Bima Journal – Business Management and Accounting
Available online at: http://journal.pdmbengkulu.org/index.php/bima
DOI: https://doi.org/10.37638/bima. 6. 2. 1553–1562

Determinants of Capital Adequacy and Liquidity Risk on Profitability in the Banking Sector

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How to Cite :
Saputri, O. D.; Edward, M. Y. (2025). *Determinants of Capital Adequacy and Liquidity Risk on Profitability in the Banking Sector*. *Bima Journal: Business, Management and Accounting Journal* , 6 (2). 1553 - 1562. DOI: https://doi.org/10.37638/bima. 6.2. 1553 - 1562

ARTICLE HISTORY
Received [14 March 2025]
Revised [30 Sept 2025]
Accepted [29 December 2025]

KEYWORDS
Capital Adequacy, Liquidity Risk, Profitability.

ABSTRACT

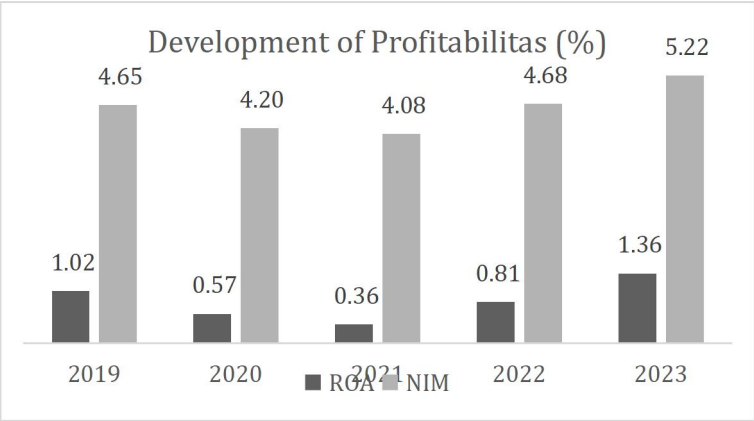
Purpose: This study aims to analyze the impact of capital adequacy and liquidity risk on the profitability of banks listed on the Indonesia Stock Exchange in 2019-2023. **Methodology:** Using a quantitative approach, panel data regression analysis was performed on a sample of 43 banks whose financial data was processed using STATA 17. **Results:** These results underscore the importance of effective capital management and liquidity strategies to optimize bank profitability. **Findings:** This study found that Capital Adequacy Ratio (CAR) does not significantly affect Return on Assets (ROA) but significantly affects Net Interest Margin (NIM). Meanwhile, Liquidity Risk (LDR) significantly and positively affects both profitability indicators (ROA and NIM). **Novelty:** Unlike previous studies, this research highlights the differential impact of capital adequacy on profitability indicators, offering a different perspective on banking performance. **Originality:** This study contributes by using the latest financial data (2019-2023) and examining ROA and NIM as profitability indicators. **Conclusion:** The findings indicate that liquidity risk management is crucial for improving profitability, while capital adequacy impacts bank performance depending on the profitability indicator used. **Type of Paper:** Empirical Research Article.

INTRODUCTION

Financial institutions have a crucial role in driving economic development and improving the welfare of people in Indonesia (Assa & Loindong, 2023) . The stability and health of the financial system is one of the main indicators in determining the progress of a country (Khoeriah & Manda, 2021) . Currently, the banking sector at the global level is developing rapidly and is increasingly modern (Rahayu et al., 2024). Almost all aspects of life are closely related to banking services (Purba & Triaryati, 2018). Based on the official statement of the Research Director of the Center of Reform on Economics (CORE) Indonesia published on its official website (kontan.co.id, 2020) banking institutions have a significant role in the Indonesian economy, with a contribution of up to 80% in consumption and investment. Therefore, the banking sector is expected to play an active role in realizing sustainable economic growth and improving people's welfare (Fadriyaturrohmah & Suria, 2022) . As part of financial institutions, banking institutions have the main function as financial intermediaries (Astutiningsih & Baskara, 2019) . Financial intermediaries refer to institutions or agencies that play a role in channeling funds from parties who have excess funds to parties in need(Wesso et al., 2022). Which plays a role in channeling funds from parties who have excess funds to parties in need (Wisaputri & Ramantha, 2021).

