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Original Article

# Comparison of Financial Performance of State-Owned Banks and National Private Banks Using Financial Ratio

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## Abstract

In Indonesia's banking sector, State-Owned Banks and National Private Banks operate under the same regulations but with different ownership structures and strategic focuses, which may lead to variations in their financial performance. This study aims to compare the financial performance of State-Owned Banks and National Private Banks listed on the Indonesia Stock Exchange for the 2020-2024 period. This study uses a quantitative approach with a comparative method through purposive sampling, where 4 state-owned banks and 5 national private banks were selected as research samples. The variables used were key financial ratios, including CAR, ROA, ROE, NIM, BOPO, and NPL. Data were analyzed using an independent t-test to identify differences in financial performance between the two groups of banks. The results showed that the financial performance of national private banks was better than that of State-Owned Banks listed on the BEI for the 2020-2024 period. There were significant differences between state-owned banks and private banks for the CAR, ROE, and NPL ratios. However, there were no significant differences in the ROA, NIM, and BOPO ratios between state-owned banks and private banks for the 2020-2024 period. These findings imply that banks in Indonesia have different management focuses based on their ownership structure. Therefore, regulators such as the Financial Services Authority (OJK) and Bank Indonesia (BI) need to strengthen credit quality monitoring policies at state-owned banks, encourage capital strengthening, and improve operational efficiency through digitalization and cost control.

**Keywords:** Bank, Financial Performance, Financial Ratio.

## 1. Introduction

Banks are financial institutions that work in the financial industry, mainly by taking in money from people and giving it out again to others. In Indonesia, the rules about what a bank is and how it should operate are set out in a law called the Republic of Indonesia Law No. 10 of 1998 on Banking (Yuspin et al., 2023). This law highlight that a bank is a company that gathers money from the public through deposits and then uses that money to give loans and other types of financial services. The aim is to help improve the quality of life for the people.

Over time, the banking sector has become a key pillar of national economic stability, particularly since the 2020-2022 period when the Indonesian economy faced pressure from COVID-19 (Supari & Anton, 2022). During this phase, the government, through the Financial Services Authority (OJK), the Ministry of Finance, and Bank Indonesia, issued various recovery policies, such as credit relaxation, capital stimulus, and the digitization of banking services. These policies accelerated digital transformation. Advances in digital technology in the financial sector have driven the emergence of faster, more efficient, and more inclusive electronic banking services. This innovation has increased industry competitiveness, but has

also presented challenges in the form of increasingly fierce competition between banks, both state-owned and private national banks.

State-Owned Enterprises banks are banks whose majority shares are owned by the government, while National Private Banks are banks owned by domestic private parties (Hasan et al., 2022; Kadirisman, 2021). Both types of banks hold a strategic role in supporting the national economy, with competitive pressure to maintain healthy financial performance serving as one indicator of managerial professionalism (Saputri et al., 2023). In line with the above opinion, the research by Ceysa et al. (2024) and Konstantakopoulou (2023) state that the banking sector plays a strategic role in the economy because it functions as a collector and distributor of funds, as well as a driver of investment and national development. Therefore, every bank must be able to demonstrate a healthy and stable financial condition in order to adapt to market dynamics and maintain the trust of the public and investors.

Based on data from the Indonesian Banking Statistics Report (OJK, 2024), the aggregate financial performance of the banking sector remained in the healthy category up to the end of 2024. The capital adequacy ratio (CAR) was recorded at 26.76%, indicating strong capital resilience, while operational efficiency improved with a BOPO level of 81.45%. Nevertheless, there are notable differences among bank groups. National Private Banks showed an increase in asset growth from 5.86% in 2023 to 7.01% in 2024. Conversely, State-Owned Banks (Bank BUMN) experienced a slowdown from 11.21% in 2022 to only 5.24% in 2024, although they still hold the largest share of assets, accounting for around 42.35% of the total industry.

The slowdown in asset growth among State-Owned Banks has become an important issue, considering that this group holds the largest portion of assets in the banking industry, namely around 42.35% of total national assets. The decline in the growth rate may indicate increasing pressure on financial performance, whether in terms of profitability, efficiency, or asset quality. In contrast, the improvement in the performance of National Private Banks demonstrates a stronger ability to adapt to changes in the business environment and the adoption of financial technology. This phenomenon suggests differences in the effectiveness of management strategies, cost structures, and risk management between the two groups of banks. The comparison of asset growth between state-owned banks and national private banks from 2020 to 2024 is summarized in table 1 below.

**Table 1. Asset Growth**

| Group Bank | Asset Growth (yoy) | | | | |
|---|---|---|---|---|---|
| | **2020** | **2021** | **2022** | **2023** | **2024** |
| State-Owned Banks | 6,84% | 11,34% | 11,21% | 6.05% | 5.24% |
| National Private Banks | 8,43% | 9,47% | 7,90% | 5,86% | 7,01% |

These performance differences underscore the importance of financial performance evaluation as a means to assess the extent to which bank management effectively manages assets, operational efficiency, and profitability. In line with the study by Supit et al. (2019), financial performance evaluation aims to measure the level of managerial success in administering the institution. Essentially, financial performance represents a company's financial condition within a particular period and serves as an indicator of the extent to which the company has succeeded in optimizing the utilization of its resources (Jamiah, 2025; Tabe et al., 2023).

This achievement serves as an indicator of the entity's effectiveness in allocating and utilizing all of its resources. This evaluation is generally conducted through an analysis of several key ratios that illustrate a bank's profitability, liquidity, efficiency, and solvency. These ratios are selected based on their ability to reflect a bank's profitability, efficiency, asset

quality, and capital stability. Financial statement analysis using this ratio approach has proven its relevance in assessing management performance accountability and the effectiveness of the banking intermediation function (Auntantika & Surjandari, 2024; Karima & Fauzan, 2025).

