



Relevance of the capital adequacy ratio, as a mediator of its contribution to return on assets empirical study on the conventional banking sector listed on the Indonesia Stock Exchange in 2018-2022

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ABSTRACT

Banking is an institution that has a crucial role in stimulating the economy. This study aims to develop a research model to address the business phenomenon and research gap between loan-deposit to ratio on Return on Asset with capital adequacy ratio as a mediating variable. The method used by the author in this research is a descriptive quantitative method with an associative approach. The population in this study was 47 conventional banks listed on the Indonesia stock exchange; the sample in this study was 13 banking companies, according to the research variables concerning public financial reports from 2018-2022. Sampling techniques with purposive sampling were used. Data analysis techniques with regression and path analysis using the sobelt test. The results showed that loan deposit to ratio has a significant effect on return on assets, loan deposit to ratio has a significant impact on capital adequacy ratio, loan deposit to ratio has a significant effect on return on investments, capital adequacy ratio can mediate the impact of loan deposit to ratio on return on assets. In addition, the authors hope this research can make a theoretical contribution to the financial management and banking literature in this context.

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1. INTRODUCTION

Increasingly integrated economic activity causes the economies of various countries worldwide to be interconnected without barriers. The world is interrelated without borders, so if a crisis occurs in one country, it will quickly affect other countries. Banks as intermediary institutions must perform well by maintaining and improving bank health. Thus, banks can more easily gain and maintain the trust of their customers (agents of faith), which is a fundamental principle of banks. Based on Bank Indonesia Regulation number 13/1/PBI/2011 concerning Health Assessment of Commercial Banks, banks are required to maintain and improve the level of bank health continuously. Research on the health level of banks is carried out to determine the performance of banks using financial statements as an indicator underlying the assessment of bank financial performance (Susilawati & Nurulrahmatiah, 2021).

Financial performance is an analysis to see the extent to which banking companies have used the rules of financial application safely and appropriately. Financial performance is a reflection of the finances of a bank that is analyzed in ways with financial analysis, and it can automatically be known what is good or bad about the financial condition of a bank that describes the results of activities in an extraordinary time (Melita & Wagiyo, 2020). The entire performance of the bank can be seen through the profitability value. The condition of a company in the future can be seen and predicted through its financial performance, and it is imperative to know the sustainability and stability of a business both from internal and external parties as a consideration in making a decision. The good and bad financial performance can be analyzed using financial ratios in the company's financial statements reviewed through the balance sheet and income statement. This ratio is urgent for companies because the return on assets is used to measure the company's operational effectiveness when managing assets to get net profit (Anisa & Anwar, 2021).

The economic growth and development of banking are primarily determined by the profit obtained from its operational activities. The profit level can indicate that the bank has carried out its intermediary function. One of the indicators used to measure the level of profitability of banks is Return on Asset. Return on Assets is used to measure the success of management in generating profits. The smaller percentage ratio indicates the lack of bank management's ability to manage assets to increase income (Almira & Wiagustini, 2020; Monika, Azam, & Teguh, 2021; Rostami et al., 2016).

In addition to using profitability ratios, banks also use liquidity ratios to measure banking performance. The liquidity ratio that is often used is the Loan to Deposit Ratio. Loan Deposit Ratio is a ratio to measure the bank's ability to meet short-term obligations (liquidity) by dividing total credit by total third-party funds. If the bank can distribute credit effectively, the Loan Deposit Ratio will increase, meaning that the fundamental distinction that has been channeled is higher than the increase in total third-party funds, so that bank profits will increase, which means that return on assets will increase (Rajindra et al., 2021). Return on assets is influenced by loan deposit to ratio. Loan deposit to ratio is the ratio between the amount of the entire volume of credit channeled by the bank and the amount of receipt of funds from various sources. Another understanding of loan deposit to ratio is the financial ratio of banking companies related to liquidity aspects. Loan deposit to ratio is also called the ratio of credit to total third-party funds, which measures third-party funds channeled in the form of credit. Loan Deposit Ratio is used to assess a bank's liquidity by dividing the amount of credit provided by the bank against third-party funds. This ratio determines the bank's ability to repay obligations to customers who have invested funds with honors given to debtors (Digdowiseiso, 2021).