As an intermediary institution, banks are required to achieve optimal performance by maintaining and improving bank stability and health(Tsany & Daniel Bagana, 2022). Referring to the Regulation of the Financial Services Authority (OJK) Number 4/Pojk.03/2016 regarding Bank Health Level is the result of an evaluation of the state of the bank based on risk aspects and performance aspects. With this regulation, the banking sector is expected to always be in a stable condition to avoid potential losses for people who use banking services, based on the bank's capacity to carry out its operational activities optimally and fulfill all its responsibilities in accordance with established regulations (Syakhrun et al., 2019) Therefore, the level of banking health can be measured through its profitability, considering that the main objective of banks is to achieve an optimal level of profit (Alphamalana & Paramita, 2021).

Figure 1. Development of Profitability at the Bank for the period 2019-2023 (per quarter)



Source: Financial Services Authority 2019-2023 (processed)

The data above shows the development of banking profitability based on two main indicators, namely the ROA (Return on Assets) indicator and the NIM (Net Interest Margin) indicator, in the time span of 2019 to 2023. In general, profitability fluctuates, reflecting the dynamics of bank financial stability. ROA, which indicates the extent to which the bank has the ability to earn profits from its assets, showed a sharp decline from 1.02% in 2019 to 0.36% in 2021, before increasing again to reach 1.36% in 2023. On the other hand, NIM, which reflects the bank's ability to manage its net interest income, has also fluctuated, with the highest value of 5.22% in 2023. This trend shows that although the bank faced considerable pressure at certain times, such as the decline in ROA in 2020 and 2021, the bank's ability to increase its net interest margin in 2023 indicates a significant recovery in liquidity and capital adequacy. The integration of improved ROA and NIM at the end of the period reflects that the bank has successfully managed credit risk, improved asset quality, and maintained capital adequacy, which are important indicators in ensuring the overall financial stability and soundness of the bank. This indicates that the bank's capacity to earn profits from its assets has increased, which directly reflects the growth in profitability.

Profitability is defined as a financial ratio used to assess the extent to which a business entity is able to generate profits on its resources (Astakonmi et al., 2019). This ratio is not only an indicator of financial success, but also reflects the level of management effectiveness in managing company assets and liabilities, including in the banking sector. In banking, profitability has a strategic role because it has a direct impact on the interests of various parties, such as shareholders, depositors, regulators, and the wider community. Therefore, maintaining stability and growth in profitability is a top priority for bank management (Dewi et al., 2022) . A low level of profitability generally indicates less than optimal utilization of assets in generating income, which indicates weaknesses in the management of bank operations (Ajrina et al., 2023). A low level of profitability generally indicates less than optimal utilization of assets in generating income, which indicates weaknesses in the management of bank operations (Alamsyah, 2019). Thus, bank profitability is an important indicator that reflects the quality of its performance (Fitriani & Maharani, 2024).

In measuring the level of bank profitability, there are several commonly used approaches, including Return on Equity (ROE), Return on Assets (ROA), and Net Interest Margin (NIM) (Sugiarto & Lestari, 2017) . Each of these ratios has different characteristics and analysis objectives. This study

specifically focuses on analyzing ROA and NIM as the main indicators of bank profitability, given their relevance in assessing the efficiency and effectiveness of asset management and interest income. ROA (Return on Assets) is a financial indicator that measures how much net profit can be generated from each unit of assets owned by the bank (Pardede & Pangestuti, 2016). In other words, ROA reflects the extent to which bank management is able to optimize asset utilization to generate profits (Basri & Dermawan, 2021) . The higher the ROA value of a bank, the better its financial performance, because it shows an increase in effectiveness in managing investments and productive assets (Ketut et al., 2023). Apart from ROA, NIM (Net Interest Margin) is also an important measure in assessing bank profitability. NIM refers to the ratio between net interest income and productive assets, which reflects the bank's ability to generate profit margins from intermediation activities (Yuliani et al., 2020) . A high NIM ratio indicates good efficiency in managing sources of funds and channeling credit, thus having a positive impact on overall profitability (Az-Zahra & Pardistya, 2022) . Bank profitability is influenced by various aspects, such as capital adequacy and liquidity risk.

