# Liquidity and Capital Adequacy Impact on Profitability in Indonesian Conventional Banks

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**Abstract:** Profitability remains a central indicator of banking performance, reflecting the ability of institutions to sustain growth and resilience in competitive markets. In the Indonesian context, conventional banks face increasing pressure to balance liquidity and capital adequacy in order to optimize returns while maintaining financial stability. This study aims to analyze the influence of liquidity, measured by Loan to Deposit Ratio (LDR), and capital adequacy, measured by Capital Adequacy Ratio (CAR), on profitability (ROA) among conventional banking sub-sector companies listed on the Indonesia Stock Exchange. Employing a quantitative approach, the research uses purposive sampling with secondary data and applies multiple linear regression analysis to examine 30 firm-year observations. The findings reveal that liquidity does not exert a significant effect on profitability, whereas capital adequacy demonstrates a positive and significant impact. Simultaneously, both variables contribute to explaining variations in profitability, underscoring the importance of capital strength in enhancing bank performance. The novelty of this study lies in its empirical evidence from Indonesian conventional banks, highlighting CAR as a critical determinant of profitability. The results provide practical insights for regulators and bank management in designing strategies that prioritize capital adequacy as a driver of sustainable profitability.

**Keywords: Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR), Return on Assets (ROA), Profitability, Conventional Banking.**

## 1. Introduction

The banking sector currently plays a crucial role in supporting national economic growth and stability. As financial intermediaries, banks collect funds from the public and redistribute them in the form of financial services such as credit and various other services to support a country's economic activity. Therefore, the health and profitability of banks, which reflect their financial performance, are crucial concerns for investors, the public, and the government.

The development of the Indonesian banking sector is constantly undergoing adjustments whenever there are regulatory changes implemented by the government. One important change

is reflected in the Financial Services Authority (OJK) policy, which implemented the KBMI (Bank Groups Based on Capital) system, through POJK No. 12/POJK.03/2021, replacing the Commercial Bank Business Group (BUKU) system. The implementation of this new classification aims to improve the effectiveness of supervision based on the risk level and capital capacity of each bank, thus creating a more stable, healthy, and efficient banking industry.

Facing business competition and stringent regulations, banking businesses are required to generate profits from their operations. Banking performance is measured using *Return on Assets* (ROA), which is one of the main indicators of banking performance because it reflects a bank's ability to effectively manage its assets and generate profits. A high Return on Assets (ROA) value will result in operational efficiency, thus strengthening the bank's competitiveness in the banking world (Putri, 2025).

Many factors can influence a bank's profits, one of which is its ability to manage liquidity risk. Liquidity risk is reflected in the Loan-Depost Ratio (LDR), reflecting the bank's ability to channel funds collected from the public into loans. Based on the Signaling Theory perspective proposed by Michael Spence, a bank's ability to optimally manage collected funds from the public, channeled through credit, will send a positive signal to investors and policymakers, as effective intermediation activities have the potential to increase the company's profitability.

However, the conventional banking industry on the Indonesia Stock Exchange (IDX) between 2019 and 2024 exhibited highly volatile conditions. Based on financial reports from five banks in KBMI 4, profitability (ROA), liquidity (LDR), and capital adequacy ratio (CAR) experienced varying fluctuations during the observation period.

In 2020, nearly all sampled banks experienced a significant decline in profitability due to the impact of the Covid-19 pandemic. For example, Bank BNI's ROA decreased from 1.83% in 2019 to 0.37% in 2020. Similarly, Bank Mandiri saw its ROA decline from 2.02% to 1.19%. Furthermore, the LDR ratio also decreased at most banks due to slowed lending during the pandemic. However, changes in LDR were not always accompanied by corresponding changes in ROA. This indicates that increases or decreases in lending do not necessarily directly impact bank profitability.

In addition to liquidity, a bank's capital adequacy, as measured by the Capital Adequacy Ratio (CAR), is also crucial for maintaining the stability and profitability of the banking industry. Throughout the study period, all sample banks maintained a capital adequacy ratio above the regulatory minimum. Bank Central Asia even recorded a CAR of 29.40% in 2023, one of the highest capital levels among the sample banks. A high CAR demonstrates a bank's greater ability to absorb risk while supporting business expansion, potentially boosting profitability.