Selain loan deposit to ratio, capital adequacy ratio juga penting diperhatikan. Capital Adequacy Ratio reflects the bank's ability to cover the risk of loss from its activities and the bank's ability to fund its operations. Capital Adequacy Ratio can be used to measure the adequacy of capital owned by the bank in supporting assets that contain risk. Bank capital is one of the critical components for banks to carry out their operations. The primary function of bank capital is as a resource that can bear the possibility or risk of loss of assets owned. Capital Adequacy Ratio above 8% shows a stable bank business because of the public's extraordinary trust. The bank can bear the risk of risky assets (Adelakun et al., 2015; Baldwin et al., 2019; Shingjergji et al., 2015). A high Capital Adequacy Ratio will strengthen the bank in bearing the risks of each risky productive asset and finance the bank's operations. Bear the risk of each risky effective investment and be able to fund the bank's processes so that it will contribute significantly to profitability (Balili & Tola, 2023; Irawati et al., 2019; Swandewi & Purnawati, 2021).

Based on data from the Indonesian banking statistics report by OJK. The Loan To Deposit Ratio (LDR) in conventional banking also tends to experience a downward trend, starting in 2018, which was initially 94.78% to 94.43% in 2019, and its peak in 2020 dropped dramatically to 82.54% and continued to fall in 2021 to 77.49%, this is slightly below the limit set by Bank Indonesia and increased somewhat again in 2022 with a ratio value of 80.17%.

This study aims to develop a research model to address the business phenomenon and research gap between loan-deposit to ratio on Return on Asset with capital adequacy ratio as a

mediating variable. In addition, the authors hope this research can make a theoretical contribution to the financial management and banking literature in this context.

2. RESEARCH METHOD

This research uses descriptive quantitative research methods with a causal approach. The data source taken is secondary data. Researchers receive secondary data, making direct measurements of the object under study. However, researchers use data from other people's research or from an institution with published data. The population in this study was 47 conventional banks in Indonesia listed on the Indonesia Stock Exchange. In withdrawing the sample, the author used a purposive sampling technique of 13 banking companies that had been publicized following the research variables that the author analyzed from 2018 - 2022. Data is collected by observation. Observation is carried out on all data sources following the observation/analysis units determined in the study. Data sources for research are obtained from websites such as Bank Indonesia <http://www.bi.go.id>, the Indonesia Stock Exchange website <http://www.idx.co.id>, and the banks sampled in this study. This data analysis method makes it easier for researchers to manage and analyze data with the SPSS version 26 assistance program. This data was tested with descriptive analysis followed by a classical assumption test, including data normality, heteroscedasticity, multicollinearity, and autocorrelation. Then, the author continued with multiple linear regression tests. To test the hypothesis, the author uses the t-test and Sobel test. The author formulates the research hypothesis, namely H1: loan deposit to ratio has a significant effect on return on assets, H2: loan deposit to ratio has a significant impact on capital adequacy ratio, H3: capital adequacy ratio has a significant effect on return on investments, H4: capital adequacy ratio can mediate the impact of loan deposit to ratio on return on assets.

3. RESULTS AND DISCUSSIONS

Before stepping on the hypothesis test that the author compiles, the author presents a classic assumption test, among others, with the calculation of the Kolmogorov Smirnov test with the help of SPSS version 26, which can be seen in the table below.