Capital adequacy is an important indicator in assessing the financial stability and resilience of a bank. Capital adequacy reflects the extent to which the bank has the capacity to allocate funds to support business expansion while facing potential losses that may arise from its operational activities (Yastika et al., 2020). A commonly used measure to assess capital adequacy is the Capital Adequacy Ratio (CAR), which shows the level of efficiency of capital management in bearing financial risks (Utami & Muslikhati, 2019). CAR is defined as the ratio between the capital owned by the bank and risk-weighted assets, which aims to ensure that the bank has enough capital to anticipate operational risk and market risk (Safitri & Suselo, 2023). The higher the CAR value, the greater the proportion of own funds used to fund productive assets, so that banks can reduce the cost of funds and potentially increase Return on Assets (ROA). Conversely, low CAR indicates greater dependence on external funds, which generally have higher costs and have a negative impact on profitability (Fanesha et al., 2021). In the research of Dewi et al. (2022), Safitri & Suselo (2023) concluded that CAR has a positive and significant influence on ROA, which indicates that capital adequacy plays an important role in increasing bank profitability. But different results were found in the research of Monoarfa et al. (2020), Widodo & Mahardika (2023), Assa & Loindong (2023), and Pratama et al. (2021) which concluded that CAR (Capital Adequacy) has no significant impact on ROA (Profitability).
H1 : Capital Adequacy has a positive influence on Profitability.

Banks with high levels of capital tend to have lower dependence on external funding (Ayuni & Rani, 2020) . Large capital allows banks to be more resilient in the face of negative shocks and reduces the risk of bankruptcy, so it can theoretically contribute positively to increasing profitability (Nurfauziah & Sayekti, 2018). One of the main indicators used to measure bank capital adequacy is the Capital Adequacy Ratio (CAR). This ratio reflects the bank's ability to maintain an adequate level of capital as well as the effectiveness of management in identifying, measuring, monitoring, and controlling risks that could potentially affect the capital position. The calculation of CAR is based on the principle that each risk-bearing asset must be supported by a certain amount of capital, proportional to the magnitude of the risk. A high CAR ratio indicates that the bank has the capacity to extend a large amount of credit, which in turn has the potential to increase interest income and the Net Interest Margin (NIM) ratio (Purba & Triaryati, 2018). Thus, the higher the CAR owned by the bank, the greater its ability to generate high NIM, as a reflection of the efficiency of productive asset management. In addition, strong capital also provides space for banks to bear costs due to operational uncertainty, thereby increasing business stability and sustainability (Sinaga & Wahyudi, 2023) . On the other hand, Puspitasari, (2014) proves that Capital Adequacy as measured by CAR (Capital Adequacy Ratio) does not have a significant effect on profitability. Meanwhile, Sinaga & Wahyudi, (2023) , (Ayuni & Rani, 2020) , in their research resulted in CAR (Capital Adequacy Ratio) having a positive influence and significant influence on NIM (Profitability).
H2 : Capital Adequacy has a positive influence on Profitability.

One important factor that affects bank profitability is liquidity risk. This risk describes the company's inability to meet its short-term obligations, especially in managing cash flow to pay liabilities when due (Fadriyaturrohmah & Suria, 2022) In the banking industry, liquidity management is a crucial aspect because bank operations are highly dependent on the ability to manage customer funds optimally, especially in lending activities (Tantono & Candradewi, 2019). Liquidity risk can be measured through the Loan to Deposit Ratio (LDR) indicator, which is a ratio that shows the ratio between the amount of credit disbursed and third party funds raised by the bank. The LDR ratio illustrates how much proportion of public funds has been allocated in the form of credit, and is an

indicator of the bank's effectiveness in managing available funds (Tehresia et al., 2021). The higher the LDR ratio, the higher the bank's potential to generate interest income, which in turn has an impact on increasing profitability (Sunaryo et al., 2021) . In addition, LDR also reflects the bank's ability to meet short-term liquidity obligations and respond to financing requests from customers (Anggari & Dana, 2020). Several studies show different results regarding the effect of liquidity risk on profitability. Studies conducted by Mambu et al. (2022) and Amin et al. (2021) concluded that there is an impact of LDR (Liquidity Risk) on profitability as measured by ROA (Return on Assets). However, Wahyuni (2018) and Anam (2018) found no effect of LDR (Liquidity Risk) on ROA (Profitability).
H3 : Liquidity Risk has a positive impact on Profitability.