The phenomena described above illustrate that the relationship between ROA, LDR, and CAR does not always conform to theory. In some circumstances, an increase in LDR is not accompanied by increased profitability, while high capital adequacy tends to be followed by improved profitability performance. In addition to these empirical phenomena, previous research on the influence of ROA on LDR and CAR has yielded inconsistent conclusions. Some studies concluded a positive significance, while others concluded an insignificant effect.

These inconsistent research findings underlie the need for further research into the relationship between ROA, LDR, and CAR in the conventional banking industry, within the KBMI 4 category, listed on the Indonesia Stock Exchange for the 2019–2024 period.

The following is a table of conventional banking statistics KBMI 4: ROA, LDR and CAR for 2019–2024.

**Table 1. Conventional Banking Statistics KBMI 4: LDR, CAR, and ROA 2019–2024**

| Bank Name | Ratio | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|
| **Bank BCA** | Long Distance Relationship | 81.84% | 65.64% | 60.89% | 64.15% | 69.57% | 77.52% |
| | CAR | 24.64% | 26.89% | 26.85% | 26.84% | 29.40% | 29.14% |
| | ROA | 3.11% | 2.52% | 2.56% | 3.10% | 3.46% | 3.78% |
| **Bank BRI** | Long Distance Relationship | 88.06% | 82.70% | 87.33% | 82.52% | 88.18% | 95.08% |
| | CAR | 22.55% | 20.61% | 25.28% | 23.30% | 25.23% | 24.41% |
| | ROA | 2.43% | 1.23% | 1.83% | 2.76% | 3.06% | 3.04% |
| **Bank BNI** | Long Distance Relationship | 95.58% | 90.52% | 79.88% | 84.00% | 85.74% | 96.32% |
| | CAR | 19.70% | 16.80% | 19.70% | 19.30% | 22.00% | 21.40% |
| | ROA | 1.83% | 0.37% | 1.14% | 1.79% | 1.94% | 1.92% |
| **BTN Bank** | Long Distance Relationship | 112.23% | 92.12% | 92.73% | 92.82% | 96.36% | 94.59% |
| | CAR | 17.32% | 19.34% | 19.14% | 20.17% | 20.07% | 18.50% |
| | ROA | 0.07% | 0.44% | 0.64% | 0.76% | 0.80% | 0.64% |
| **Mandiri Bank** | Long Distance Relationship | 108.38% | 94.66% | 92.02% | 90.51% | 100.62% | 112.24% |
| | CAR | 21.39% | 19.90% | 19.60% | 19.46% | 21.48% | 20.10% |
| | ROA | 2.02% | 1.19% | 1.77% | 2.26% | 2.76% | 2.52% |

Source: Indonesia Stock Exchange (IDX), Processed Data (2026)

Based on Table 1, the ROA, LDR, and CAR ratios in the five major conventional banks fluctuated in 2019–2024. In terms of liquidity, the LDR of all banks decreased in 2020 due to the impact of the Covid-19 pandemic, such as Bank BCA which fell to 65.64% and Bank BNI to 90.52%, then gradually recovered and increased again towards 2024. Interestingly, Bank BTN and Bank Mandiri recorded LDRs above 100% in 2019 (112.23% and 108.38%, respectively), which indicates that credit disbursement exceeded funds collected, potentially increasing liquidity risk. On the capital side, all banks maintained CAR well above the regulatory minimum limit, with Bank BCA leading the way at 29.14% in 2024. In terms of profitability, the ROA of all banks was depressed in 2020 due to increased provisioning costs, but managed to recover significantly until 2024, with Bank BCA recording the highest ROA of 3.78%, Bank BRI at 3.04%, and Bank Mandiri at 2.52%.

