Internal and External Factors Affecting Profitability in Private Banking for the Period 2019-2023

Lailatus Sa'adah[1], Putri Marsella Zalianti[2]*

[1,2]*Faculty of Economics, Universitas KH.A. Wahab Hasbullah, Indonesia*

E-mail: [1] lailatus@unwaha.ac.id, [2] marssmarssello8@gmail.com

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ABSTRACT

This research investigates how internal and external variables affect the profitability of private banks traded on the Indonesia Stock Exchange from 2019 to 2023. The internal variables analyzed are Capital Adequacy Ratio (CAR) and Non-Performing Loans (NPL), while the external variables include inflation and the benchmark interest rate (BI Rate). Bank profitability is assessed through Return on Assets (ROA), which measures how efficiently banks convert their assets into profits. The study uses panel data regression methodology with secondary data obtained from official financial reports. Results indicate that CAR significantly and positively influences ROA, whereas NPL has a significant negative impact. In contrast, inflation and BI Rate show no significant effects on ROA. This research contributes original insights by examining the joint effects of these factors specifically within Indonesia's private banking sector. The study concludes with strategic recommendations for improving capital adequacy and credit risk management to boost profitability.

1. INTRODUCTION

The banking industry has a crucial function in promoting economic development and safeguarding financial stability through acting as a middleman that transfers money from those with extra funds to those who require them. One important indicator for measuring banking performance is profitability, which is often measured using Return on Assets (ROA). ROA is a metric used to assess how effectively a bank uses its assets to make a profit, providing insight into the overall financial well-being of the bank.

There are multiple factors that impact a bank's profitability, both from within the bank and from outside sources. Factors within the bank such as the Capital Adequacy Ratio (CAR) and Non-Performing Loans (NPL) play a significant role. The CAR is a ratio that measures a bank's capacity to endure losses from credit and operational risks. A high CAR indicates better capital resilience, thereby increasing investor and depositor confidence (Punagi et al., 2022). Meanwhile, NPL reflects the level of problem loans in the bank's loan portfolio. High NPL indicates high credit risk, which can suppress the bank's net profit through increased provision costs.

In addition, external influences like inflation and the BI Rate impact the profitability of banks. Inflation refers to a rise in the prices of goods and services, leading to higher operational expenses for banks and lower purchasing ability for individuals. On the other hand, the BI Rate, which is the reference interest rate from Bank Indonesia, affects banks' funding costs and interest income received. Changes in the BI Rate can have a direct impact on net interest margins and bank profitability (Saleh & Winarso, 2021).

However, there is a gap in understanding the combined influence of these variables on bank profitability, particularly in Indonesia's private banking sector during the 2019-2023 period. Previous research tended to focus on one group of variables, either internal or external, without looking at their impact simultaneously. To address this need, this study integrates the analysis of CAR, NPL, inflation, and BI Rate in a unified

framework to provide a more holistic understanding (Nadzifah & Sriyana, 2020). Increasing economic uncertainty in recent years has strengthened the importance of understanding these factors in depth. The 2019-2023 period, for example, was marked by global and domestic dynamics that affected Indonesia's economic stability, such as the impact of the COVID-19 pandemic and monetary policy fluctuations (Syukur et al., 2021). Therefore, this study provides a more comprehensive analysis of variables that affect bank profitability, both from internal and external aspects.

The goal of this research is to examine how internal factors (CAR and NPL) and external factors (inflation and BI Rate) impact the ROA of private banks that are listed on the Indonesia Stock Exchange (IDX) from 2019 to 2023. Through addressing gaps in current research, this study aims to make academic contributions and provide useful suggestions for banking management and policymaking.

2. RESEARCH METHODS

The main emphasis of this research is on examining the financial statements of Indonesian private banks that are publicly traded on the Indonesia Stock Exchange from 2019 to 2023. All private banks that disclose financial information through the IDX and meet specific criteria were considered in this study. The selection of banks for the sample was done through purposive sampling, a method that involves selecting banks based on criteria that are pertinent to the research goals (Sa'adah, 2021). The criteria used to select the sample include: Private banking sector companies listed on the IDX during the observation period; Private banking sector companies that publish annual reports on time during the observation period; and private banks included in the KBMI 3 category. This sampling technique resulted in 7 private banking companies.