To assess the level of liquidity risk of a bank, a commonly used indicator is the Loan to Deposit Ratio (LDR). This ratio reflects the extent to which funds raised from the public and other sources have been allocated in the form of credit to those in need. The greater the proportion of loans disbursed to total funds raised, the higher the level of efficiency in the use of bank funds, especially in reducing managerial costs and the distribution of credit portfolios. In other words, a healthy increase in LDR can indicate productive and efficient fund management. According to Purba & Triaryati (2017) , the higher the ratio of credit provided by the bank, the greater the interest income that can be obtained. This will ultimately make a positive contribution to increasing Net Interest Margin (NIM) as one of the main indicators of bank profitability. In Santhuso et al., (2023) and (Purba & Triaryati, 2018) research, show that liquidity risk has a positive impact on profitability calculated by NIM (Net Interest Margin). However, different findings were presented by Mar & Solichah (2022) , in their research LDR (Liquidity Risk) did not have a significant impact on NIM (Profitability).
H4 : Liquidity Risk has a positive impact on Profitability.

METHOD

This research uses a quantitative approach, which is considered appropriate to measure the relationship between variables objectively through numerical data. This method is applied to the banking sector listed on the Indonesia Stock Exchange (IDX). The data used is sourced from the bank's annual and quarterly financial reports, especially financial ratio reports obtained through the official website of the Financial Services Authority (OJK). The population in this study includes all banks listed on the IDX during the last five-year period, namely from 2019 to 2023, consisting of 47 banks. The sample selection was carried out using purposive sampling method, which is a sampling technique based on certain criteria in accordance with the research objectives. The criteria used in this study are that the Bank must be actively listed on the IDX during the 2019-2023 period. Banks are included in the conventional bank category, so Islamic banks are excluded from the sample. Based on these criteria, 43 conventional banks were obtained which were used as research samples. The data analyzed is quarterly, so the total number of observations in this study is 860 observations. To analyze the relationship between the independent and dependent variables, this study uses the panel data regression method, which allows researchers to test the influence of variables in the time dimension and between entities. Data processing was carried out using Stata 17 software. There are two panel data regression model equations applied in this study, including:

$ROA_{it} = \alpha + \beta_1 CAR_{it} + \beta_2 LDR_{it} + \varepsilon_{it}$ ..... (Equation 1)

$NIM_{it} = \alpha + \beta_1 CAR_{it} + \beta_2 LDR_{it} + \varepsilon_{it}$ ..... (Equation 2)

In the equation, ROA and NIM act as dependent variables that are predicted based on CAR (Capital Adequacy Ratio) and LDR (Loan to Deposit Ratio), and by including a random error component (ε). The regression coefficients (β1 and β2) indicate the effect of CAR (Capital Adequacy Ratio) and LDR (Loan to Deposit Ratio) on ROA (Return on Assets) and NIM (Net Interest Margin), while α is a constant in the model.

CAR (Capital Adequacy Ratio) and LDR (Loan to Deposit Ratio) in this study will be used as independent variables. While the dependent variable is Profitability which is measured using NIM (Net Interest Margin) and ROA (Return on Assets). To support the research, variable operationalization is carried out by determining the indicators used in the measurement of each research variable.

Tabel 1. Operasionalisasi Variabel

Variable	Definition	Indicator
CAR (Capital Adequacy) X1	Capital adequacy reflects the bank's capacity to allocate financial resources needed for business expansion and to face potential losses as a result of its operational activities(Yastika et al., 2020).	$CAR = \frac{Modal}{ATMR} x100\%$
LDR (Liquidity Risk) X2	LDR (Liquidity Risk) refers to the inability of a company to meet its short-term obligations (Fadriyaturrohmah & Suria, 2022).	$LDR = \frac{Total\ Loans}{Total\ DPK} x100\%$
Profitability (ROA) Y1	ROA (Return on Assets) is a financial indicator that measures how much net profit can be generated from each unit of assets owned by the bank (Pardede & Pangestuti, 2016).	$ROA = \frac{Net\ Income}{Total\ Assets} x100\%$
Profitability (NIM) Y2	NIM refers to the ratio between net interest income and productive assets, which reflects the bank's ability to generate profit margins from intermediation activities (Yuliani et al., 2020).	$NIM = \frac{Net\ Interest\ Income}{Earning\ Assets} x100\%$