This phenomenon contrasts with the results of Eriyanto & Sudiyatno's (2022) study, which found that LDR had a significant and positive effect on ROA. However, Prayogi (2024) found that LDR had an insignificant and negative effect on ROA. However, several studies, such as Hermawati (2022) and Tania (2023), concluded that CAR had a significant and positive effect on profitability in the banking industry. The differences between these studies illustrate the need for further research with updated data. Therefore, this study will re-examine the relationship between LDR and CAR on ROA in conventional banking sub-sector

companies in the KBMI 4 category listed on the Indonesia Stock Exchange for the 2019–2024 period. This research is expected to provide practical benefits for bank management in formulating optimal liquidity and capital policies to increase company profitability and can add to the financial literature for further research.

The concept of signaling theory was first proposed through Michael Spence's (1973) landmark study, "Job Market Signaling." This theory bridges the flow of information from internal management to shareholders and potential investors regarding the company's performance, current conditions, and future projections. From this perspective, the transparency of information published by a business entity serves as a crucial instrument for external parties as a basis for formulating investment decisions. The information presented generally documents past financial track records, current real-world situations, and predictions of long-term business sustainability (going concern) (Ida Ayu Bintang Mahandirayanthi, 2025).

Return on Assets (ROA) is a key financial ratio used to measure a company's overall financial performance. This ratio evaluates a company's ability to generate net profit by utilizing all its assets, after deducting the total operating costs incurred in managing those assets. The higher the ROA, the more efficient and effective the company's operational performance in generating profits. In the capital market context, a high ROA is a positive signal (good news) for investors, as it reflects the bank's promising future business growth prospects (Pratiwi, 2024).

Liquidity Ratio (Loan to Deposit Ratio)

Bank Indonesia issued regulation No. 15/7/PBI/2013, which legally defines the Loan to Deposit Ratio (LDR) as the ratio of credit disbursed to third parties, denominated in Rupiah or foreign currency. In calculating this ratio, credit extended to other banks is not included in the numerator. The total credit value is then rationally compared to the total accumulated Third Party Funds (DPK) collected by banking institutions. The DPK component includes instruments in Rupiah and foreign currency in the form of deposits, savings, and current accounts, excluding interbank funds (Fajriani & Janudin, 2025).

Theoretically, the operational relationship between LDR and ROA can be examined through the interest income mechanism. Financial logic suggests that an increasing LDR indicates that banks are aggressively and efficiently channeling public funds into credit expansion. This high volume of disbursed credit directly increases the bank's interest income, which ultimately contributes positively to increased operating profit and boosts ROA (Dewi, 2024). However, if the LDR is too low, it reflects the bank's ineffectiveness in carrying out its intermediary function, thus missing opportunities for the institution to achieve optimal profits.

The Capital Adequacy Ratio (CAR) is a key indicator used to measure a bank's ability to absorb and bear the risk of financial losses (Tania, 2023). Technically, the CAR calculation is based on a comparative comparison between a banking institution's equity and its Risk-Weighted Assets (RWA) (Tania, 2023). The higher a bank's CAR, the stronger its capacity and capability to mitigate the risks of each disbursement of creditor guarantee funds (Tania, 2023). Within the national banking ecosystem, fluctuations in capital adequacy are simultaneously influenced by liquidity risk management (LDR) governance and operational efficiency in generating profitability or ROA (Tania, 2023). Therefore, a stable CAR ratio above regulatory

requirements is a crucial signal to external parties that the banking sector is operating in a healthy, safe, and competitive manner (Tania, 2023).

Within the operational ecosystem of banking financial institutions, liquidity risk is strongly linked to the company's profitability. Liquidity risk is projected through the Loan-to-Deposit Ratio (LDR).

Theoretically, the operational relationship between LDR and ROA can be examined through the interest income mechanism. Financial logic suggests that an increasing LDR ratio indicates that banks are aggressively and efficiently channeling public funds into credit expansion. This high volume of disbursed credit directly increases the bank's interest income, which ultimately contributes positively to increased operating profit and boosted ROA (Dewi, 2024).

$H_1$: Loan to Deposit Ratio (LDR) has a significant effect on Return on Assets (ROA).

Within the banking financial governance structure, capital strength is crucial for achieving profit generation. Theoretically, as stated in signaling theory, a high CAR is a positive signal to investors, depositors, and regulators that the bank is financially sound, stable, and capable of handling various operational risks. This high level of trust from stakeholders will support the long-term sustainability and growth of the banking business (Tania, 2023).