This research utilizes existing data from yearly financial statements accessible on the official Indonesia Stock Exchange website at www.idx.co.id. The information covers various factors like ROA, CAR, NPL, inflation, and interest rates. The data was analyzed through panel data regression techniques to determine the impact of certain factors on others. One possible representation of the regression model is:

$$Y_{it} = \alpha + \beta_1 + X_{1it} + \beta_2 + X_{2it} + \beta_3 + X_{3it} + e$$

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. ROA Calculation Results

Table 1. ROA Calculation Results of Indonesian Private Banks

No.	Company Code	Period					Average	Category
		2019	2020	2021	2022	2023		
1	BBCA	3,10	2,52	2,55	3,09	3,45	2,94	Very Healthy
2	PNBN	2,30	1,86	1,22	1,92	1,70	1,77	Very Healthy
3	BDMN	2,83	1,02	1,18	2,22	2,12	1,88	Very Healthy
4	BNGA	1,93	1,04	1,71	2,14	2,49	1,86	Very Healthy
5	BNLI	1,24	0,81	0,66	1,02	1,30	1,01	Fairly Healthy
6	BTPN	2,21	1,43	2,08	2,22	1,71	1,93	Very Healthy
7	NISP	2,15	1,34	1,49	1,76	2,07	1,76	Very Healthy

Source: Processed Secondary Data, 2024

The table above shows the Return on Assets (ROA) performance of seven private banks registered in Indonesia during the 2019-2023 period, with annual average performance summarized in financial health categories. ROA reflects the bank's effectiveness in generating profit based on its assets.

Most banks in this table, such as BBCA, PNBN, and BTPN, are in the "Very Healthy" category with average ROA above 1.5%, showing strong capability in managing their assets. The bank with the highest ROA during this period was BBCA, which consistently showed improvement from 2.52 in 2020 to 3.45 in 2023, with an overall average of 2.94%. Conversely, BNLI was recorded in the "Fairly Healthy" category with an average ROA of 1.01%, indicating potential improvement in asset management efficiency.

3.1.2. CAR Calculation Results

Table 2. CAR Calculation Results of Indonesian Private Banks

No.	Company Code	Period					Average	Category
		2019	2020	2021	2022	2023		
1	BBCA	14,75	12,96	16,62	28,29	24,44	19,41	Very Healthy
2	PNBN	8,29	13,06	11,49	12,42	9,28	10,91	Less Healthy
3	BDMN	11,57	14,75	17,86	18.78	21,15	16,82	Very Healthy
4	BNGA	8,34	7,37	11,37	13,03	20,07	12,04	Fairly Healthy
5	BNLI	18,44	9,28	12,04	8,59	13,84	12,44	Fairly Healthy
6	BTPN	24,51	8,70	21,97	9,06	16,42	16,13	Very Healthy
7	NISP	23,79	11,95	10,31	14,37	14,79	15,04	Very Healthy

Source: Processed Secondary Data, 2024

The table provided displays the mean Capital Adequacy Ratio (CAR) figures for seven private banks in Indonesia from 2019 to 2023. CAR serves as a crucial metric in evaluating a bank's capacity to handle financial risks and fulfill responsibilities using its own capital. Results show that most banks, such as BBCA, BDMN, and BTPN, are in the "Very Healthy" category with average CAR of 19.41%, 16.82%, and 16.13% respectively. BBCA recorded a significant increase from 12.96% in 2020 to 28.29% in 2022, reflecting consistent capital structure strengthening. Conversely, PNBN is in the "Less Healthy" category with an average CAR of 10.91%, indicating the need for improvement in capital management to meet more optimal banking standards.