Various previous studies have compared the financial performance of State-Owned Banks and National Private Banks. Based on research conducted by Astuti et al. (2022); Susilawati & Dewi (2022); and Susanto et al. (2023) the results indicate the superior performance of Private Banks compared to State-Owned Banks. Furthermore, there is a significant disparity between the two types of banks in terms of their CAR and NPL ratio values. On the other hand, no significant differences were found for the ROA, BOPO, and NIM ratios. Research by Soelistyoningrum et al. (2023) and Asmiyanti et al. (2021) also concluded that in the 2016-2019 period, the financial performance of state-owned banks and private national banks was generally comparable, with no significant disparities when measured using ROA, CAR, and NIM indicators. However, further analysis reveals a disparity in performance specifically in the ROE indicator for 2018. In line with these findings, research by Maftikha et al. (2024) shows that there are no significant differences in performance (ROA) between state-owned banks and private banks. These findings indicate that the profit levels of both groups of banks tend to be equivalent when linked to their total assets.

Findings from various previous studies on banking financial performance show inconsistencies. Some studies reveal that state-owned banks record superior financial performance compared to private national banks. On the other hand, a number of studies have produced contradictory findings, while there are also studies that conclude that there is no significant difference between the financial performance of the two categories of banks. The gap in research results shows that there is no clear consensus on whether state-owned banks or private banks have superior performance. This inconsistency may be influenced by differences in the research period, macroeconomic conditions, the impact of the COVID-19 pandemic, and the inconsistency of the financial ratio indicators used. Therefore, this study can provide a more focused contribution by analyzing the comparative financial performance of the two groups of banks in the most recent and relevant period, using measurable and consistent financial indicators.

This study aims to compare the financial performance of state-owned banks and privately-owned national banks listed on the Indonesia Stock Exchange from 2020 to 2024. The selection of the 2020-2024 period is based on the consideration that 2020 marked the beginning of structural changes in banking due to the pandemic, so that the use of data prior to 2020 has the potential to cause structural breaks that disrupt the consistency of the analysis.

## 2. Literature Review

### 2.1. Signaling Theory

Signaling Theory emphasizes how internal parties within a company convey information to external parties in order to reduce information asymmetry. Research conducted by Bafera & Kleinert (2023) shows that signaling theory is indeed useful for understanding communication between internal and external parties, although there are still weaknesses in terms of conceptual clarity and consistency of application. This theory explains that any information disclosed by a company, whether through financial reports, performance publications, or capital indicators, will be perceived as a signal regarding the company's condition and prospects. The more transparent and complete the information provided, the stronger the positive signal received by investors regarding the company's credibility and stability.

In the banking sector, these signals are usually shown through financial ratios like Return on Assets (ROA), Return on Equity (ROE), Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), the ratio of Operating Expenses to Operating Income (BOPO), and Non-Performing Loans (NPL). These ratios not only show how healthy a bank's finances are, but also explain how well it handles risk, stays profitable, and runs efficiently. Therefore, when banks share these financial ratios, it gives investors a reliable way to judge how good the management is and how promising an investment might be.

## 2.2. Financial Performance

Financial performance shows how well a company uses its resources to reach its operational and financial goals (Hardianti, 2024). According to Kasmir (2014) financial performance is an analytical process to assess the extent to which a company implements financial practices appropriately and in accordance with regulations. In line with this opinion, research by Simanjuntak et al. (2025) emphasizes that financial performance represents an evaluation of a company's operational success, which is carried out through analytical procedures in accordance with applicable accounting principles. This theory emphasizes that the assessment of financial health must be carried out by measuring financial stability, the effectiveness of asset utilization, the efficiency of operating costs, the ability to generate profits, and the company's resilience to risk.

Research by Haerana & Burhanuddin (2022) and Nova & Azfa (2024) show that financial analysis provides important information in policy-making for investment decisions. Similarly, Goldmann & Zawadzki (2025) and Seretidou et al. (2025) state that financial ratios are the basis for assessing performance and strategic decision-making. This opinion is reinforced by Salma & Triyonowati (2022) which found a significant correlation between stable financial performance and the long-term operational sustainability of a company.

In the banking context, the evaluation of a bank's financial performance is generally carried out by measuring liquidity, solvency, profitability, activity, and operational efficiency. These ratios provide an overview of the bank's success in performing its intermediary functions, managing credit risk, maintaining cost efficiency, and generating net income. The results of this financial performance evaluation then become the basis for management in determining internal policies, as well as a reference for investors, creditors, and regulators to assess the bank's operational feasibility and sustainability.

According to research by Sopandi et al. (2023) and Haikal et al. (2025), liquidity, profitability, and solvency have a positive effect on financial performance. Conversely, research conducted by Amoa-Gyarteng (2021) and Jannah et al. (2021) state that profitability, liquidity, activity, asset productivity, and solvency ratios play a role in detecting potential financial distress.

Referring to Christina & Djauhari (2024), financial ratios are a method of financial analysis carried out through a process of comparing and dividing a value in a financial statement with another value. These ratios serve as instruments for evaluating a company's financial condition. Thus, the use of financial ratios facilitates a more objective and measurable assessment of a company's performance, liquidity, and capabilities, both for internal management and external parties. Specifically, a bank's financial performance is measured using fundamental indicators such as ROA, ROE, CAR, NIM, BOPO ratio, and NPL.

## 2.3. Solvency Ratio

Based on Surindra et al. (2020), the solvency ratio is a financial indicator that describes the capability of a business entity to settle all of its financial obligations. These obligations include short-term debt and long-term debt, particularly in scenarios where the company

undergoes liquidation. This ratio is important for assessing the extent to which a company can survive in the face of financial pressure, as well as how much assets are available to cover all debts. Thus, the solvency ratio helps investors and creditors in evaluating the financial risk and long-term stability of a company.

### 2.3.1. Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio serves as an indicator of a bank's capital adequacy in absorbing potential losses arising from credit and other productive activities that carry risk. A higher CAR value reflects a bank's stronger capability in maintaining liquidity, maintaining stability, and improving its operational efficiency (Karima & Fauzan 2025). CAR Formula can be seen below (equation 1):

$$CAR = \frac{Capital}{Risk-Weighted\ Assets\ (ATMR)} X\ 100\% \quad (1)$$

## 2.4. Profitability Ratio

According to Pangestu & Kartin (2023), financial ratios serve as analytical instruments for evaluating a company's performance using liquidity, solvency, and activity parameters. Their use facilitates both internal and external parties in obtaining an accurate and efficient picture of the company's financial condition.

