Capital Adequacy Ratio and Loan to Deposits Ratio which is high tend not to have value relevance with banking stock prices. The results of this study are recommended for banking customers to improve the effectiveness and efficiency of banking performance and to contribute to the banking literature. Previous research has been carried out to test macroeconomics on stock prices, the results of which concluded that macroeconomic effects on stock prices. so that the novelty in this study included the variables of bank capital, banking liquidity and control variables as comparable variables in the results of this study.* |

## Introduction

Banks are intermediary institutions that really need community participation in carrying out their functions, people need to use bank products and services as well as vice versa that banks need communities to be able to raise funds which will then be used for bank business activities. Given that one of the bank's business activities is to collect and channel funds, the bank needs to maintain public trust so that people want to deposit their funds in the bank, therefore banks need to be managed with the principle of prudence so that their health condition is maintained (T. Handayani & Abubakar, 2018), (Yusuf, 2018), (Akbar, P, & Djazuli, 2018), (Yundi & Sudarsono, 2018). Previous research explained that there was a different perspective on banks capital, liquidity risk had an effect on stock prices. (Gjuzi, 2018), (Majeed, 2017), (Imbierowicz & Rauch, 2014), (Berger, Bouwman, Kick, & Schaeck, 2016), higher capital means less monitoring and therefore less liquidity risk, higher capital ratios can result in reduced liquidity risk so that it will be impacted on stock prices, (Diamond & Rajan, 1999), (Sarwar, Xiao, Husnain, & Naheed, 2018), (Chockalingam, Dabadghao, & Soetekouw, 2018), (Allen, Goldstein, & Jagtiani, 2018), According to the second thought, higher capital ratios increase the ability of banks to absorb higher risk, which leads to higher levels of liquidity risk so that it will affect stock prices (Index, 2015), (Li, Tripe, & Malone, 2016), (Lepetit & Strobel, 2014), (Dermine, 2014).

To bridge the gap mentioned above, this study explores the relationship between macroeconomics, bank capital, and banking liquidity and how it affects the price of banking shares by using data from banks listed on the Indonesia Stock Exchange. In particular, this study explores which of the macroeconomics, banks capital and banking liquidity influence the banking stock price applies to all banks listed on the Indonesia Stock Exchange. It is hoped that this research will complement the existing literature on macroeconomics, bank capital and banking liquidity on stock prices by analyzing cases in Indonesia. This new context provides some new insights, first of all, is expected to provide evidence of the relationship between macroeconomics, bank capital and banking liquidity to the stock prices of banking sector companies in Indonesia. Second, providing support for the existence of phenomena in Indonesia. Third, add literature to the relationship between macroeconomics, bank capital and the liquidity of the banking sector to the stock prices of banking sector companies listed on the Indonesia Stock Exchange.

## 1.1 Hypothesis Theoretical Framework and Development

Fama, (1970) explains that efficient markets are a market condition where stock market prices reflect perfectly all available information. In addition, market prices also react quickly to new information reflected in changes in stock prices. The key to measuring information efficiently is by investigating the relationship between stock prices and accounting information. But which information should be used to assess an efficient market? (Fama, 1970), (F.Fama, 2013), (Brown, Lo, & Lys, 1999) states that there are three main forms of efficient markets, including weak form, weak market, semi-strong form, and strong form efficient market.

Research on value relevance is a study to determine whether there is a relationship between a value in financial statements and stock prices in the capital market. Financial statements must be relevant and reliable. Financial statements are said to be relevant if they can be used to predict a business decision (predictive value) and confirm the prediction that has been made (confirmatory value). Financial statements are said to be relevant when the numbers in the financial statements have a strong relationship with the value of the company (Barth, Beaver, & Landsman, 2001), (Hodder, Hopkins, Wahlen, & Zimmerman, 2006), (Brimble & Hodgson, 2007). (Holthausen & Watts, 2001) in "The relevance of the relevance of the literature for financial standard settings" research on the relevance of values is divided into three, namely: a. Relative Association studies (Comparing the relationship between the market value of land and alternative size bottom line. For example research that investigates the relationship between earnings and stock prices), b. Incremental association studies (Investigating whether certain figures in financial statements are useful in explaining stock market values and returns), c. Marginal information content studies (This study investigates whether certain accounting numbers add to the collection of information available to investors.