3.1.3. NPL Calculation Results

Table 3. NPL Calculation Results of Indonesian Private Banks

No.	Company Code	Period					Average	Category
		2019	2020	2021	2022	2023		
1	BBCA	1,25	1,29	0,92	0,95	0,86	1,05	Very Healthy
2	PNBN	2,53	2,40	3,23	2,05	2,84	2,61	Healthy
3	BDMN	3,22	2,70	1,85	2,36	1,36	2,30	Healthy
4	BNGA	1,26	1,65	1,29	1,74	2,12	1,61	Very Healthy
5	BNLI	4,75	3,91	3,88	4,28	3,48	4,06	Healthy
6	BTPN	1,65	2,27	2,88	1,47	1,56	1,96	Very Healthy
7	NISP	2,61	3,25	2,10	2,72	3,10	2,76	Healthy

Source: Processed Secondary Data, 2024

The table above presents average Non-Performing Loan (NPL) data from seven private banks in Indonesia during the 2019-2023 period. NPL is an important indicator for assessing the quality of credit owned by banks, with lower ratios reflecting better credit risk management. Results show that banks such as BBCA, BNGA, and BTPN fall into the "Very Healthy" category with average NPL of 1.05%, 1.61%, and 1.96% respectively. This reflects the effectiveness of these banks in maintaining their credit portfolio quality. Meanwhile, banks like BNLI have the highest average NPL of 4.06% and are included in the "Healthy" category, indicating higher credit risk compared to other banks. Overall, this table illustrates variations in credit health levels in the private banking sector, where most banks successfully maintain NPL ratios at acceptable levels according to industry standards.

3.1.4. Inflation Calculation Results

Table 4. Inflation Calculation Results

No.	Period	IHK	Inflation (%)
1	2019	102.72	2.72%
2	2020	104.40	1.68%
3	2021	106.35	1.87%
4	2022	112.20	5.51%
5	2023	116.78	4.08%

Source: Statistics Indonesia, 2024

The CPI in 2019 showed stable inflation around 2.72% annually, reflecting fairly controlled inflation during that year. In 2020, CPI experienced decreased inflation due to the COVID-19 pandemic, where annual inflation was around 1.68%. In 2021, inflation began to rise again at around 1.87%, although still lower than Bank Indonesia's target. In 2022, inflation increased significantly to 5.51%, mainly driven by rising energy and food prices. Subsequently, in 2023, inflation stabilized again, although still above average, with latest data showing inflation trends controlled by Bank Indonesia's tight monetary policy.

Excessive inflation can erode the buying ability of individuals as the cost of products and services outpaces income growth. This leads to economic instability, discourages investments, and prompts central banks to increase interest rates, potentially hampering economic expansion. Additionally, high inflation harms savers because the real value of savings decreases, while borrowers could benefit if their debts are repaid with money of lower value. Conversely, inflation that is too low or deflation also has negative impacts. Demand for goods and services could decrease, slowing economic growth. Consumers might delay purchases, hoping prices will fall further, causing decreased consumption and investment. Moreover, deflation increases the real burden of debt and can force companies to reduce wages or lay off employees, worsening economic conditions.

3.1.5. BI Rate Calculation Results

Table 5. BI Rate Calculation Results

No.	Period	BI Rate Interest Rate
1	2019	5%
2	2020	3,75%
3	2021	3,5%
4	2022	5,5%
5	2023	6%

Source: Bank Indonesia, 2024

The table above shows changes in the BI Rate from 2019 to 2023. In 2019, the BI rate was at 5%, reflecting a relatively stable monetary policy. However, in 2020, along with the impact of the COVID-19 pandemic that hit the global economy, Bank Indonesia lowered the interest rate to 3.75% to stimulate economic growth by making loans cheaper. The interest rate decline continued in 2021, where the BI Rate fell slightly to 3.5%, which was the lowest interest rate during that period. Starting in 2022, BI raised the interest rate to 5.5% in response to increasing global inflation pressure, especially due to rising energy prices. The rising trajectory persisted until 2023, culminating in a BI rate of 6%, implemented as a measure of stringent monetary policy aimed at managing inflation and upholding economic equilibrium.

