
THE INFLUENCE OF BANK CHARACTERISTICS ON CAPITAL ADEQUACY RATIO

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ABSTRAK

Kecukupan modal merupakan bagian penting dalam kinerja keuangan perusahaan, karena tercapainya capital adequacy ratio (CAR) yang optimal menandakan perusahaan memiliki modal yang cukup untuk mendanai setiap operasi operasionalnya. Modal yang cukup membuat perusahaan dapat dengan mudah melakukan inovasi, sehingga dapat mengembangkan produktifitas perusahaan. Menariknya, CAR dipengaruhi oleh berbagai faktor, sehingga perlu untuk mengkaji secara akademis faktor-faktor yang berpengaruh terhadap CAR. Tujuan penelitian ini ialah untuk mengetahui faktor-faktor yang berpengaruh terhadap CAR. Penelitian ini menggunakan pendekatan kuantitatif dengan metode empiris menggunakan data Bank BTN selama periode 2010-2020. Hasil penelitian menunjukkan bahwa model ini berkontribusi sebesar 81% atas perubahan CAR, secara parsial menunjukkan bahwa ROA berpengaruh negatif terhadap CAR artinya semakin rendah ROA maka semakin tinggi CAR, LDR berpengaruh negatif terhadap CAR artinya semakin rendah LDR maka semakin tinggi CAR, dan NPL berpengaruh negatif terhadap CAR artinya semakin rendah NPL maka semakin tinggi CAR. Hal ini menandakan bahwa kenaikan maupun penurunan ROA, LDR, maupun NPL berdampak pada perubahan CAR Bank BTN.

Kata Kunci: Return on Asset, Likuiditas, Net Performing Loan, Capital Adequacy Ratio.

ABSTRACT

Capital adequacy is an important part of a company's financial performance, because achieving an optimal capital adequacy ratio (CAR) indicates that the company has sufficient capital to fund each of its operations. Sufficient capital allows the company to easily innovate, so that it can develop the company's productivity. Interestingly, CAR is influenced by various factors, so it is necessary to study academically the factors that influence CAR. The purpose of this study is to determine the factors that influence CAR. This study uses a quantitative approach with empirical methods using Bank BTN data for the 2010-2020 period. The results show that this model contributes 81% to changes in CAR, partially showing that ROA has a negative effect on CAR, meaning that the lower the ROA, the higher the CAR, LDR has a negative effect on CAR, meaning that the lower the LDR, the higher the CAR, and the NPL has an effect negative to CAR means that the lower the NPL, the higher the CAR. This indicates that increases or decreases in ROA, LDR, and NPL have an impact on changes in CAR at Bank BTN.

Keywords: Return on Assets, Liquidity, Net Performing Loans, Capital Adequacy Ratio.

INTRODUCTION

The influence of bank characteristics on the capital adequacy ratio is a study to determine the factors that influence CAR. This is important to research because CAR is an important part of the company's operational activities. Every company that has a good CAR can enable the company to carry out optimal activities for company development.

Banking is an institution that has the most important strategic role in accumulating community wealth (Soenjoto, 2018). In order not to disrupt the country's economic order, it is very important to maintain the concept of conservatism or prudence in maintaining the function of the financial system. Banks must be considered healthy in order to carry out their duties effectively. The inherent dangers of the banking system require regulation of banks as institutions. Banks offer a service that is used by both business and private clients, namely money.

In accordance with intermediation theory, banks collect money from the public or depositors and distribute it to individuals in need (Allen & Santomero, 1998). Main bank operations consist of three main activities: (1) collecting funds from the market in the form of demand deposits, provision of reserves, and time deposits; (2) financial resources, especially payment traffic and money transfer procedures; and (3) allocation of credit funds for public interests (Sagner, 2014). In particular, work behavior theory describes a linear relationship between banking market structure and bank behavior in reacting to the market structure created, which ultimately influences bank performance (Neuberger, 1998). This theory explains that there

is a link between market structure and work behavior, but this theory is not yet able to provide an in-depth explanation of current problems regarding microeconomic conditions that have an impact on banking finance; thus, additional research is needed to complete the theory. Changing economic conditions and advances in financial markets, banking intermediation structures have developed, especially in industrial countries such as the European Union (Bikker & Wesseling, 2003). Considerations such as advances in information technology, deregulation, liberalization, and internationalization cannot be applied to existing financial intermediation market operations (Scholtens & Wensveen, 2003).