### 2.4.1. Return on Assets (ROA)

Return on Assets is a performance indicator that evaluates the extent to which a bank effectively generates net profit through the utilization of its entire asset portfolio. This ratio represents the level of asset management efficiency; a higher ROA value indicates that the bank's assets are being used more efficiently to generate profitability (Markonah et al. 2020). ROA Formula is presented in Equation 2:

$$ROA = \frac{Net\ Profit}{Total\ Assets} X\ 100\% \quad (2)$$

### 2.4.2. Return on Equity (ROE)

ROE measures a bank's profitability by assessing how effectively it uses its own capital to generate profits. Net income divided by shareholders' equity (excluding preferred stock) gives the ROE percentage; the higher it is, the more optimal the use of capital (Brigham & Erhardt, 2016). Refer to Equation 3 for the ROE Formula:

$$ROE = \frac{Net\ Profits}{Own\ Capital} X\ 100\% \quad (3)$$

### 2.4.3. Operating Expenses to Operating Income (BOPO)

In the banking context, this ratio serves as a measure of efficiency by assessing management's performance in allocating operating costs relative to operating income. A low BOPO ratio is a sign of an entity's superior efficiency. This efficiency achievement subsequently serves as a driving factor for improving profitability and reducing the potential risk of financial problems (Nova & Azfa, 2024). Equation 4 shows the BOPO Formula:

$$BOPO = \frac{Operating\ Costs}{Operating\ Income} \quad (4)$$

### 2.4.4. Net Interest Margin (NIM)

This ratio shows how well a bank uses its assets to make money from interest. It is found by taking the difference between the interest the bank earns and the interest it pays, then dividing that by the total assets it has. When this ratio is higher, it means the bank is making more profit from its operations. Conversely, the NIM ratio will decline if the bank has a large

proportion of non-productive assets (Lestari et al., 2021). NIM Formula is presented in Equation 5:

$$NIM = \frac{Interest\ Income - Interest\ Fees}{Total\ Assets} X\ 100\% \quad (5)$$

### 2.4.5. Non-Performing Loan (NPL)

NPL is an indicator that shows the quality of credit provided by banks to other parties. NPL is measured as a percentage of non-performing loans compared to the total loans held by the bank. Loans that are considered non-performing include substandard loans, doubtful loans, and loss loans. NPL is divided into two types, namely gross NPL and net NPL. Gross NPL shows all non-performing loans compared to total loans. Meanwhile, net NPL is gross NPL minus the amount of loss provisions, so the net NPL value is usually lower than gross NPL. A high NPL reflects credit risk (Oktina et al. 2021). Equation 6 shows the NPL formula:

$$NPL = \frac{Total\ Non-Performing\ Loans}{Total\ Credits} X\ 100\ ) \quad (6)$$

## 2.5. Hypothesis

The formulation of this research hypothesis is based on the integration of Signaling Theory and Financial Performance Theory as a basis for understanding variations in banking performance. Signaling Theory explains that management uses financial statements and financial ratios such as CAR, ROA, ROE, BOPO, NIM and NPL as signals to reduce information asymmetry and indicate the financial condition of the bank. Strong ratios provide a positive signal to investors, while poor ratios are a negative signal of potential problems faced by the bank. Thus, financial performance serves not only as internal data, but also as strategic communication to the market. Financial Performance Theory asserts that a bank's performance reflects the effectiveness of its management in managing assets, costs, capital, and risk. Financial ratios such as ROA and ROE illustrate profitability; NPL indicates asset quality; BOPO reflects efficiency; NIM indicates the success of intermediation; while CAR indicates capital adequacy. Differences in operational strategies and ownership structures cause variations in these ratios.

The integration of these two theories shows that financial performance not only reflects the operational results of banks, but also serves as a signal to investors. Given the different characteristics between state-owned banks and private national banks, it is highly likely that there will be differences in financial signals during the 2020–2024 period, which will be reflected in financial ratios. Based on the theoretical framework outlined above, the following hypotheses are formulated:

**Ho:** There is no significant difference in financial performance (CAR, ROA, ROE, BOPO, BIM and NPL) between state-owned banks and national private banks during the 2020-2024 period.

**H1:** There is a significant difference in financial performance (CAR, ROA, ROE, BOPO, BIM and NPL) between state-owned banks and national private banks during the 2020-2024 period.

Based on the theory and hypothesis development explained before, the conceptual framework of this research is shown in the figure 1 below.