3.1.6. Panel Data Regression Equation

This study sampled 7 private banks in Indonesia: Bank Central Asia (BBCA), Bank Panin (PNBN), Bank Danamon (BDMN), Bank CIMB Niaga (BNGA), Bank Permata (BNLI), Bank Tabungan Pensiunan Nasional (BTPN), and Bank OCBC NISP (NISP). The panel data regression equation can be formulated as follows:

$$Y = 1.0702 + 0.0341X_1 - 0.3575X_2 - 0.0005X_3 + 28.1034X_4$$

3.1.7. Statistical t-Test Results

Table 6. Statistical t-Test Results

Dependent Variable: Y
Method: Panel Least Squares
Date: 11/22/24   Time: 19:22
Sample: 2019 2023
Periods included: 5
Cross-sections included: 7
Total panel (balanced) observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.070279	0.523775	2.043394	0.0499
X1	0.034168	0.015352	2.225626	0.0337
X2	-0.357578	0.080057	-4.466522	0.0001
X3	-0.000584	0.000972	-0.600651	0.5526
X4	28.10349	14.65857	1.917206	0.0648

a.   Impact of CAR on Private Bank ROA: The t-test analysis for X_1 yielded a t-statistic of 2.2256 with a probability value of 0.0337 < 0.05. This indicates that CAR significantly influences ROA.

b.   Impact of NPL on Private Bank ROA: The t-test analysis for X_2 produced a t-statistic of -4.4665 with a probability value of 0.0001 < 0.05. This demonstrates that NPL has a significant negative impact on ROA.

c.   Impact of Inflation on Private Bank ROA: The t-test analysis for X_3 generated a t-statistic of -0.6006 with a probability value of 0.5526 > 0.05. This shows that inflation does not significantly affect ROA.

d.   Impact of BI Rate on Private Bank ROA: The t-test analysis for X_4 resulted in a t-statistic of 1.9172 with a probability value of 0.0648 > 0.05. This reveals that BI Rate does not significantly influence ROA.

3.1.8. Statistical F-Test and R^2 Results

Table 7. Statistical F-Test and R^2 Results

R-squared	0.978594	Mean dependent var	1.884870
Adjusted R-squared	0.856738	S.D. dependent var	0.675011
S.E. of regression	0.451021	Akaike info criterion	1.376958
Sum squared resid	6.102599	Schwarz criterion	1.599151
Log likelihood	-19.09676	Hannan-Quinn criter.	1.453659
F-statistic	11.53915	Durbin-Watson stat	1.383771
Prob(F-statistic)	0.000000		

The F-test results from the panel data regression analysis show that the F probability is 0.000000, indicating that the variables CAR, NPL, Inflation, and BI Rate have a combined significant impact on ROA. With an Adjusted R-squared value of 0.8567, it can be deduced that these independent variables contribute to the dependent variable by 85.67%, leaving 14.33% influenced by external factors not examined in this study.

3.2. Discussion

3.2.1. Effect of CAR on Private Bank ROA

The test results show a significant positive correlation between Capital Adequacy Ratio (CAR) and Return On Asset (ROA). This means that an increase in a bank's capital adequacy ratio (CAR) will be followed by a significant increase in profitability (ROA). This finding indicates that banks with high CAR have better ability to finance their operations and generate profits.

This outcome supports the findings of Kosasih et al. (2021). That research also concluded a positive relationship between CAR and ROA. This shows that the current research findings are consistent with previous research, strengthening our understanding of the importance of strong capitalization in supporting a bank's financial performance.

High CAR conditions are indicators of good financial health for a bank. With adequate capital, banks can more confidently distribute credit, develop business, and face risks that may arise. Therefore, it is important for regulators and bank management to always maintain the capital adequacy ratio at a safe level. However, it should be remembered that excessively high CAR is also not always efficient, as it can hinder business growth. Ideally, banks need to balance between capital needs and efforts to increase profitability.

3.2.2. Effect of NPL on Private Bank ROA

Research results show that there is a negative relationship between Non-Performing Loans (NPL) and Return on Asset (ROA). This means that the higher the level of bad credit (NPL) in a bank, the lower the level of profit that can be generated by that bank. This indicates that bad credit shows a negative relationship with bank profitability.

These findings reinforce the conclusions reached by Rusnaini et al. (2019). Previous research also showed that NPL has a negative effect on ROA. The consistent findings from these studies support the theory that having a poor credit score does not contribute to the growth of profits for banks.