Capital Adequacy Ratio (CAR) is a metric that can be used to measure bank capital adequacy. The CAR ratio can be calculated using all bank capital and total RWA as weights. By using the bank's capital adequacy expressed as a percentage, the CAR ratio determines the potential risk of loss that the bank will suffer. ROA, LDR, and NPL to CAR are significant aspects in the activities of banking organizations studied in this research.

According to Yuwono and Sudaryono (2010), ROA over a certain period of time is a predictor of a company's ability to generate profits in the coming year. This is because the higher the ROA, the more efficient asset management will be, thereby increasing profits next year. According to Bank Indonesia, ROA > 1.22% is considered healthy, 0.99-1.22% (quite healthy), and < 0.77% (not healthy). According to Almilia & Winny (2005), ROA is a measuring tool to determine the ability of bank management to generate profits from its average total assets. This shows that ROA is an important metric for investors to consider when making financial decisions.

Not only ROA, but also the management of bank assets and liabilities has as one of its objectives the element of liquidity (Riyadi, 2006). This shows that liquidity is an important factor that is often used by banks and regulators as a predictor in evaluating the effectiveness of the bank's intermediation role which includes collecting public funds through various products offered by banks in the form of savings, investments and current accounts. savings, as well as offering loans to parties in need.

If banks cannot manage their liquidity effectively, efforts to raise capital and provide credit are very risky. Liquidity is related to the protection and welfare of the bank (Diamond & Rajan, 2001), and must be maintained so as not to cause significant losses for the bank. Liquidity is defined as a bank's ability to finance asset growth and meet obligations without incurring significant losses (Greuning & Bratanovic, 2009). When a customer withdraws money, the bank must remain open, but the customer's cash remains with the borrower. Liquidity is also related to the borrower's compliance with paying off his bank obligations. Consideration is given to bank liquidity problems in proportion to the value of non-performing loans.

Bank liquidity problems are always the first sign of significant financial difficulties. Typically, a decline in public savings leads to a shortage of liquid assets, causing banks to issue interbank loans and sell their reserve assets. According to Greuning & Bratanovic (2009), it has provided various important signals to consider bank liquidity management, such as the need for banks to provide recognition, calculation and monitoring mechanisms, to prevent liquidity problems from occurring. This requires banks to implement effective liquidity management. Furthermore, the business philosophy of each bank has a significant influence on the bank's liquidity structure (Duttweiler, 2009).

According to Soliha and Taswan (2002), liquidity can also be seen as the capacity of bank management to provide sufficient cash at any time to fulfill commitments. Liquidity management is a challenging problem in bank operations. The difficulty of maintaining liquidity may be due to the fact that most of the funds held by banks are short-term public money that can be withdrawn at any time (Admati & Hellwig, 2013). Bank income comes from interest income on loans provided to the general public. The greater the proportion of bank funds distributed in the form of credit, the greater the liquidity risk that the bank must bear (Syahrir, 2012).

According to Elsa, Utami, and Nugroho (2018), asset quality includes all rupiah assets owned by the bank with the aim of generating expected income. NPL is a ratio that compares total non-performing loans with total loans disbursed. The smaller the non-performing loan ratio, the fewer non-performing loans that arise. Barus (2016) shows that the greater the percentage of non-performing loans to total credit, the greater the credit risk the bank has, and vice versa.

The NPL ratio shows the quality of credit assets; if collectibility is bad, then the bank has problem credit. An increase in credit distribution will result in an increase in NPL accompanied by an increase in expenditure; This will of course have an impact on capital growth. The scale of operational spending and an increase in non-performing loans also impact capital growth.

The greater the NPL, the less capital the bank has. Of course, an increase in the number of bad loans will have an impact on the cash available to support bank operations. Bad loans reduce the income a bank would earn, requiring the bank to use its current capital to fund its operating activities. The greater the frequency of traffic jams, the thinner and more bank capital will be used up.