Table 1. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		65
Normal Parameters ^b	Mean	,0000000
	Std. Deviation	1,19705576
Most Extreme Differences	Absolute	,093
	Positive	,093
	Negative	-,077
Test Statistic		,093
Asymp. Sig. (2-tailed)		,200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

The Kolmogorov-Smirnov Test can be summarized as follows: Kolmogorov-Smirnov Asymp. Sig. (2-tailed) with a significance probability value of $0.200 > 0.05$. This means that it can be concluded that the data is typically distributed. In addition, the Multicollinearity Test to find out that these variables do not have multicollinearity can be seen by looking at the tolerance and VIF (Variance Inflation Factor) values, namely the tolerance value < 1 and $VIF > 10$, so there is no multicollinearity. The following multicollinearity test results can be seen in Table 2 below.

Table 2 Multiklonieritas Test
Coefficients

Model	Tolerance	Collinearity Statistics VIF
Loan To Deposit Ratio	,666	1,501
Capital Adequacy Ratio	,666	1,501

a. Dependent Variable: SQRT_ROA

Table 2 shows that the Coefficients show that the VIF value of the Loan To Deposit Ratio variable is 1.501, and the Capital Adequacy ratio is 1.501, which means the VIF value is <10. Menurut (Ghozali, 2021) Deciphering multiple linear regression equations is done to determine the direction of influence of one or more exogenous variables on endogenous variables. The SPSS 26 program is used with the following output to choose the regression model.

Table 3. Multiple Linear Regression Equation Results Test
Coefficients a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2,264	1,288		-1,758	,084
	LDR	,033	,011	,445	3,089	,003
	CAR	,067	,028	,351	2,433	,018

a. Dependent Variable: SQRT_ROA

Following the regression coefficient line equation obtained, the regression model can be interpreted as follows. A constant of -2.264 means that if the Loan to Deposit Ratio (X1) and Capital Adequacy Ratio (X2) value is zero, then profitability (Y) is still -2.264. The Loan to Deposit Ratio (X1) regression coefficient value is positive (0.033), which means that if the Loan to Deposit Ratio (X1) increases by one time or 100%, then the Return on Asset (Y) increases by (0.033) times. The regression coefficient value of the Capital Adequacy Ratio (X2) is positive (0.067). This means that if the Capital Adequacy Ratio (X2) increases by one time or 100%, then profitability (Y) decreases by (0.067) times. The following hypothesis test is presented in the table below.

Table 4. Hypothesis Test

Variable	T-value	P-values	Result
LDR → ROA	3,089	0,003	Accepted
LDR → CAR	-5,619	0,000	Accepted
CAR → ROA	2,433	0,018	Accepted
LDR → CAR → ROA	-2,2003	0,027	Accepted

Source: Results of research data processing 2023

From Table 4, the hypothesis test in this study statistically shows a The first hypothesis of this study is the effect of Loan to Deposit Ratio (LDR) on performance with the proxy Return on Asset (ROA). The results of testing the t-test hypothesis show that the Deposit Ratio (LDR) has a positive and significant effect on Return on Asset (ROA) because the calculated t value is 3.089 > t-table 1.998 and the significance level (0.003) < sig (0.05). Thus, the first hypothesis is accepted to conclude that the Loan Deposit Ratio (LDR) has a positive and significant effect on performance with the proxy Return on Asset (ROA). The more the Loan Deposit Ratio (LDR) increases, the version with the Return on Asset (ROA) proxy will also increase (Saleh & Winarso, 2021). Loan Deposit Ratio (LDR) shows the bank's ability to channel third-party investments collected by the bank. Thus, the amount of money/funds used to provide loans in the form of credit is money/funds originating from public deposits (Susilawati & Nurulrahmatiah, 2021). On the other hand, the loan-to-deposit ratio illustrates how good the bank's liquidity condition is and how effective the bank is in channeling its credit from third-party funds. From a profit point of view, a higher Loan Deposit Ratio condition following the provisions of the Financial Services Authority shows that the bank is effective and

efficient in lending. When banks can make these provisions efficient, their profits will increase (Rajindra et al., 2021).