Ohlson (1995) model in (Rusdiyanto & Narsa, 2018) is the best known of the value relevance model that aims to formulate the relationship between accounting values and firm value. Ohlson's model itself is a model in accounting that includes a measurement model that is concerned with the fundamental values of financial information. Ohlson's model is a strong theoretical framework for evaluating markets based on basic accounting variables, and other types of information that may be relevant in predicting company value. However, the Ohlson model is a simple model. This Ohlson model assumes that investors are neutral to risk, accounting is not biased, has clean surplus, there is no detailed role in accounting, there is no information asymmetry, tax rates faced by shareholders are irrelevant, real choices are not explicitly calculated, abnormal profits and "v" evolved autoregressive in (Rusdiyanto & Narsa, 2018). In the Ohlson (1995) model in (Rusdiyanto & Narsa, 2018;, Gazali, Kusuma, Aina, Bustaram, Risal, et al., 2020; Juanamasta et al., 2019; Rusdiyanto, Sawarjuwono, & Tjaraka, 2020; Rusdiyanto et al., 2019) company value stated in stock price, can be seen from the following equation:

$$NPt = NBt + \alpha 1\ LA1 + VLt$$

The equation above shows that the value of the company (NPt) Capital Adequacy Ratio (CAR), Loan to Deposits Ratio (LDR), and other information (VLt) each of which is multiplied by a constant ($\alpha 1$ and $\alpha 2$). Thus the function of company value can be derived as follows:

$$NPt = f\ (\ CAR, LDR, VLt)$$

Ohlson (1995) valuation model in (Rusdiyanto & Narsa, 2018), surprising because it was derived simply, but managed to eliminate the necessity of predicting dividends in calculating the value of the company with a valuation that is identical to the present value of all expectations dividends, in (Rusdiyanto & Narsa, 2018).

Company value is the result of investor perception in observing a company as reflected in the market price of the company's stock. The company's stock price is a market reaction to the overall condition of the company that describes the wealth of shareholders / companies as a result of investment decisions, funding and asset management that are realized in the form of company stock prices (Narsa & Pratiwi, 2012), (Rusdiyanto & Narsa, 2018), (Sari & Ridwan, 2017), (Anastassia & Firnanti, 2014), When the stock price is high, it means that the active stock is traded, so the dealer will not keep the stock for too long.

Capital Adequacy Ratio (CAR), which is the ratio of bank performance to measure the capital adequacy owned in supporting assets that contain or produce risks, for example, loans given and placements with other banks. Capital Adequacy Ratio (CAR), shows the role of capital that is quite important in the banking business because the operational activities of the bank run smoothly if the bank is in an adequate capital condition. BI (now OJK) has set a Capital Adequacy Ratio (CAR), or a bank's Minimum Capital Adequacy Ratio (KPMM) of at least 8%. Besides the Capital Adequacy Ratio (CAR), bank health can also be measured based on bank liquidity. Liquidity is an indicator that measures a bank's ability to fulfill or pay its obligations that must be fulfilled immediately (Wijaya & Amelia, 2017), (Elvira Azwan, 2016), (Sani, Amboningtyas, & Yulianeu, 2016), (Yundi & Sudarsono, 2018), Based on the description above, the research hypothesis can be formulated as follows:

$H_1$: CAR has a positive influence on stock prices

Loan to Deposit Ratio (LDR) which is the ratio of credit given to funds received by the bank concerned. The amount of the LDR will affect profits through the creation of credit. The greater the distribution of funds in the form of credit compared to deposits or deposits of the public in a bank brings the consequences of the

greater the risk that must be borne by the bank concerned. According to Bank Indonesia Regulation No.3 / 30 / DPNP / 2000 healthy LDR values range from 80-100% (Elvira Azwan, 2016), (Sani et al., 2016), (Elvira Azwan, 2016), (Verawati, Siahaan, & Susanti, 2016), (Suyono, Chandra, & Irawati, 2017), (Sani et al., 2016). Based on the description above, the research hypothesis can be formulated as follows:

$H_2$: LDR has a positive influence on stock prices.