Capital adequacy is a metric that determines whether a bank's capital is sufficient to fund its operating activities. According to Hidayat (2022), capital adequacy is an indicator of a bank's ability to cover the decline in assets due to losses and is used to determine the bank's ability to fulfill its short-term commitments when billed. In other words, the bank is able to pay back the distribution of money deposited when it is billed and fulfill the credit request given. This sufficient capital is used to maintain public confidence in the bank's performance. The minimum capital level determined by the monetary authority, which is often the central bank, is the most significant element sufficient to influence the amount of bank capital. In the current period of deregulation, adequate bank capital is needed to increase resilience and productivity. A sufficient amount of money plays an important role in ensuring potential or current clients, but there are still differences in determining a healthy level of capital.

Capital Adequacy Ratio (CAR) measures the adequacy of bank capital to maintain assets that involve or generate risk, such as bank loans. Lukman (2009) CAR is a ratio that shows the extent to which all risky bank assets (loans, investments, securities, claims on other banks) are financed by the bank's own capital funds in addition to obtaining money from other sources, such as public funds.

For this reason, this research seeks to determine the influence of ROA, LDR, and NPL on CAR at Bank BTN, because it has research interest from a theoretical and practical perspective.

METHOD

Research techniques play an important role in the collection of necessary data and analysis of the topic under investigation. According to Dolapcioglu & Doğanay (2022), the research process is a scientific strategy for obtaining reliable data with the aim of finding, proving and producing knowledge that can be applied to understand, solve and predict business challenges.

The author used an empirical study research methodology to conduct this research so that others can see and understand the procedures used. In this research, the author uses associative descriptive techniques because there are variables to be analyzed and the aim is to provide an organized, factual and correct explanation of the facts and relationships between the variables studied. Data is obtained from Bank BTN's annual financial reports.

The variables in this research consist of independent variables and dependent variables, namely:

- a. Independent variables are independent variables whose existence is not influenced by other variables. The independent variables in this research consist of:
 - 1) Return on Assets (ROA) as variable X1
 - 2) Liquidity (LDR) as variable X2
 - 3) Non Performing Loans (NPL) as variable X3
- b. The dependent variable is a variable whose existence is influenced by other factors. The dependent variable used in this research, namely:
 - 1) Capital Adequacy Ratio as the Y variable

In this research, the population is Bank BTN throughout 2010-2020, and the research sample is a saturated sample that represents the entire population. Several fundamental assumptions must be met in order for a linear regression model to provide reliable or well-known estimates, such as the Best Linear Unbiased Estimator (BLUE). In estimating linear equations using the Ordinary Least Square (OLS) method, the basic assumptions of OLS must be met which include the absence of symptoms of normality, multicollinearity, linearity, heteroscedasticity and autocorrelation. If the OLS assumptions are not met, it will not produce BLUE parameter values. Thus, it is necessary to test classical assumptions, including normality, multicollinearity, linearity, heteroscedasticity and autocorrelation.

RESULTS AND DISCUSSION

A. Data Description

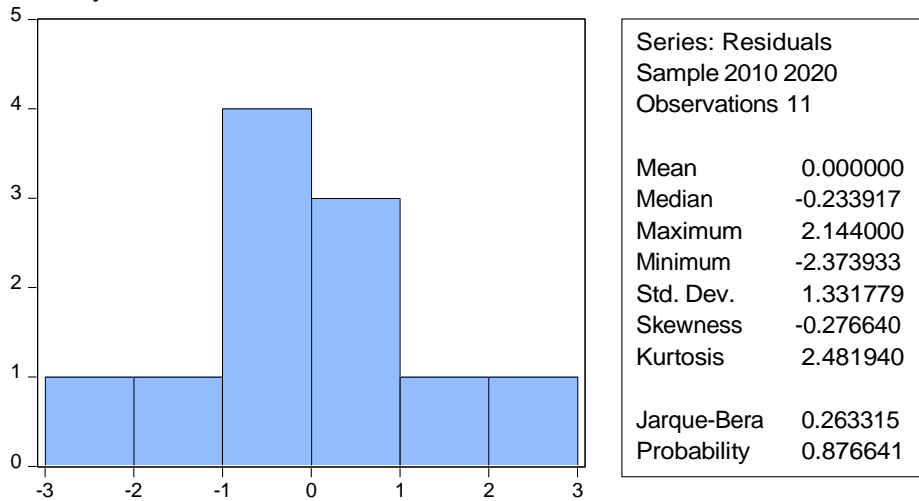
	ROA	LDR	NPL	CAR
Mean	1.471818	104.5373	2.389091	17.34273
Median	1.710000	103.4900	2.230000	17.32000
Maximum	2.050000	113.5000	3.120000	20.34000
Minimum	0.130000	93.19000	1.660000	14.64000