The findings of this second test are to determine whether the Loan to Deposit Ratio. The second hypothesis predicts that the Loan Deposit Ratio (LDR) positively affects the Capital Adequacy Ratio (CAR). Still, the results of hypothesis testing in this study show different results, that the Loan to Deposit Ratio (LDR) has a negative and significant effect on the Capital Adequacy Ratio (CAR) because, based on the results of testing the t-test hypothesis, the Loan to Deposit Ratio (LDR) has a negative t value with a value of -5.619 and obtained a significance level $(0.001) < sig (0.05)$. Thus, this is opposite to the second hypothesis. These numbers indicate that if there is a one-unit increase in the value of the Deposit Ratio, there will be a decrease in the Capital Adequacy Ratio of -5.619 and vice versa, assuming other variables are considered constant (Fitria & Sari, 2012). However, the Deposit loan-to-deposit ratio assessment. It is still within the limits of Bank Indonesia's standard provisions, meaning third-party funds are channeled in credit. However, the results of this study can also explain that the Deposit Ratio is the impact of the growth in the amount of lending that is greater than the growth in the number of funds received. This causes the bank's liquidity conditions to be increasingly risky and coupled with bad debts that cause a Non-Performing Loan and the need for a limited amount of funds owned by the bank to meet all its short-term obligations (Anam & Khairunnisah, 2019). These conditions will make the value of risk-weighted assets more excellent so that the ability of bank capital to cope with the possibility of risk due to bank operations will be lower. Therefore, the increase in Loan Deposit Ratio will reduce the Capital Adequacy Ratio (Ambarawati & Abundanti, 2018; Miadalyni, 2011).

The third objective of this test is to determine whether the Capital Adequacy Ratio (CAR) affects Return on Asset (ROA). The third hypothesis predicts that the Capital Adequacy Ratio (CAR) has a positive and significant effect on Return on Asset (ROA) and the test results show the t-count value of $2.433 > t\text{-table } 1.998$ and obtained a significance level $(0.018) < sig (0.05)$. Thus, the first hypothesis is accepted so that it can be concluded that the Capital Adequacy Ratio has a positive and significant effect on Return on Asset (ROA). The relationship between Capital Adequacy Ratio (CAR) and Return on Asset (ROA) can increase banking profitability because it shows the availability of more internal capital so that banks will be more significant. Banks can use considerable cash to expand their business more safely. However, if the money is very high, the bank cannot channel credit optimally, while the Bank still has to pay interest on deposits to third parties. This can certainly reduce the profitability of the Bank. The existence of business expansion will ultimately affect the financial performance of the bank concerned. This will increase profitability, showing the bank's good performance (Ambarawati & Abundanti, 2018; Bateni, Vakillifard, & Asghari, 2014; Edo & Wiahgustini, 2014). The higher the Capital Adequacy Ratio value of a bank, the bank has sufficient capital to carry out its operational activities, including financing distribution activities, and the bank can bear the risks that may arise when carrying out its activities (Aldy et al., 2023; Lutfi et al., 2021; Swandewi & Purnawati, 2021).

The fourth hypothesis explains the effect of Loan Deposit Ratio (LDR) on Return On Asset (ROA) with Capital Adequacy Ratio (CAR) as a mediating variable. The fourth hypothesis predicts that the Capital Adequacy Ratio (CAR) can mediate the relationship between the Loan Deposit Ratio (LDR) and Return On Asset (ROA). The test results show that the mediation test value using the Sobel Test obtained a significance level or-value with a value of $(0.027) < sig (0.05)$ and a t statistics value with a negative value of -2.2003 greater than -1.95. So, it can be concluded that the Capital Adequacy Ratio (CAR) can mediate the effect of the Loan Deposit Ratio (ROA) on Return on Asset (ROA). These numbers indicate that if there is a one-unit increase in the Loan to Deposit Ratio value, the Return on Asset assessment through the Capital Adequacy Ratio will decrease by -2.2003 and vice versa, assuming other variables are considered constant. Capital Adequacy Ratio is the essential capital that the bank must meet as a buffer to bear the risk of the bank's operational activities or Risk Weighted Assets of each bank. The main factor affecting the amount of bank capital required is the minimum amount determined by the monetary authority, which is the authority of Bank Indonesia (Ambarawati & Abundanti, 2018). The impact of the growth in the amount of lending that is greater than the growth in the number of funds received can cause the bank's liquidity conditions to be increasingly at risk and coupled with bad debts that cause Non-Performing Loans to increase