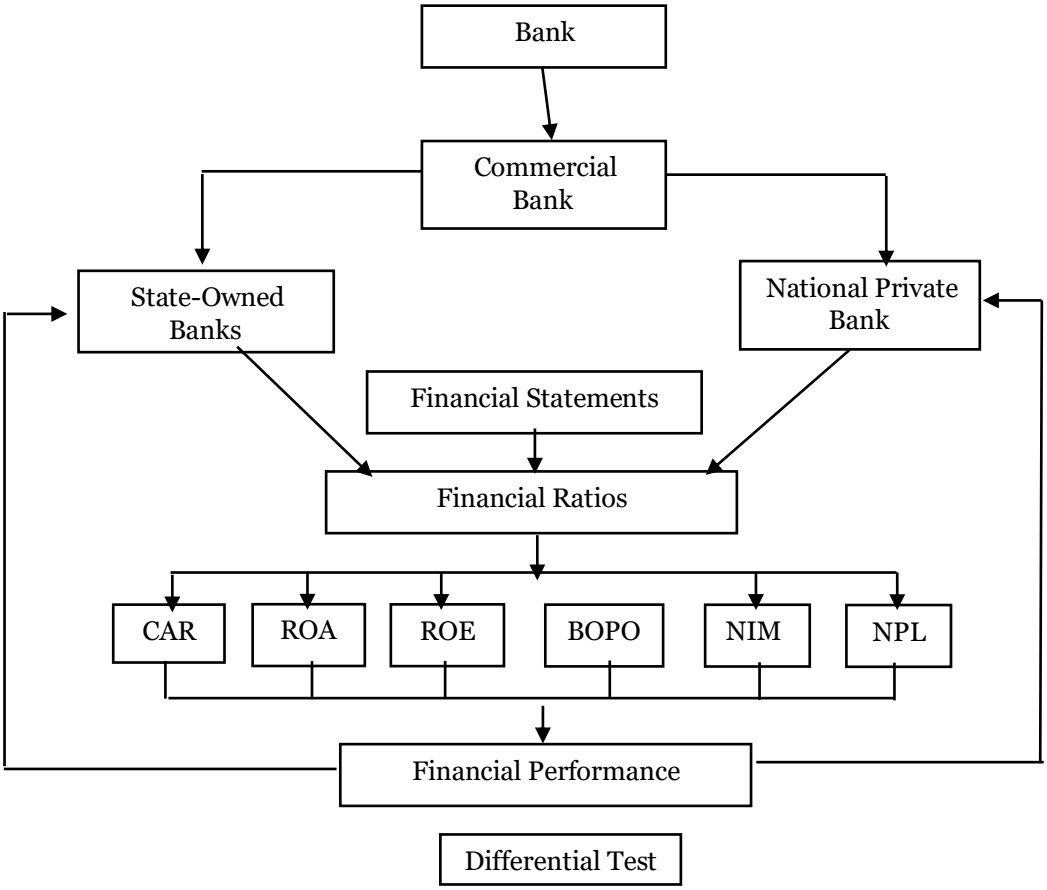


**Figure 1. Conceptual Framework**

## 3. Methods

To examine the differences in financial performance between state-owned banks and private national banks on the Indonesia Stock Exchange (IDX) during the period 2020-2024, this study was designed using a comparative method implemented quantitatively. A quantitative approach involves analyzing data in the form of figures from financial reports that are processed statistically to test research hypotheses. Sugiyono (2013) mention that quantitative research emphasizes testing theories by the measurement of variables using numerical data and statistical analysis. Creswell (2018) also support the opinion that quantitative methods are effective for testing relationships and differences between variables objectively.

The population of this study consists of all 47 issuing banks on the Indonesia Stock Exchange as of December 2024. Further, the sample was determined using purposive sampling, a non-probability sampling technique in which sample elements are determined based on specific criteria relevant to the research objectives. Based on the above opinion, Nyimbili & Nyimbili (2024) and Yang & Kim (2020), state that purposive sampling is used when researchers want to select research objects that are most relevant to the focus of the study. This study applies a number of criteria which can be seen in table 2 below.

**Table 2. Sample Criteria**

| No | Criteria | Total |
|---|---|---|
| 1 | State-owned and private banks listed in the IDX | 47 |
| 2 | Banks listed in the primary stock exchange | (29) |
| 3 | State-owned banks and national private banks which included in the 10 largest assets in Indonesia in 2025 | (9) |
| **Total Sample** | | **9** |

Based on these criteria, nine banks were selected as research samples, consisting of four state-owned banks and five national private banks, with a total of 45 observations over five years. The limited sample size was due to the research focus on banks with large assets that were most dominant and representative in reflecting the structure of the national banking industry. The addition of banks with small assets would reduce the similarity of characteristics and the validity of comparisons. The research data used secondary data collected from various official sources, namely bank annual reports for the 2020–2024 period, public financial reports covering financial position reports and official publications of the Indonesia Stock Exchange (IDX), as well as relevant banking statistics documents.

The analysis was conducted using descriptive statistics and independent samples t-tests, considering that t-tests were most appropriate because the purpose of the study was to test the difference in means between two groups, the sample size was limited, the observation period was relatively short, and the panel model was deemed inefficient and unnecessary to answer the research focus.

# 4. Results and Discussion

## 4.1. Research Results

### 4.1.1. Financial Ratio Analysis of State-Owned Enterprises and National Private Banks

This section presents a comparative assessment of the financial ratios of State-Owned Enterprises and national private banks, with the detailed figures summarized in Table 3.

**Table 3. Financial Ratio of State-Owned Enterprises and National Private Banks**

| Bank | Issue Code | Year | CAR | ROA | ROE | NIM | BOPO | NPL |
|---|---|---|---|---|---|---|---|---|
| State-Owned Enterprise Banks | BBNI | 2020 | 16.8% | 0.5% | 2.6% | 4.5% | 93.3% | 4.4% |
| | | 2021 | 19.7% | 1.4% | 9.4% | 4.7% | 81.2% | 3.7% |
| | | 2022 | 19.3% | 2.5% | 14.9% | 4.8% | 68.6% | 2.8% |
| | | 2023 | 22.0% | 2.6% | 15.2% | 4.6% | 68.4% | 2.1% |
| | | 2024 | 21.4% | 2.5% | 14.2% | 4.2% | 70.0% | 2.0% |
| | BBRI | 2020 | 23.89% | 1.98% | 11.05% | 6.00% | 81.22% | 2.94% |
| | | 2021 | 25.67% | 2.72% | 16.87% | 6.89% | 74.30% | 3.08% |
| | | 2022 | 25.66% | 3.76% | 20.93% | 6.80% | 64.20% | 2.82% |
| | | 2023 | 27.65% | 3.93% | 22.94% | 6.84% | 64.35% | 3.12% |
| | | 2024 | 26.63% | 3.76% | 22.91% | 6.47% | 67.64% | 2.94% |
| | BBTN | 2020 | 19.34% | 0.69% | 10.02% | 3.06% | 91.61% | 4.37% |
| | | 2021 | 19.14% | 0.81 | 13.64% | 3.99% | 89.28% | 3.70% |
| | | 2022 | 20.17% | 1.02% | 16.42% | 4.40% | 86.00% | 3.38% |
| | | 2023 | 20.16% | 1.07% | 13.86% | 3.75% | 86.10% | 3.01% |
| | | 2024 | 18.50% | 0.83 | 10.76% | 2.86% | 88.70% | 3.18% |
| | BMRI | 2020 | 19.90% | 1.64% | 9.36% | 4.48% | 80.03% | 3.29% |
| | | 2021 | 19.60% | 2.53% | 16.24% | 4.73% | 67.26% | 2.81% |
| | | 2022 | 19.46% | 3.30% | 22.62% | 5.16% | 57.35% | 1.88% |
| | | 2023 | 21.48% | 4.03% | 27.31% | 5.25% | 51.88% | 1.02% |
| | | 2024 | 20.10% | 3.59% | 24.19% | 4.93% | 56.46% | 0.97% |
| National Private Banks | BCA | 2020 | 25.8% | 2.7% | 16.5% | 5.7% | 63.5% | 2.7% |
| | | 2021 | 25.7% | 2.8% | 18.3% | 5.1% | 54.2% | 2.2% |
| | | 2022 | 25.8% | 3.2% | 21.7% | 5.3% | 46.1% | 1.8% |
| | | 2023 | 29.4% | 3.6% | 23.5% | 5.5% | 43.7% | 1.9% |
| | | 2024 | 29.4% | 3.9% | 24.6% | 5.8% | 41.7% | 1.8% |
| | BDMN | 2020 | 25.0% | 0.5% | 2.6% | 7.4% | 88.9% | 2.8% |
| | | 2021 | 26.8% | 0.8% | 4.1% | 7.5% | 86.6% | 2.7% |
| | | 2022 | 26.3% | 1.7% | 8.3% | 7.7% | 72.9% | 2.3% |
| | | 2023 | 27.5% | 1.7% | 8.3% | 7.7% | 75.7% | 2.3% |
| | | 2024 | 26.2% | 1.4% | 7.1% | 7.0% | 79.9% | 1.9% |
| | BNGA | 2020 | 21.92% | 1.06% | 5.33% | 4.88% | 89.38% | 3.62% |