$H_2$: Capital Adequacy Ratio (CAR) has a significant effect on Return on Assets (ROA)

## 2. Research methods

This research is a causal associative quantitative study, which aims to identify and measure the causal relationship between the independent variables LDR and CAR with the dependent variable ROA. The quantitative approach is carried out by conducting hypothesis testing using statistical inference methods. The researcher uses secondary data taken from the annual financial reports published by the Company on the Indonesia Stock Exchange website, the official websites of each company and reports issued by the Financial Services Authority. The panel data used includes 5 banking companies for 6 years of observation (2019–2024), resulting in a total of 30 observations.

Table 2. List of Research Sample Companies

| No | Code | Company name | Category |
|---|---|---|---|
| 1. | BBCA | PT Bank Central Asia Tbk | KBMI 4 |
| 2. | BBRI | PT Bank Rakyat Indonesia (Persero) Tbk | KBMI 4 |
| 3. | BBNI | PT Bank Negara Indonesia (Persero) Tbk | KBMI 4 |
| 4. | BBTN | PT Bank Tabungan Negara (Persero) Tbk | KBMI 4 |
| 5. | BMRI | PT Bank Mandiri (Persero) Tbk | KBMI 4 |

Source: Indonesia Stock Exchange, 2026 (processed by researchers).

Definition of Operational Variables

**Table 3. Operational Variables**

| Variables | Operational Definition | Formula | Scale |
|---|---|---|---|
| Profitability (ROA) – Dependent Variable (Y) | The bank's ability to generate net profit from total assets managed | ROA = Net Profit / Total Assets × 100% | Ratio |
| Liquidity Risk (LDR) – Independent Variable (X1) | The ratio of credit disbursed to total third party funds collected by the bank | LDR = Total Credit / Third Party Funds × 100% | Ratio |
| Capital Adequacy (CAR) – Independent Variable (X2) | The bank's ability to provide capital to cover the risks of risky assets | CAR = Capital / ATMR × 100% | Ratio |

Source: Compiled by Researchers, 2026

Data analysis in this study was conducted using the SPSS statistical application. The data management stages include: (1) descriptive statistics that describe the characteristics of each research data; (2) classical assumption tests consisting of normality tests, multicollinearity tests, heteroscedasticity tests, and autocorrelation tests; and (3) multiple linear regression analysis to test the research hypothesis. The Multiple Linear Regression Equation used in this study is as follows:

$$ROA = \beta 0 + \beta 1 LDR + \beta 2 CAR + \varepsilon \quad \text{.....(1)}$$

## 3. Results and Discussion

Research Data

Complete data on the LDR, CAR, and ROA variables from 5 sample banks during the 2019–2024 research period are as follows:

Table 3. LDR, CAR, and ROA Data for Sample Companies for the 2019–2024 Period

| No | Bank | Year | LDR (%) | CAR (%) | ROA (%) |
|---|---|---|---|---|---|
| 1 | Bank BCA | 2019 | 81.84% | 24.64% | 3.11% |
| 2 | Bank BCA | 2020 | 65.64% | 26.89% | 2.52% |
| 3 | Bank BCA | 2021 | 60.89% | 26.85% | 2.56% |
| 4 | Bank BCA | 2022 | 64.15% | 26.84% | 3.10% |
| 5 | Bank BCA | 2023 | 69.57% | 29.40% | 3.46% |
| 6 | Bank BCA | 2024 | 77.52% | 29.14% | 3.78% |
| 7 | Bank BRI | 2019 | 88.06% | 22.55% | 2.43% |
| 8 | Bank BRI | 2020 | 82.70% | 20.61% | 1.23% |
| 9 | Bank BRI | 2021 | 87.33% | 25.28% | 1.83% |
| 10 | Bank BRI | 2022 | 82.52% | 23.30% | 2.76% |
| 11 | Bank BRI | 2023 | 88.18% | 25.23% | 3.08% |
| 12 | Bank BRI | 2024 | 95.08% | 24.41% | 3.04% |
| 13 | Bank BNI | 2019 | 95.58% | 19.70% | 1.83% |