## 2 Research Methods

The type of research used in this research is explanatory research with its quantitative approach. According (Y. Handayani, Susyanti, & Slamet, 2018) "explanatory research method is a research method that intends to explain the position of the variables studied and the influence of one variable with another variable." Quantitative methods according (Y. Handayani et al., 2018) is "research that seeks to understand and solve problems based on positive or empirical, namely emphasizing testing on theory through measuring research variables with numbers and analyzing data with statistical analysis. In this case, the research was conducted to analyze the influence of macroeconomics which was focused, CAR, and LDR on the stock prices of banking sector companies.

The sample is part of the number and characteristics possessed by the population. The sampling technique used in this study is purposive sampling. The purposive sample is a technique for determining samples with certain considerations (Y. Handayani et al., 2018). The data used as samples are stock prices, CAR, and LDR. The number of samples in this study was 1,280 of the four Persero banking sector companies listed on the Indonesia Stock Exchange with the period 2010 to 2017.

The library technique in this study is in the form of data obtained from various literature such as books, journals, newspapers, the internet and others related to the research aspects in an effort to obtain valid data. In addition, using the documentation technique used in this study in the form of data search in the form of stock price reports, the publication reports on the exchange rate of the CAR, and LDR from 2010-2017. The method used in data collection is done online, namely by accessing www.yahoofinance.com (stock price report) www.ojk.go.id and www.bi.go.id (CAR, and LDR) and access to other sites related to the problem of this research.

This study uses ten types of variables to produce a regression model in measuring the relevance of the value of corporate accounting information. The variables used in this study include:

1. Dependent Variable

In this study, the dependent variable is the value of the company proxied by the stock market price (NPt) at the end of the month. The stock market price is the price or value of shares that occur in the capital market at a specified time point based on market demand and supply, (Malau, 2018), (Rusdiyanto & Narsa, 2018).

2. Independent Variable

1. Capital Adequacy Ratio (CAR) is a capital adequacy ratio that shows the ability of banks to provide funds that are used to overcome the possible risk of losses. This ratio is important because by maintaining a Capital Adequacy Ratio (CAR) at a safe limit of at least 8%, it also protects customers and maintains overall financial system stability, (Setiani, Gagah, & Fathoni, 2018), (Elvira Azwan, 2016), (Suyono et al., 2017), (Yusuf, 2018). Capital Adequacy Ratio (CAR) can be obtained by dividing total capital by risk-weighted assets so that the CAR formula can be seen as follows:

$$CAR = \frac{capital}{ATMR} \times 100\%$$

2. Loan to Deposits Ratio (LDR) is a ratio that measures the ability of banks to meet short-term liabilities (can be called liquidity) by dividing total credit against total third-party funds. Adequate liquidity, but perhaps lower income, because as is known in the world of banking to obtain income through distributed loans (Elvira Azwan, 2016), (Verawati et al., 2016), (Suyono et al., 2017), (Yusuf, 2018). Loan to Deposits Ratio (LDR) can be calculated by:

$$LDR = \frac{total\ credit\ to\ third\ parties\ not\ banks}{total\ credit\ to\ third\ parties} \times 100\%$$