| Bank | Issue Code | Year | CAR | ROA | ROE | NIM | BOPO | NPL |
|---|---|---|---|---|---|---|---|---|
| | | 2021 | 22.68% | 1.86% | 10.73% | 4.86% | 78.37% | 3.46% |
| | | 2022 | 22.19% | 2.16% | 12.59% | 4.69% | 74.10% | 2.80% |
| | | 2023 | 24.02% | 2.59% | 15.02% | 4.40% | 71.47% | 1.96% |
| | | 2024 | 23.34% | 2.53% | 14.34% | 4.09% | 74.02% | 1.76% |
| | BNLI | 2020 | 35.7% | 0.9% | 3.1% | 4.6% | 88.8% | 2.9% |
| | | 2021 | 34.9% | 0.7% | 2.9% | 4.0% | 90.1% | 3.2% |
| | | 2022 | 34.2% | 1.1% | 4.5% | 4.3% | 82.4% | 3.1% |
| | | 2023 | 35.3% | 1.3% | 5.5% | 4.5% | 81.7% | 2.9% |
| | | 2024 | 34.6% | 1.8% | 7.2% | 4.3% | 76.1% | 2.1% |
| | NISP | 2020 | 22.04% | 1.47% | 7.47% | 3.96% | 71.81% | 1.93% |
| | | 2021 | 23.05% | 1.55% | 8.33% | 3.82% | 76.50% | 2.36% |
| | | 2022 | 21.53% | 1.86% | 10.51% | 4.04% | 71.09% | 2.42% |
| | | 2023 | 23.69% | 2.14% | 12.00% | 4.35% | 71.01% | 1.64% |
| | | 2024 | 23.60% | 2.24% | 13.04% | 4.39% | 70.99% | 1.55% |

Source: www.idx.co.id

From the analysis shown in table 3, figure 2 below illustrates the financial ratios of the banks under study, providing a visual comparison of their performance across key indicators.

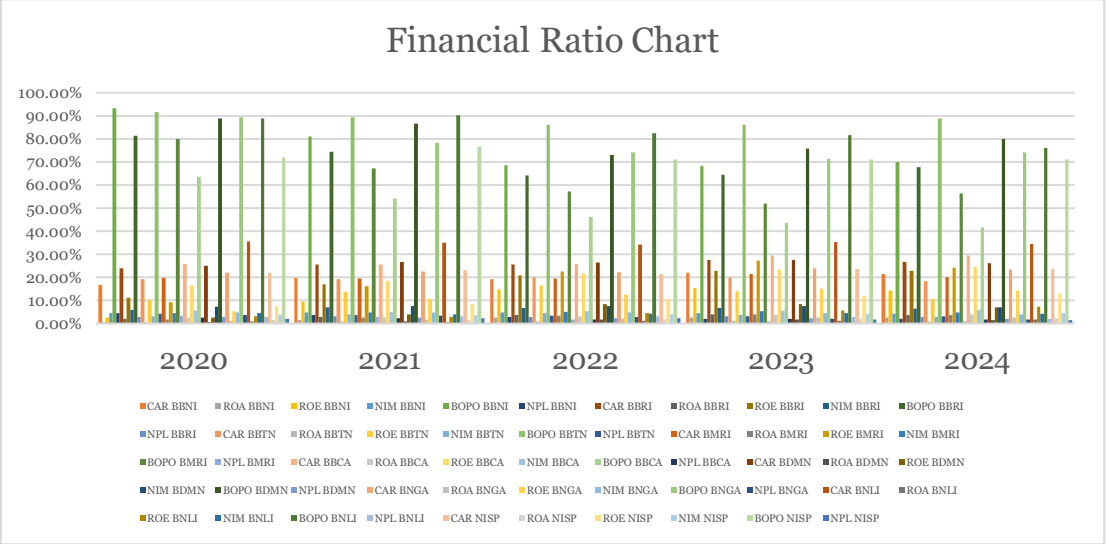


**Figure 2. Bank Financial Ratios**
Source: Data processed, 2025

The figure 2 shows changes in several financial ratios, namely CAR, ROA, ROE, BOPO, NIM, and NPL, for state-owned banks (BUMN) and private national banks in the 2020-2024 period. The state-owned bank group consists of BBNI, BBRI, BBTN, and BMRI, while the National Private Bank group includes BBCA, BDMN, BNGA, BNLI, and NISP.