| No | Bank | Year | LDR (%) | CAR (%) | ROA (%) |
|---|---|---|---|---|---|
| 14 | Bank BNI | 2020 | 90.52% | 16.80% | 0.37% |
| 15 | Bank BNI | 2021 | 79.88% | 19.70% | 1.14% |
| 16 | Bank BNI | 2022 | 84.00% | 19.30% | 1.79% |
| 17 | Bank BNI | 2023 | 85.74% | 22.00% | 1.94% |
| 18 | Bank BNI | 2024 | 96.32% | 21.40% | 1.92% |
| 19 | BTN Bank | 2019 | 112.23% | 17.32% | 0.07% |
| 20 | BTN Bank | 2020 | 92.12% | 19.34% | 0.44% |
| 21 | BTN Bank | 2021 | 92.73% | 19.14% | 0.64% |
| 22 | BTN Bank | 2022 | 92.82% | 20.17% | 0.76% |
| 23 | BTN Bank | 2023 | 96.36% | 20.07% | 0.80% |
| 24 | BTN Bank | 2024 | 94.59% | 18.50% | 0.64% |
| 25 | Mandiri Bank | 2019 | 108.38% | 21.39% | 2.02% |
| 26 | Mandiri Bank | 2020 | 94.66% | 19.90% | 1.19% |
| 27 | Mandiri Bank | 2021 | 92.02% | 19.60% | 1.77% |
| 28 | Mandiri Bank | 2022 | 90.51% | 19.46% | 2.26% |
| 29 | Mandiri Bank | 2023 | 100.62% | 21.48% | 2.76% |
| 30 | Mandiri Bank | 2024 | 112.24% | 20.10% | 2.52% |

Source: Company Annual Financial Report (processed by researchers, 2026)

Descriptive Statistical Analysis

The following are the results of descriptive statistical data in this study which contain the characteristics of each variable used in this study, namely RAO, LDR and CAR.

**Table 4. Results of Descriptive Statistical Analysis**

| Variables | N | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|---|
| LDR (%) | 30 | 60.89% | 112.24% | 88.49% | 12.60% |
| CAR (%) | 30 | 16.80% | 29.40% | 22.02% | 3.41% |
| ROA (%) | 30 | 0.07% | 3.78% | 1.93% | 1.01% |

Source: SPSS Output, Data Processed by Researchers (2026)

Normality Test

The normality test aims to determine whether the residuals in a regression model are normally distributed. The test is conducted using two approaches: graphically using a PP Plot and statistically using the One-Sample Kolmogorov-Smirnov (KS) test. The test criteria

stipulate that the residuals are normally distributed if the Kolmogorov-Smirnov significance value is greater than 0.05 (α = 5%).

Table 5. Results of the Kolmogorov-Smirnov Normality Test

| Test | Statistical Value | Sig. (p-value) | Criteria | Information |
|---|---|---|---|---|
| Kolmogorov-Smirnov | - | 0.200 | > 0.05 | Normally Distributed Data |

Source: SPSS Output, Data Processed by Researchers (2026)

Based on Table 5, the results of the Kolmogorov-Smirnov test show a significance value of 0.200, which is at α = 0.05. Therefore, H0 is rejected and Ha is accepted, so it can be concluded that the regression model in this study is normally distributed.

Multicollinearity Test

The multicollinearity test aims to detect the presence or absence of a strong correlation between independent variables in a regression model. The test is performed by examining the Tolerance and Variance Inflation Factor (VIF) values. A regression model is considered free of multicollinearity if the Tolerance value is > 0.10 and the VIF value is < 10.