associated with the limited amount of funds owned by the bank in meeting all its short-term obligations. From the mediation test, it can be obtained that the high Deposit Ratio not only makes the value of risk-weighted assets more significant, which results in a decrease in the Capital Adequacy Ratio, but also has a further domino effect on the banking profitability proxied by Return on Asset which also decreases indirectly through the Capital Adequacy ratio (Baldwin et al., 2019; Balili & Tola, 2023; Irawati et al., 2019).

4. CONCLUSION

From the results of research and discussion, the Loan to Deposit Ratio has a positive and significant effect on Return on Asset. Thus, the first hypothesis in this study is accepted. Increasing the company's profitability will tend to increase the Loan to Deposit Ratio because the profit earned by the bank will increase (assuming that the bank concerned can channel its credit effectively and optimally). Therefore, banks maximize profitability by optimally increasing the Loan to Deposit Ratio. The loan deposit Ratio has a negative and significant effect on the Capital Adequacy Ratio; thus, the second hypothesis in this study is rejected. Based on the results of the regression analysis that has been carried out, it shows that the Loan to Deposit Ratio in conventional banking sector companies that have been listed on the IDX in 2018-2022 has a significant adverse effect on the Capital Adequacy Ratio. It can be said that banks must maintain their liquidity so that the Capital Adequacy Ratio is not disrupted to overcome the risks caused by the Loan because an excessive amount of Loan to Deposit can affect banking liquidity and the Capital Adequacy Ratio. In addition, with an optimal level of Capital Adequacy Ratio, it is easier for banking management to carry out expansion activities for business development to generate profits. Also, banking is very profitable if it can increase the optimal Loan to Deposit Ratio so that the Capital Adequacy ratio can efficiently address the risk borne by the bank. Capital Adequacy ratio has a significant positive effect on Return on Assets; thus, the third hypothesis in this study is accepted. The relationship between the Capital Adequacy ratio and profitability: A higher Capital Adequacy ratio can increase banking profitability because it shows that the bank has internal solid capital so that the availability of money can be utilized by banks so that profitability will be greater. Because the availability of liquidity can be used by banks to generate profitability for business expenses, turnover on assets also increases. Capital Adequacy Ratio significantly in the negative direction can mediate the relationship between Loan Deposit Ratio and Return on Asset; thus, the fourth hypothesis in this study is accepted. An increase in the Deposit Ratio tends to reduce Return on Assets through the Capital Adequacy Ratio because the amount of capital channeled into loans can cause the bank's liquidity conditions to be increasingly at risk and coupled with bad debts that cause Non-Performing Loans to increase associated with the limited amount of funds owned by the bank in meeting all of its short-term obligations. Learning from the impact of the level of Loan Deposit Ratio owned by productive companies on Return on Asset through the Capital Adequacy Ratio, banking management needs to take policies to ensure that the level of Loan to Deposit Ratio is at the ideal level so that it remains sufficient to meet short-term obligations and operational needs without a lack of liquidity which causes the Capital Adequacy Ratio to be used to cover the risk of the Loan to Deposit Ratio and ultimately also reduce Return on Asset Indirectly a good Loan To Deposit Ratio does not guarantee that the level of Capital Adequacy Ratio will also increase, because credit risk, namely Non Performing loans from lending can be a burden on the Capital Adequacy Ratio. Therefore, customers or investors should pay attention to Non-Performing loans from each bank before using banking services. In addition, the authors hope this research can make a theoretical contribution to the financial management and banking literature in this context. It is expected that future research needs to add research variables, such as return on Equity, other profitability ratios, and other ratios in order to know which can improve financial performance at Conventional Banks in Indonesia.

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