In the state-owned bank category, the lowest CAR ratio was recorded by BBNI in 2020 at 16.8%, while the highest CAR ratio was achieved by BBRI in 2021 at 25.67%. In the national private bank group, the lowest CAR ratio was obtained by NISP in 2022 at 21.53%, while the highest CAR ratio was held by BNLI in 2020 at 35.7%. In terms of ROA, state-owned banks showed mixed performance. The lowest ROA was recorded by BBNI in 2020 at 0.5%, while the highest ROA was achieved by BMRI in 2023 at 4.03%. In the national bank category, BDMN recorded the lowest ROA in 2020 at 0.5%, while BBCA achieved the highest ROA in 2024 at 3.9%. Meanwhile, in terms of ROE, state-owned banks also showed varying performance. BBNI recorded the lowest ROE in 2020 at 2.6%, while BMRI recorded the highest ROE in 2023 at 27.31%. In the national private bank category, BDMN recorded the lowest ROE in 2020 at 2.6%, while BBCA achieved the highest ROE in 2024 at 24.6%.

In terms of the ratio of operating expenses to operating income (BOPO), the lowest among state-owned banks was recorded by BMRI in 2023 at 51.88%, while the highest was achieved by BBNI in 2020 at 93.3%. For private banks, BBCA showed the lowest BOPO ratio in 2024 at 41.7%, and BNLI recorded the highest in 2021 at 90.1%. Meanwhile, in terms of Net Interest Margin (NIM), state-owned banks recorded their lowest performance at BBTN in 2024 at 2.86%, and the highest at BBRI in 2021 at 6.89%. Among private banks, the lowest NIM was seen at NISP in 2021 at 3.82%, while the highest was achieved by BDMN in 2022-2023 at 7.7%. Regarding NPL, state-owned banks recorded the lowest figure at BMRI in 2024 at 0.97% and the highest at BBNI in 2020 at 4.4%. Among private banks, the lowest NPL was recorded by NISP in 2024 at 1.55%, while the highest was experienced by BNGA in 2020 at 3.62%.

### 4.1.2. Analysis of Descriptive Statistics

This section outlines the results of the descriptive statistical analysis, with the detailed measures presented in Table 4.

**Table 4. Descriptive Statistics Test Results**

| | N | Minimum | Maximum | Mean | Std. Deviation | Variance |
|---|---|---|---|---|---|---|
| CAR State-Owned Banks | 20 | 16.80 | 27.65 | 21.3275 | 2.98657 | 8.920 |
| CAR National Private Banks | 25 | 21.53 | 35.70 | 26.8264 | 4.65416 | 21.661 |
| ROA State-Owned Banks | 20 | .50 | 4.03 | 2.2580 | 1.20642 | 1.455 |
| ROA National Private Banks | 25 | .50 | 3.90 | 1.9024 | .89233 | .796 |
| ROE State-Owned Banks | 20 | 2.60 | 27.31 | 15.7710 | 6.19484 | 38.376 |
| ROE National Private Banks | 25 | 2.60 | 24.60 | 10.7024 | 6.41289 | 41.125 |
| NIM State-Owned Banks | 20 | 2.86 | 6.89 | 4.9205 | 1.17281 | 1.375 |
| NIM National Private Banks | 25 | 3.82 | 7.70 | 5.1952 | 1.27501 | 1.626 |
| BOPO State-Owned Banks | 20 | 51.88 | 93.30 | 74.3940 | 12.53547 | 157.138 |
| BOPO National Private Banks | 25 | 41.70 | 90.10 | 72.8416 | 13.75423 | 189.179 |
| NPL State-Owned Banks | 20 | .97 | 4.40 | 2.8755 | .91795 | .843 |
| NPL National Private Banks | 25 | 1.55 | 3.62 | 2.4040 | .58587 | .343 |
| Valid N (listwise) | 20 | | | | | |

Source: Data processed, 2025

Based on the results shown in table 4, national private banks have a higher CAR (26.82%) than state-owned banks (21.32%), indicating stronger capital resilience. Both remain in the very healthy category as they are above 12% (Bank Indonesia, 2011). Referring to health assessment criteria, if ROA > 2%, it can be categorized as very healthy. For ROA, State-owned banks excel with an average of 2.25%, higher than national private banks at 1.90%. State-owned banks are categorized as very healthy, while private banks are healthy, meaning that state-owned banks are considered more efficient in their use of assets.

In terms of ROE, state-owned banks are also higher (15.77%) than private banks (10.70%). In health criteria, ROE is considered healthy if it is in the range of 12.51% < ROE < 20%. State-owned banks (12.51% < 15.77% < 20%) are classified as healthy, while private banks (5.01% < 10.70% < 12.5%) are classified as fairly healthy. This comparison shows that state-owned banks have better profitability. In terms of BOPO, private banks show better efficiency with a lower value (72.84%) compared to SOEs (74.39%). However, both are still very healthy as they are below 90%. Although both are healthy, the lower BOPO value of national private banks indicates that the operational capabilities of national private banks are more efficient than the operational performance of state-owned banks.

In terms of NIM, private banks once again outperformed state-owned banks (4.92%) with a score of 5.19%, with both falling into the very healthy category. This finding confirms the superiority of private banks in terms of the efficient utilization of assets to generate interest

income. In terms of NPL, private banks had a lower score (2.40%) than state-owned banks (2.87%). NPL reflects the quality of credit disbursed by banks, where a higher value indicates a high level of non-performing loans. Based on banking health regulations, NPL is categorized as healthy if it is in the range of 2% < NPL < 5%. Both are in the healthy category, but in terms of credit quality, private banks are slightly better because their NPL value is lower. Private banks excel in CAR, BOPO, NIM and NPL indicators, while state-owned banks are better in ROA and ROE. Both show good health, albeit with advantages in different aspects.

### 4.1.3. Analysis of Independent T-Test

This section presents the results of the Independent T-Test, with the comparative statistics summarized in Table 5.