Based on this data, it shows that during 2010-2020, the average value of ROA is 1.47, the average value of LDR is 104.537, the average value of NPL is 2.38, the average value of CAR is 17.34. During 2010-2020, it shows that the maximum value of ROA is 2.05, the maximum value of LDR is 113,500, the

maximum value of NPL is 3.12, the maximum value of NPL is 3.12, the maximum value of CAR is 20.34. During 2010-2020, it shows that the minimum ROA value is 0.13, the minimum LDR value is 93,190, the minimum NPL value is 1.66, the minimum CAR value is 14.64.

B. Classic assumption test

1. Normality



Whether the residuals are normally distributed or not is determined by comparing the estimated JB (Jarque-Bera) Probability value with an alpha of 0.05 (5%). If the result is greater than 0.05, it is normally distributed; conversely, if the number is less than 0.05, there is insufficient evidence to determine that it is normally distributed. The calculated probability value of 0.876641 is more than 0.05, so it can be assumed that the residual has a normal distribution, which meets the normality requirements.

2. Heteroscedasticity

F-statistic	0.227589	Prob. F(3,7)	0.8744
Obs*R-squared	0.977568	Prob. Chi-Square(3)	0.8067
Scaled explained SS	0.634685	Prob. Chi-Square(3)	0.8884

Probability values are used to determine whether or not there is heteroscedasticity in the linear regression model. If the calculated F is greater than alpha 0.05 (5%) then H0 is accepted which indicates that heteroscedasticity does not occur. If the calculated F is less than alpha 0.05 (5%) then H0 is rejected, which indicates heteroscedasticity. The probability of the calculated F value of 0.8744 is greater than alpha 0.05 (5%), then H0 is accepted which indicates that heteroscedasticity does not occur based on hypothesis testing.

3. Autocorrelation

F-statistic	0.797437	Prob. F(2,5)	0.5005
Obs*R-squared	2.660191	Prob. Chi-Square(2)	0.2645

The F(2,5) probability value of 0.5005 can also be called the calculated F probability value. The calculated F probability value is greater than the alpha level of 0.05 (5%) so that, based on hypothesis testing, H0 is accepted, which means there is no autocorrelation.

4. Multicollinearity

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	107.8406	468.1756	NA
ROA	0.711904	7.724656	1.029566
LDR	0.010524	500.4654	1.182113
NPL	1.034881	26.80419	1.160404

The results of the multicollinearity test are displayed in the VIF column table. All VIF values are less than 5, indicating that there is no multicollinearity between the two independent variables. A good linear

regression model does not have multicollinearity according to the principles of linear regression with OLS. Thus, the previous model does not have multicollinearity.

5. Linearity

	<u>Value</u>	<u>df</u>	<u>Probability</u>
t-statistic	0.410789	6	0.6955
F-statistic	0.168748	(1, 6)	0.6955
Likelihood ratio	0.305100	1	0.5807

F-test summary:

	<u>Sum of Sq.</u>	<u>df</u>	<u>Mean Squares</u>
Test SSR	0.485182	1	0.485182
Restricted SSR	17.73635	7	2.533764
Unrestricted SSR	17.25117	6	2.875195

LR test summary:

	<u>Value</u>
Restricted LogL	-18.23579
Unrestricted LogL	-18.08324

If the calculated F is more than the alpha level of 0.05 (5%), then the regression model meets the linearity assumption. If the calculated F is smaller than the alpha level of 0.05, then the model does not meet the linearity assumption. The F-statistics row in the probability column displays the F Probability Value Calculation. In this case, 0.6955 is more than 0.05, so it can be said that the regression model meets the linearity assumption.