**Table 6. Multicollinearity Test Results**

| Variables | Tolerance | VIF | Information |
|---|---|---|---|
| LDR (X1) | 0.529 | 1,891 | Multicollinearity Free |
| CAR (X2) | 0.529 | 1,891 | Multicollinearity Free |

Source: SPSS Output, Data Processed by Researchers (2026)

Heteroscedasticity Test

The heteroscedasticity test aims to determine whether the residual variances in a regression model differ from one observation to another. A good regression model requires homoscedasticity (constant residual variance). The test is performed using the Glejser Test, where the model is declared free of heteroscedasticity if the significance value of each independent variable on the absolute value of the residual is greater than 0.05. The following are the results of the heteroscedasticity test:

Table 7. Heteroscedasticity Test Results

| Variables | Sig. Glejser | Information |
|---|---|---|
| LDR (X1) | 0.326 | No Heteroscedasticity Occurs |
| CAR (X2) | 0.692 | No Heteroscedasticity Occurs |

Source: SPSS Output, 2026

Autocorrelation Test

The autocorrelation test aims to detect whether there is a correlation between the residuals in the current observation period and the previous period in a regression model. The

test is performed using the Durbin-Watson (DW) test. A regression model is declared free of autocorrelation if the DW value is between -2 and +2.

Table 8 . Autocorrelation Test Results

| Durbin-Watson Value | Lower Limit (-2) | Upper Limit (+2) | Information |
|---|---|---|---|
| 1,038 | -2 | +2 | No Autocorrelation Occurs |

Source: SPSS Output, 2026

Based on Table 8, the Durbin-Watson (DW) value obtained is 1.038, which is in the range of -2 to +2. Thus, it can be concluded that the regression model does not contain autocorrelation symptoms, making it suitable for use in testing research hypotheses.

Multiple Linear Regression Test

Multiple linear regression analysis is used to test and measure the influence of the independent variables LDR (X1) and CAR (X2) simultaneously and partially on the dependent variable ROA (Y). The SPSS output results for multiple linear regression are as follows:

Table 9. Results of Multiple Linear Regression Test

| Variables | Coefficient (B) | Std. Error | t-count | Sig. | Information |
|---|---|---|---|---|---|
| Constant (a) | -6,3188 | 1.7688 | -3.5724 | 0.0014 | - |
| LDR (X1) | 0.0196 | 0.0113 | 1,7331 | 0.0945 | Not Significant |
| CAR (X2) | 0.2956 | 0.0418 | 7,0661 | 0.0000 | Significant (+) |

Source: SPSS Output, Data Processed by Researchers (2026)

From table 9, the Multiple Linear Regression equation can be seen as follows:

ROA = -6.3188 + 0.0196 LDR + 0.2956 CAR……(2)

Coefficient of Determination Test

Table 10. Results of the Determination Coefficient Test

| R | R Square ($R^2$) | Adjusted $R^2$ | Standard Error of Estimate |
|---|---|---|---|
| 0.8466 | 0.7167 | 0.6957 | 0.5585 |

Source: SPSS Output, Data Processed by Researchers (2026)

Based on Table 10, the correlation coefficient (R) value of 0.8466 can be concluded that there is a positive relationship between the LDR and CAR variables simultaneously on ROA. The R Square ($R^2$) value of 0.7167 or 71.67% shows that LDR and CAR together can provide clarity on the diversity of Return on Assets (ROA) of 71.67%, and the remaining 28.33% are other variables. The Adjusted R Square (R2) value of 0.6957 indicates a reliable model according to the independent variables used in this study.

Simultaneous Significance Test (F Test)

Table 11. F Test Results

| Model | Sum of Squares | df | Mean Square | F-count | Sig. |
|---|---|---|---|---|---|
| Regression | 21,309 | 2 | 10,654 | 34,156 | 0,000 |
| Residual | 8,422 | 27 | 0.312 | - | - |
| Total | 29,731 | 29 | - | - | - |

Source: SPSS Output, Data Processed by Researchers (2026)

Based on Table 11, the calculated F-value is 34.156, exceeding the F-table value of 3.35 (df1=2, df2=27, α=5%). The sig. F value is 0.000 (<0.05), so it can be said that LDR and CAR simultaneously have a significant effect on ROA.