**Table 5. Independent T-Test Results**

| Financial Ratio | Equal Variance | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| CAR | Assumed | 3.669 | .062 | -4.578 | 43 | .000 | -5.49890 | 1.20117 | -7.92129 | -3.07651 |
| | Not assumed | | | -4.800 | 41.258 | .000 | -5.49890 | 1.14561 | -7.81207 | -3.18573 |
| ROA | Assumed | 4.125 | .048 | 1.137 | 43 | .262 | .35560 | .31285 | -.27533 | .98653 |
| | Not assumed | | | 1.099 | 34.100 | .279 | .35560 | .32345 | -.30167 | 1.01287 |
| ROE | Assumed | .084 | .774 | 2.674 | 43 | .011 | 5.06860 | 1.89524 | 1.24648 | 8.89072 |
| | Not assumed | | | 2.685 | 41.434 | .010 | 5.06860 | 1.88780 | 1.25731 | 8.87989 |
| NIM | Assumed | .356 | .554 | -.744 | 43 | .461 | -.27470 | .36927 | -1.01940 | .47000 |
| | Not assumed | | | -.751 | 42.111 | .457 | -.27470 | .36579 | -1.01283 | .46343 |
| BOPO | Assumed | .159 | .692 | .391 | 43 | .698 | 1.55240 | 3.96887 | -6.45158 | 9.55638 |
| | Not assumed | | | .395 | 42.219 | .695 | 1.55240 | 3.92735 | -6.37209 | 9.47689 |
| NPL | Assumed | 1.424 | .239 | 2.093 | 43 | .042 | .47150 | .22528 | .01718 | .92582 |
| | Not assumed | | | 1.995 | 30.811 | .055 | .47150 | .23635 | -.01066 | .95366 |

Source: Data processed, 2025

Based on the results from the independent t-test, the Significance value (2-tailed) for CAR is 0.000, which is lower than α = 0.05, indicating a significant difference in the average CAR between the two groups of banks. For ROA, the significance value is 0.262, which is higher than 0.05, so there is no significant difference in profitability. However, for ROE, the significance value is 0.011, which is less than 0.05, showing there is a significant difference. The significance value for BOPO ratio is 0.698, which is higher than 0.05, so there is no significant difference in operational efficiency between the two types of banks. For the NIM ratio, the significance value is 0.461, which is above 0.05, meaning there is no significant difference. On the other hand, the significance value for the NPL ratio is 0.029, which is less than 0.05, indicating a significant difference. Thus, it can be concluded that state-owned banks and private national banks differ in terms of their CAR, ROE, and NPL ratios. The summary of these findings is presented in Table 6.

**Table 6. Results Summary**

| Ratio | Mean state-owned bank | Mean National Private Bank | p-value (0,05) | Difference |
|---|---|---|---|---|
| CAR | 21.33 | 26.82 | 0.000 | Significant |
| ROA | 2.25 | 1.90 | 0.262 | Not significant |
| ROE | 15.77 | 10.70 | 0.011 | Significant |
| BOPO | 74.39 | 72.84 | 0.698 | Not significant |
| NIM | 4.92 | 5.19 | 0.461 | Not significant |
| NPL | 2.87 | 2.40 | 0.04 | Significant |

Source: Data processed, 2025

## 4.2. Discussion

### 4.2.1. Comparison of the Financial Performance of State-Owned Banks and National Private Banks Listed on the Indonesia Stock Exchange During the Period 2020-2024 Based on Financial Ratios

The results of the descriptive analysis show that the financial performance of state-owned banks and private national banks during the 2020-2024 period has a consistent pattern of differences, which not only reflects the characteristics of each institution but is also influenced by macroeconomic dynamics due to COVID-19 and the acceleration of digital transformation that occurred afterwards.

First, in terms of CAR ratio, private banks had a higher average CAR value (26.82%) than state-owned banks (21.32%) during the 2020-2024 period. This condition was influenced by Indonesia's economic situation during the COVID-19 pandemic, which increased credit risk and prompted banks to strengthen their capital. Based on Signaling Theory, a high CAR is a signal of stability and capital strength to investors and customers. From a financial performance theory perspective, CAR indicates a bank's ability to absorb potential losses. Private banks have a higher CAR due to more cautious credit expansion and a tendency to maintain large capital to strengthen investor confidence. Conversely, the CAR of state-owned banks is lower due to more aggressive lending and involvement in government programs that absorb more capital.

The average ROA of state-owned banks is 2.25%, which is higher than that of private banks at 1.90%, reflecting stronger financial performance, in line with financial performance theory that assesses the effectiveness of asset management in generating profits. In the Indonesian context, the superiority of state-owned banks is also in line with signaling theory, whereby increased profitability sends a positive signal to investors regarding business stability and prospects, especially after the pressure of the Covid-19 pandemic. Government support, large asset scale, and a strategic role in economic recovery have enabled state-owned enterprises to recover more quickly, resulting in higher ratios. Conversely, private banks tended to be more cautious and selective in lending during the pandemic, resulting in slower profit growth and relatively lower ratios.

The ROE ratio of state-owned banks, with an average of 15.77%, exceeds that of private banks at 10.70%, indicating that in the context of Indonesian banking, state-owned banks are more effective at managing equity to generate profits. Based on signaling theory, the high ROE of state-owned banks is a strong signal to investors regarding the stability and prospects of the business, while the lower ROE of private banks reflects caution in expansion and capital constraints. This reflects the effectiveness of state-owned enterprises in utilizing equity to generate profits. This high ROE is influenced by increased credit demand and a decrease in loss reserves since 2022, as well as policy support that strengthens capital turnover. Meanwhile, the ROE of private banks is lower due to limited capital capacity and a more cautious expansion strategy.

In terms of BOPO, private banks demonstrated greater efficiency with a lower value (72.84%) compared to state-owned banks (74.39%). Private banks' BOPO values were lower during 2020-2024, indicating that their operational costs were more controlled. This advantage was particularly evident after 2021 when the pandemic drove the digitalization of banking services. Private banks were quicker to adopt digital services, reduce branch offices, and automate processes, thereby creating more stable cost efficiencies. SOEs' BOPO tends to be higher due to their large organizational structure and public service costs. In general, high BOPO is caused by high operational costs or suboptimal revenue, while low BOPO results from cost control and technology utilization.

Furthermore, private banks again outperformed state-owned banks in terms of NIM ratio (5.19% compared to 4.92%), as private banks have higher net interest margins. This is due to private banks' more selective lending strategies, which focus on high-value segments, thereby maintaining margins. Conversely, SOEs extend many loans to government priority sectors that have lower interest margins. The 2020–2021 pandemic, which has suppressed credit demand, has also made private banks more flexible in maintaining margins compared to SOEs.