C. Hypothesis test

1. t test

<u>Variable</u>	<u>Coefficient</u>	<u>Std. Error</u>	<u>t-Statistic</u>	<u>Prob.</u>
C	33.51492	10.38463	3.227357	0.0000
ROA	-0.727694	0.843744	-0.862458	0.0070
LDR	-0.107988	0.102586	-1.052654	0.0005
NPL	-1.595758	1.017291	-1.568635	0.0329

The t test results show that the three research variables show an influence of ROA on CAR in a negative direction, meaning that the lower the ROA, the higher the CAR. LDR has a negative effect on CAR in a negative direction, meaning that the lower the LDR, the higher the CAR. NPL has a negative effect on CAR, meaning that the lower the NPL, the higher the CAR. These results indicate that partially, all variables have an influence on CAR.

2. F Test

R-squared	0.850921	Mean dependent var	17.34273
Adjusted R-squared	0.815602	S.D. dependent var	1.797276
S.E. of regression	1.591780	Akaike info criterion	4.042871
Sum squared resid	17.73635	Schwarz criterion	4.187560
Log likelihood	-18.23579	Hannan-Quinn criter.	3.951664
F-statistic	1.916209	Durbin-Watson stat	2.496882
Prob(F-statistic)	0.000000		

The results of the f test show that this research model simultaneously influences CAR. This research model was able to contribute to the CAR of 81%, so that 19% came from other variables which also influenced the CAR. This indicates that the research model is capable of being a reference in studying the development of Bank BTN's CAR.

The findings of this research were then compared with other studies, such as Africano (2016), which found that NPF had a negative impact on ROA. CAR is also negatively influenced by NPF. ROA is negatively influenced by CAR. CAR partly influences the relationship between NPF and ROA. Pravasanti (2018) shows that Non Performing Financing (NPF) has an insignificant effect on Capital Adequacy Ratio

(CAR) and Return On Assets (ROA); Financing Deposit Ratio (FDR) has a significant effect on Capital Adequacy Ratio (CAR) and Return On Assets (ROA); and the Capital Adequacy Ratio (CAR) has no significant effect on the Ratio On Assets (ROA). The results of the F fit test concluded that the NPF and FDR variables had an effect on CAR, and equation II, namely the NPF, FDR and CAR variables had an effect on ROA.

Anjani and Purnawati (2014) studied the effect of NPL on the capital adequacy ratio as assessed by CAR and concluded that there was no statistically significant relationship between these two variables. According to other research by Bukian & Sudiartha (2016) and Anggono (2014), there is a substantial positive relationship between NPL and CAR. Mei and Huang (2014) also analyzed Chinese banks during the reform period in China which had a large negative impact on CAR due to non-performing loans. Shingjergji (2013) found that the capital adequacy ratio (CAR) has a negative but not statistically significant relationship with the NPL ratio. Moh'd Al-Tamimi & Obeidat (2013) conducted research on commercial banks in Jordan on the Amman Stock Exchange for the period 2000-2008 which resulted that CAR had a significant positive relationship with liquidity risk.

Putri and Dana's research (2018) NPL has a positive and significant influence on CAR, there is a positive but not significant influence between Loan to Deposit Ratio on Capital Adequacy Ratio, there is a negative and significant influence between Return on Equity on Capital Adequacy Ratio, there is a significant influence negative and significant between Return on Equity and Capital Adequacy Ratio. This indicates that the research conducted is in line with various previous studies, so that in this case company managers need to continuously maintain the stability of ROA, LDR and NPL.

The importance of obtaining good company capital also needs to be supported by the state of NPL, LDR and ROA, because these are an inseparable part of the company's condition. Company managers need to maintain the state of NPL, LDR and ROA, so that investors can see opportunities for company growth, especially banking where there needs to be trust from investors and the public in carrying out business activities.

CONCLUSION

Based on the research results, it shows that simultaneously this research model contributes 81%, partially ROA has a negative effect on CAR, meaning the lower the ROA, the higher the CAR, LDR has a negative effect on CAR, meaning the lower the LDR, the higher the CAR, and NPL has a negative effect on CAR means the lower the NPL, the higher the CAR. This indicates that microeconomics, as a characteristic of a banking company, needs to always maintain stability, so that the Bank continues to have sufficient capital to fulfill its operational activities.

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