Partial Significance Test (T-Test)

Table 12. T-Test Results

| Variables | t-count | t-table | Sig. | α | Decision |
|---|---|---|---|---|---|
| LDR (X1) | 1,733 | 2,052 | 0.094 | 0.05 | H1 Rejected – Not Significant |
| CAR (X2) | 7,066 | 2,052 | 0,000 | 0.05 | H2 Accepted – Significant (+) |

Source: SPSS Output, Data Processed by Researchers (2026)

**Discussion**

**The Influence of Loan to Deposit Ratio (LDR) on Return on Assets (ROA)**

Based on Table 12, the Loan to Deposit Ratio (LDR) variable shows a t-value of 1.733, which is smaller than the t-table of 2.052 (df=27, α=5%), with a significance value of 0.094, which is greater than α = 0.05. Thus, H1, which states that LDR has a positive and significant effect on ROA, is rejected. Although the regression coefficient is positive at 0.0196, this effect is not proven to be statistically significant at the 95% confidence level.

These results indicate that fluctuations in the credit distribution ratio during the 2019–2024 period have not been able to become a single determinant that consistently drives bank profitability. This condition can occur because high credit distribution is not always accompanied by good credit quality. If credit expansion is accompanied by an increase in non-performing loans (NPLs), then the bank's interest income will be eroded by the increase in loan loss provisions (LOA). Furthermore, bank profitability is also influenced by various other factors such as operational efficiency (BOPO), fee-based income, Net Interest Margin (NIM), and macroeconomic conditions. The phenomenon of a sharp decline in LDR in 2020 due to the Covid-19 pandemic where credit stagnated but Third Party Funds surged but not followed by a proportional decline in ROA, provides empirical evidence that bank revenue sources have been sufficiently diversified. This finding is in line with Prayogi's (2024) research which found that LDR had no significant effect on ROA in the period covering the pandemic, and is consistent with Dewi's (2024) study which emphasized the role of operational efficiency factors as the main determinant of profitability.

**The Influence of Capital Adequacy Ratio (CAR) on Return on Assets (ROA)**

The Capital Adequacy Ratio (CAR) variable shows a t-value of 7.066, which far exceeds the t-table of 2.052, with a significance value of 0.000 (<0.001). Therefore, H2, which states that CAR has a positive and significant effect on ROA, is accepted. The CAR regression coefficient of 0.2956 indicates that every 1% increase in CAR will increase ROA by 0.2956%, assuming a constant LDR. The CAR Standardized Coefficients Beta value of 0.995 confirms CAR's position as the most dominant variable in shaping bank profitability in this model.

The positive and significant impact of CAR on ROA can be explained through several mechanisms. First, strong capital provides banks with the capacity and flexibility to expand their business portfolios more aggressively and diversifiedly, including lending and investing in productive instruments, ultimately increasing operating income. Second, a high CAR can absorb potential losses from risky assets, thereby minimizing provisioning costs and financial losses, which directly maintains profitability. Third, from a signaling theory perspective, solid capital is a positive signal to investors, depositors, and regulators that the bank is operating in a healthy and competitive environment, thus maintaining public trust, which is essential for the sustainability of the banking business. This finding is consistent with Hermawati's (2022) research on large-scale banks, which demonstrated the contribution of CAR management to ROA, and Tania's (2023) research, which confirmed the role of capital as a key buffer for profitability.

## 4. Conclusion

Based on the results of data analysis and discussion conducted on panel data of 5 conventional banking sub-sector companies KBMI 4 listed on the IDX for the 2019–2024 period, the following conclusions can be drawn. First, the Loan to Deposit Ratio (LDR) does not have a significant effect on Return on Assets (ROA), with a t-value of 1.733 and sig. 0.094 > 0.05. Although showing a positive direction, increased credit distribution has not been statistically proven to be able to directly boost profitability because bank profitability is also determined by credit quality, operational efficiency, and revenue diversification. Second, the Capital Adequacy Ratio (CAR) has a positive and significant effect on Return on Assets (ROA), with a t-value of 7.066 and sig. 0.000 < 0.05. Solid capital adequacy has been proven to be a major determinant of bank profitability, as strong capital allows for broader business expansion while reducing the risk of operational losses. Third, simultaneously, LDR and CAR have a significant effect on ROA, with an F-count of 34.156 and sig. 0.000 < 0.05, and are able to explain 71.67% of the variation in ROA ($R^2 = 0.7167$).

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