RESULTS AND DISCUSSION

RESULTS

This study applies the panel data regression method with the results of descriptive statistical analysis in Table 2.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ROA (Profitability)	860	0,9882262	1,811758	-15,89	5,29
NIM (Profitability)	860	4,613369	2,74309	-4,29	20,68
CAR (Capital Adequacy)	860	34,22825	35,77444	8,02	538,01
LDR (Liquidity Risk)	860	90,05752	44,63574	8,79	568,87

Source: STATA17 processed data, 2024

Based on Table 2, the descriptive statistics of 860 observations illustrate the variation in Profitability, Capital Adequacy, and Liquidity Risk. The results of measuring profitability using ROA (Return on Assets) yielded an average of 0.98 with a standard deviation of 1.81, indicating differences in profitability between banks, with the lowest value of -15.89 and the highest of 5.29. Meanwhile, Profitability as measured by NIM (Net Interest Margin) has an average of 4.61 with a standard deviation of 2.74, and a range of values from -4.29 to 20.68, reflecting significant differences in interest income efficiency between banks. Capital Adequacy (CAR) has an average of 34.22 with a standard deviation of 35.77, with a minimum value of 8.02 and a maximum value of 538.01, indicating considerable differences in capital strategies among the observed banks. Liquidity Risk (LDR) yielded an average of 90.06 with a standard deviation of 44.63, with a minimum value of 8.79 and a maximum of 568.87, indicating significant differences in lending policies. Overall, the data shows a large variation in Profitability, Capital Adequacy, and Liquidity Risk, with some banks having much higher ratios than the average.

Table 3. Correlation Matrix Test Results

Variabel	ROA	CAR	LDR
ROA (Profitability)	1,0000		
CAR (Capital Adequacy)	0,0476	1,0000	
LDR (Liquidity Risk)	0,0503	-0,1860	1,0000
Variabel	**NIM**	**CAR**	**LDR**
NIM (Profitability)	1,0000		
CAR (Capital Adequacy)	0,1820	1,0000	
LDR (Liquidity Risk)	0,0671	-0,1864	1,0000

Source: STATA17 processed data, 2024

From the correlation test results, there are two dependent variables, namely Profitability which is assessed using ROA (Return on Assets) and NIM (Net Interest Margin). The analysis results in variables that have a positive correlation with Profitability (ROA), namely Capital Adequacy (CAR) with a correlation value of 0.0476 and Liquidity Risk (LDR) with a value of 0.0503. Meanwhile, in Profitability (NIM), the variables that show a positive relationship are Capital Adequacy (CAR) with a correlation value of 0.1820 and Liquidity Risk (LDR) with a value of 0.0671.

Table 4 Result of T-Test

Variable	ROA (Profitability)	NIM (Profitability)
CAR (Capital Adequacy)	0,0301083* (1,77)	0,114361*** (5,93)
LDR (Risiko Lukuiditas)	0,0283017*** (3,26)	0,0541908** (3,08)
_cons	191,2744*** (20,95)	185,4405*** (15,78)
Obs	860	860
R-squared	0,1272	0,6503
F	39,16	14,13
Prob > F	0,0000	0,0009

Notes: ***, **, and * indicate variables that are statistically significant at the 1%, 5%, and 10% levels, respectively; t-statistics in parentheses

Source: STATA17 processed data, 2024

The regression equation is as follows:

ROA = 191,2744 + 0,0301083CAR + 0,0283017LDR

NIM = 185,4405 + 0,114361CAR + 0,0541908LDR

The Capital Adequacy (CAR) coefficient with a value of 0.0301083 indicates that when there is a 1% increase in Capital Adequacy (CAR), it will increase Profitability (ROA) by 3.01%, this reflects a positive correlation between Capital Adequacy (CAR) and Profitability (ROA). On the other hand, the coefficient of Liquidity Risk (LDR) with a value of 0.0283017 indicates that a 1% increase in Liquidity Risk (LDR) will increase Profitability (ROA) by 2.83%, which also shows a positive relationship. In addition, the coefficient of Capital Adequacy (CAR) on Profitability (NIM) is 0.114361, which means that every 1% increase in Capital Adequacy (CAR) will increase Profitability (NIM) by 11.44%, showing a strong positive correlation. While the Liquidity Risk (LDR) coefficient of 0.0541908 indicates that when there is a 1% increase in Liquidity Risk (LDR) it will push up Profitability (NIM) by 5.42%, which also reflects a positive relationship.