Although theoretically there is a possibility that NPL can provide positive impact on ROA under very specific conditions, generally the relationship between NPL and ROA is negative (Çollaku & Aliu, 2021). Increased NPL usually indicates problems in bank credit risk management and will negatively impact long-

term profitability (Saleh & Winarso, 2021). Therefore, banks must always strive to maintain their asset quality and minimize NPL levels.

3.2.3. Effect of Inflation on Private Bank ROA

Based on research results, no significant relationship was found between inflation rate and Return on Asset (ROA) in national private banks. This means that inflation increases do not directly cause decreased bank profitability. This indicates that private banks in Indonesia are able to maintain their profit levels despite general price increases. Additionally, inflation also does not significantly impact the decrease in customer deposits and savings at private banks.

Similar results were found in the study by Nasikin et al. (2021). Previous research also showed that inflation does not have a significant effect on ROA in private banks. The consistency of these research results strengthens the hypothesis that private banks in Indonesia have developed effective strategies to face inflation fluctuations and maintain their financial performance.

This research result provides several important implications. First, private banks in Indonesia have shown fairly good resilience to inflation pressure. This can be caused by several factors, such as income source diversification, efficient cost management, and ability to adjust deposit and credit interest rates along with inflation rate changes. Second, this finding also indicates that private bank customers have fairly high confidence in the stability of Indonesia's banking system. However, it should be remembered that this condition can change along with changes in macroeconomic conditions and monetary policy. Additional research is necessary to examine additional variables that may influence the correlation between inflation and the performance of private banks going forward.

3.2.4. Effect of BI Rate on Private Bank ROA

Based on the research conducted, no significant relationship was found between the reference interest rate (BI Rate) and return on assets (ROA) in banks. This means that changes in the reference interest rate do not provide significant impact on bank profitability. This indicates that factors other than the reference interest rate have more dominant influence on bank financial performance.

This aligns with the evidence presented by Pratiwi et al. (2022). Previous research also showed that BI Rate does not have a significant effect on ROA. The consistency of these research results strengthens the hypothesis that internal bank factors, such as management quality, asset structure, and business strategy, have more important roles in determining profitability levels.

This research result provides several important implications. First, banks need to focus more on internal efforts to improve operational efficiency and asset quality, rather than just relying on reference interest rate changes. Second, this finding also shows that monetary policy conducted by the central bank does not always have direct and significant impact on banking sector performance. However, it is important to keep in mind that the connection between the BI Rate and ROA may differ based on the current macroeconomic environment and unique traits of individual banks. Additional studies are required to investigate other factors that could influence the correlation between these variables.

3.2.5. Effect of Internal and External Factors on Private Bank ROA

The results of the F-test reveal that the regression model utilized in this research project demonstrates a remarkably high level of significance (with a Prob(F-statistic) value of 0.000000). This suggests that the combination of independent variables in the model plays a significant role in elucidating variations in the dependent variable. In other words, this regression model can be used to predict dependent variable values with fairly good accuracy levels.

The Adjusted R-squared value of 0.8567 shows that about 85.67% of total dependent variable variation can be explained by independent variables included in the model. This means that the built regression model is able to capture most of the relationships between research variables. The remainder, 14.33%, is possibly influenced by other factors not included in the model or by measurement errors.

These strong statistical test results provide support for the validity of the regression model used in the research. This model can be considered a useful tool for analyzing relationships between studied variables. However, it should be remembered that statistical models are only representations of actual reality. Therefore,

these research results need to be interpreted carefully and consider broader research context. Additionally, further research can be conducted to identify other variables that might improve the model's predictive capability.

4. CONCLUSIONS

This research seeks to examine and identify internal and external factors that influence the profitability of private banking companies traded on the Indonesia Stock Exchange between 2019 and 2023. The findings indicate that Capital Adequacy Ratio (CAR) individually demonstrates a significant positive impact on Return on Assets (ROA). Non-Performing Loans (NPL) individually exhibit a significant negative influence on ROA. Conversely, inflation and BI Rate individually show no significant impact on ROA. However, when analyzed collectively, CAR, NPL, inflation, and BI Rate jointly demonstrate a significant effect on ROA for private banks listed on the Indonesia Stock Exchange during the 2019-2023 timeframe.

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