Finally, private banks had a lower NPL ratio (2.40%) than state-owned banks (2.87%). Private banks had lower levels of non-performing loans than state-owned banks. This reflects stricter private risk management and a focus on credit segments with more measurable risk profiles. In signaling theory, the low NPL of private banks is a positive signal to the market that their risk management is effective and asset quality is maintained. Meanwhile, the higher NPL of SOEs, despite gradually recovering in 2022–2024, signals that they bear greater risks due to their intermediary function in supporting national economic stability during and after the pandemic.

### 4.2.2. Differences in Financial Performance Between State-Owned Banks and Private National Banks Listed on the Indonesia Stock Exchange for the Period 2020-2024 Based on Financial Ratios

Based on the hypothesis testing results using the Independent Sample t-test, the significance value for the CAR ratio is 0.000 (<0.05). This shows that there is a difference in CAR between state-owned banks and private national banks during the 2020-2024 period. Private banks consistently display higher CAR values, reflecting a more conservative risk management approach, especially in maintaining capital throughout the pandemic. This outcome aligns with the finding of Astuti et al. (2022), who also reported differences in CAR between state-owned and private banks. However, it contradicts the study by Suciani & Triadiarti (2021), which found no significant differences in the financial performance of state-owned banks (BUMN) and national private commercial banks (BUSN) listed on the Indonesia Stock Exchange (IDX) during 2014-2018 in terms of capital (CAR ratio).

In ROA, a significance value of 0.262 (>0.05) indicates there is no significant difference between the two types of banks, even though the average ROA of state-owned banks is higher. This finding shows that the effectiveness of asset utilization in generating net profit is relatively similar in both groups. This result is consistent with the research by Maftikha et al. (2024), which also found that the ROA of state-owned banks and private banks did not differ significantly. However, this finding differs from the research by Supit et al. (2019), which states that the ROA of state-owned banks is significantly superior to that of private banks. In line with this research, no difference was found between state-owned banks and private banks in terms of ROA, BOPO and NIM ratios.

Furthermore, the ROE ratio obtained a significance value of 0.011 (<0.05), indicating a significant difference between the two groups of banks. State-owned banks had a higher ROE

due to their ability to optimize the use of equity to generate profits, especially after the pandemic when credit growth increased rapidly. This result aligns with studies by Astuti et al. (2022) and Supit et al. (2019), which also found superior ROE for state-owned banks. However, this study is inconsistent with Susilawati & Dewi (2022), who stated that the ROE of the two groups of banks did not differ significantly.

For the BOPO ratio, the test results show a significance value of 0.698 (>0.05), there is no difference in operational efficiency between state-owned enterprises and private enterprises. Although private banks have a lower BOPO, the difference is not statistically significant. This illustrates that banking digitalization during the pandemic has increased efficiency in both groups of banks. These results are in line with the research by Soelistyoningrum et al. (2023) and Susanto et al. (2023). Conversely, these results contradict the findings of Astuti et al. (2022), who reported a significant difference in BOPO.

The significance value for the NIM RATIO is 0.461>0.05, indicating no significant difference between the two groups of banks. Although private banks have a higher average NIM, the difference is not statistically significant. This indicates that the interest income structure of both groups of banks is in a relatively similar competitive condition. This is in line with research by Soelistyoningrum et al. (2023) and Astuti et al. (2022), which also reported no difference in NIM. No relevant research explicitly refutes these results.

Then, for the NPL ratio, a significance value of 0.042 (<0.05) This proves that there is a significant difference between state-owned banks and private banks, with private banks recording lower NPLs. This condition reflects more selective credit risk management, while SOEs handle more MSME and high-risk priority sector loans, especially during the pandemic. This is in line with the research by Hasan et al. (2022) and Susilawati & Dewi (2022), but differ from the research by Asmiyanti et al. (2021), which state that there is no significant difference between the NPLs of state-owned and private banks.

This study shows that there are significant differences in three financial ratios, namely CAR, ROE, and NPL, while ROA, BOPO, and NIM do not show significant differences between SOEs and private national banks for the period 2020-2024.

## 5. Conclusion

This study aims to analyze and compare the financial performance of state-owned banks and private national banks listed on the Indonesia Stock Exchange during the period 2020-2024. Based on the results of financial ratio analysis and statistical tests conducted using the Independent Sample t-test, it was found that there were significant differences in the CAR, ROE, and NPL ratios, while the ROA, NIM, and BOPO ratios did not show significant differences between the two groups of banks. This indicates that the main differences in financial performance between SOE Banks and National Private Banks lie in the aspects of capital adequacy, return on equity, and credit quality.

In terms of financial performance, state-owned banks demonstrate superior performance in asset management in terms of generating profits, and effectively manage equity to generate profits as demonstrated by better ROA and ROE values. Meanwhile, private national banks have an advantage in terms of a relatively higher capital adequacy ratio (CAR), reflecting a stronger ability to maintain capital stability. In addition, private banks demonstrate better operational efficiency through a lower BOPO value. Private banks also excel in having a lower NPL value compared to state-owned banks, which indicates relatively better credit quality. These findings imply that banks in Indonesia have different management focuses depending on their ownership structure, so regulators such as the OJK and BI need to

strengthen credit quality supervision policies at state-owned banks, encourage capital strengthening, and improve operational efficiency through digitalization and cost control. For investors, the results of this study suggest that state-owned banks are more suitable for investors seeking long-term profitability, while private banks are more suitable for investors who prioritize stability, efficiency, and lower credit risk. However, this study has several limitations, namely the coverage period, which is only from 2020 to 2024, and the use of six key financial ratios without involving external factors such as macroeconomic conditions and monetary policy. Therefore, for future research, it is recommended to add panel data regression tests, simple t-tests, and other variables such as the loan-to-deposit ratio and liquidity ratios, as well as to consider the effects of digital transformation and macroeconomic conditions in order to obtain a more comprehensive picture of the financial performance of banks in Indonesia.

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