From the t-test results, for the Capital Adequacy (CAR) variable in Profitability (ROA), the t-count value of 1.77 is smaller than the t-table of 2.0227, with a probability of 0.077. This indicates that the Capital Adequacy (CAR) variable does not have a significant effect on Profitability (ROA). In contrast, the results of the Liquidity Risk (LDR) variable show a t-count value of 3.26, which is greater than the t-table of 2.0227, and with a probability of 0.001, which means that Liquidity Risk (LDR) has a positive and significant effect on Profitability (ROA). In the analysis of Profitability (NIM), Capital Adequacy (CAR) has a t-count of 5.93. This value is much greater than the t-table of 2.0227 with a probability value of 0.000. Thus, it is concluded that Capital Adequacy (CAR) has a positive and significant effect on Profitability (NIM). Similarly, the coefficient of Liquidity Risk (LDR) on Profitability (NIM) shows a t-count of 3.08 which in this case is greater than the t-table value of 2.0227 with a probability of 0.002. This proves that Liquidity Risk (LDR) has a positive impact and a significant impact on Profitability (NIM).

DISCUSSION

Capital Adequacy (CAR) is one of the main indicators in assessing a bank's financial condition, as it reflects the bank's ability to absorb potential losses and maintain its operational stability. This ratio shows the bank's capacity to provide adequate capital reserves to face risks arising from operational activities. Although theoretically an increase in CAR can strengthen the bank's resilience to risk, the results of this study show that CAR has no significant effect on profitability as measured

by Return on Assets (ROA). This insignificance can be caused by the suboptimal allocation of capital in productive activities or the limited flexibility of banks in using capital due to strict regulations. As regulated by Bank Indonesia, every bank is required to maintain a minimum CAR of 8%, which means that some funds must be allocated to capital reserves to fulfill regulations and anticipate credit risk (Assa & Loindong, 2023). High Capital Adequacy can also limit the bank's opportunity to expand its business, because the more funds allocated to capital reserves, the more limited the bank's ability to extend credit or make more profitable investments (Pratama et al., 2021). This may cause the potential increase in profitability not to be realized to the fullest. In addition, the insignificant relationship between Capital Adequacy (CAR) and Profitability (ROA) also reflects a risk management strategy that tends to be conservative, where banks prioritize long-term stability over short-term profit achievement. This finding is in line with research by Monoarfa et al. (2020) , although Capital Adequacy (CAR) is not significant to Profitability (ROA), maintaining a healthy capital structure remains a crucial aspect in ensuring operational sustainability and trust in banking institutions.

Liquidity risk assessed from LDR (Loan to Deposit Ratio) has a positive and significant effect on Profitability as measured using Profitability (ROA). The results of this study indicate that the higher the value of Liquidity Risk (LDR), the greater the proportion of third party funds that are successfully mobilized and allocated for lending. Thus, an increase in LDR reflects the bank's ability to manage funds productively through credit, which in turn can contribute to an increase in bank profits. If managed wisely, an increase in LDR can be an effective strategy to optimize productive assets and maximize profitability. However, it is important to note that an excessively high LDR value may also pose a significant liquidity risk. When the proportion of loans exceeds the bank's liquidity reserve capacity, the potential for default or inability to meet short-term obligations increases. Therefore, maintaining the LDR ratio within the optimal range of 78% to 92%, as set by Bank Indonesia (BI), is essential to ensure a balance between credit expansion and operational stability. Furthermore, high profitability also reflects the bank's ability to meet its short-term obligations, which also indicates healthy liquidity conditions. Well-controlled liquidity risk not only strengthens the bank's operational resilience, but also improves its image and credibility in the eyes of investors, which in turn can encourage additional capital inflows (Amin et al., 2021). According to Sofyan (2021) which states that an increase in LDR shows the efficiency of credit distribution by banks, which reflects the balance between lending and third party funds. This efficiency plays a direct role in increasing profits and has a positive impact on ROAThis finding also occurred in Anggari & Dana (2020), which concluded that the higher the LDR, the higher the level of company profitability.