3. Control Variable.

1. Nonperforming Loans (NPL), which are adjusted Non-Performing Loans (NPL). Assessment of asset quality is an assessment of the condition of bank assets and the adequacy of credit risk management. This means that the Nonperforming Loan (NPL) is an indication of a problem in the bank which if it does not immediately get a solution it will have an impact on the banks (Elvira Azwan, 2016), (Suyono et al., 2017), (Yusuf, 2018), (Akbar et al., 2018),, The Nonperforming Loan (NPL) formula can be translated as follows:

$$NPL = \frac{Bad\ Credit}{Total\ Credit}$$

2. Return On Asset (ROA) obtained from net income after tax divided by total assets, (Setiani et al., 2018), (Sani et al., 2016), (Elvira Azwan, 2016), (Suyono et al., 2017). The Return On Asset formula can be translated as follows:

$$ROA = \frac{Net\ Income}{Total\ Asset}$$

3.Return on Equity(ROE) obtained from net income after tax divided by total quity (Verawati et al., 2016; Rusdiyanto & Narsa, 2018; Gazali et al., 2020; Rusdiyanto, Agustia, Soetedjo, Narsa, & Septiarini, 2020; Rusdiyanto, Agustia, Soetedjo, & Septiarini, 2020; Rusdiyanto, Hidayat, et al., 2020; Rusdiyanto & Narsa, 2019, 2020) The Return On Equity formula can be translated as follows:

$$ROE = \frac{Net\ Income}{Total\ Equity}$$

4.Operating Costs Compared to Operating Income is the ratio between operating costs to operating income. Operating costs are costs incurred by the bank in order to carry out its main business activities such as interest costs, marketing costs, labor costs, and other operating costs. Operating income is the bank's main income, namely income obtained from the placement of funds in the form of financing and other operating income, the smaller the Operating Cost Compared to Operating Income shows the more efficient the bank in carrying out its business activities (Elvira Azwan, 2016), (Suyono et al., 2017), (Yusuf, 2018), (Akbar et al., 2018), (Rusdiyanto & Suryansyah, 2015). Operating Cost Formula Compared to Operating Income can be described as following:

$$BOPO = \frac{Total\ oper\ ating\ expenses}{Total\ operating\ income}.$$

### 2.1 Analysis Model

The analysis model used in this study tests the effect of independent variables on the dependent variable in this study using multiple regression analysis, which is an analysis to express linear relationships between two or more variables. The following is the empirical model of the research:

NPt=α+β1CAR+β2LDR+β3NPL+β4ROA+β5+ROE+β6BOPO ϵ................(1)

**Table Error! No text of specified style in document.-1: Description of Variables**

| | Information | Description |
|---|---|---|
| | $NP_t$ | Stock price |
| | $\alpha$ | Constants |
| 3 | $\beta 1,\ \beta\ 2,\ \beta$ | Variable regression coefficient $NB_t$,USD,SBI, INF,CAR, LDR, NPL, ROA, ROE, BOPO |
| | CAR | Capital Adequacy Ratio |
| | LDR | Loan to Deposits Ratio |
| | NPL net | Non Performing Loan |
| | ROA | Return On Asset |
| | ROE | Return On Equity |
| | BOPO | Operating Costs Compared to Operating Income |
| | $\epsilon$ | Standard Error |

### 2.2 Analysis And Discussion

#### 2.2.1 Description Of Research Results

Before testing the hypothesis, it is necessary to describe the characteristics of the research data by using descriptive analysis to give an overview of the variable variables under study. Data normality test is also done to detect the distribution of research data used. From the results of the sample selection, 1,280 data were obtained from 4 state-owned banking sector companies listed on the Indonesia Stock Exchange that met the predetermined criteria. The following are descriptive statistical data from the sample.

**Table 4 1: Descriptive statistics**

| | Variable | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|---|
| price | Stock | 1 28 | 47 0,00 | 1327,0 0 | 5721, 1484 | 3395,3 9651 |
| | CAR | 1 28 | 12, 02 | 22,98 | 17,31 05 | 2,2897 0 |
| | LDR | 1 28 | 61, 89 | 116,29 | 90,25 20 | 13,367 29 |
| | NPL net | 1 28 | 0,3 1 | 3,83 | 1,342 7 | 1,0965 7 |
| | ROA | 1 28 | 1,0 1 | 5,15 | 2,957 5 | 1,0825 8 |
| | ROE | 1 | 5,5 | 43,83 | 22,53 | 7,8512 |

| Variable | N | Min | Max | Mean | Std. Dev |
|---|---|---|---|---|---|
| | 28 | 4 | | 07 | 9 |
| BOPO | 1 | 57, | 89,91 | 73,28 | 8,3410 |
| | 28 | 08 | | 91 | 3 |
| Valid N (listwise | 1 28 | | | | |

2.2.1 **Regression Analysis**

All research variables are declared stationary at degree 0, then these variables can be directly used in the regression equation. The following are the regression results of the research variables:

**Table** *Error! No text of specified style in document.***-2: Regression Analysis**

| Variable | Coefficient | t | Sig.t |
|---|---|---|---|
| Constant | 7077,986 | 1,147 | 0,254 |
| CAR | 146,313 | -2,441 | 0,016 |
| LDR | 34,432 | 0,403 | 0,688 |
| NPL | 556,091 | -1,212 | 0,228 |
| ROA | 835,882 | -1,897 | 0,060 |
| ROE | 76,515 | 3,104 | 0,002 |
| BOPO | 83,829 | -2,683 | 0,008 |
| R | = 0,743 | | |
| R Square | = 0,552 | | |
| F | = 16,167 | | |
| Sig.F | = 0,000 | | |
| Bound Variables: Stock prices (NB$_t$) | | | |

## 2.2.2 Discussion

CAR does not have a positive and significant effect on stock prices. The results of this study mean that CAR has no value relevance to the share price of a banking sector company. The coefficient shows that CAR does not have a positive relationship to stock prices. So that investors can use CAR information in assessing the company's stock price. CAR is a general expectation for investors. From the results of this test, it can be said that investors will be more interested in stocks that have a higher CAR than stocks that have a low CAR. A large number of investor requests for stocks with high CARs makes the company's stock price rise. Conversely, a low CAR tends to make the stock price fall. The results of this study agree with the results of his research (Sani et al., 2016), which explains that CAR has a significant influence on stock prices.

LDR does not have a positive and significant influence on stock prices. This result means that the value of LDR does not have the book value relevance of equity stock prices can be used by investors in conducting fundamental analysis because it has information that is relevant to the stock price. This result also reinforces the opinion that companies with high equity values are able to attract the attention of investors to buy company shares. Positive coefficients generated in the test prove that investors are more interested in companies with higher LDR values and become basic information in making investment decisions. The results of this study agree with the results of his research (Sani et al., 2016).

The test results of the control variables explain that the net NPL does not have a positive and significant effect on stock prices in line with the results of the research (Sani et al., 2016), Return on Assets (ROA) does not have a positive and significant effect on stock prices, (Sani et al., 2016), Return on Assets (ROA) does not have a positive and significant effect on stock prices, (Sani et al., 2016),, Return on equity (ROE) has a positive and significant effect on stock prices. The results of this study do not agree with the research (Roesminiyati, Salim, & Paramita, 2018), while BOPO does not have a positive and significant influence on stock prices.

## 2.2.3 Conclusions

The test results show significant statistical effect at a rate of 5% on stock prices, while the CAR, and LDR have no influence on stock prices. With regard to conclusions, the results of this study are expected to provide information to investors or potential investors to be more careful in paying attention to aspects of the CAR, and LDR to share prices. The business decision focuses on how much the stock returns will be given by

the banking sector companies and how the banking sector companies maintain the level of capital and company liquidity so that investors can put interest in the company.

Future research should use a larger sample of companies not only in the banking sector. In addition, further research should use a longer period of time to identify the relationship CAR and LDR on stock prices. Further research should also use audited annual financial report data so that the CAR, and LDR and use a longer period not only for seven years. Even better, further research also examines the relevance of the capital and banking liquidity measurement models at each stage of the company cycle as in the research conducted by Black (1998).

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