Capital adequacy is a fundamental spec in supporting the continuity of banking operations. Adequate capital acts as an important source of internal funding, especially in dealing with risks and supporting credit expansion activities. When the capital structure of a bank is not optimal, the smooth running of operational activities can be disrupted, so the evaluation of the Capital Adequacy Ratio (CAR) level becomes crucial (Assa & Loindong, 2023) . The study concluded that Capital Adequacy (CAR) has a positive and significant effect on Profitability (NIM). This positive relationship indicates that the higher the CAR, the greater the bank's capacity to extend credit and absorb the risk of loss. A high capital ratio reflects the bank's ability to support sustainable financing activities and increase interest income from productive assets. In addition, high CAR also increases the level of public confidence, because banks are considered to have good financial resilience. This trust encourages people to keep their funds in the bank, which in turn expands the third party fund base that can be channeled in the form of credit, thereby increasing bank income (Purba & Triaryati, 2018) . This finding is reinforced by Sinaga & Wahyudi, (2023) which also found that CAR has a positive and significant effect on NIM, proving that a strong capital structure not only improves operational efficiency, but also strengthens the stability and sustainability of interest income. Thus, optimal capital management not only serves as a risk buffer, but also as a direct driver of banking profitability.

Liquidity risk is measured using the Loan-to-Deposit Ratio (LDR), reflecting the bank's ability to meet its short-term obligations using available liquid funds. This indicator is crucial in determining the level of bank profitability because it illustrates how effective the bank is in distributing funds from third parties into productive assets such as credit (Fadriyaturrohmah & Suria, 2022). This study reveals that Liquidity Risk (LDR) has a positive and significant effect on Profitability as measured by NIM (Net Interest Margin). The higher the LDR value, the greater the portion of third party funds used for credit financing, thus contributing to an increase in bank interest income. With optimal liquid asset management, banks can maximize lending without having to increase interest expense

significantly. This leads to an increase in NIM, because banks earn higher returns on productive assets while the cost of deposits is relatively stable (Sinaga & Wahyudi, 2023). Therefore, an increase in LDR is generally associated with an increase in profitability, provided that it is still within safe and controllable limits. The efficiency of LDR management also has a positive impact on the bank's overall financial performance, as it allows banks to increase profit margins without drastically increasing risk (Ridwan & Edward, 2024). This finding is reinforced by Santhuso et al., (2023), which states that the increase in LDR is more triggered by credit expansion than the growth of third party funds. This happens because income from lending tends to increase faster than interest expense on deposits, thus directly driving the increase in NIM.

CONCLUSION

Data analysis in this study concluded that the effect of Capital Adequacy (CAR) and Liquidity Risk (LDR) on Profitability (ROA and NIM) showed different results. Capital Adequacy (CAR) does not have a significant effect on Profitability (ROA), which may be due to several factors, such as less than optimal capital allocation, risk management policies that tend to be conservative, and strict regulations that limit the flexibility of banks in utilizing capital more productively. In contrast, Capital Adequacy (CAR) has a positive and significant effect on Profitability (NIM). The existence of high value capital allows banks to reduce interest costs and improve operational efficiency. With a strong capital structure, banks can be more flexible in lending, thereby increasing interest income while maintaining financial stability.

On the other hand, Liquidity Risk (LDR) has a positive and significant effect on Profitability (ROA). Optimal LDR management provides an opportunity for banks to increase their profitability through effective lending strategies. Liquidity Risk (LDR) also has a positive influence and significant effect on Profitability (NIM). A well-managed increase in LDR (Loan to Deposit Ratio) also shows effectiveness in optimizing liquid assets for credit expansion. This in turn contributes to the growth of net interest income (NIM) without causing an excessive increase in interest costs. Thus, proper liquidity risk management can have a positive impact on the overall profitability of the bank.

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