



Comparative Analysis of the Financial Performance of Indonesian State-Owned Banks Based on Financial Ratios from 2021-2025

Rayhani Warohmah^{1*}, Ira Kirana Laksmi², Anis Khaerunnisa³, Lintang Khoirunnisa⁴, Maruka Esterliana Hutagaol⁵

^{1,2,3,4,5} Faculty of Economics, Bachelor of Management Study Program, Institut Bisnis dan Multimedia ASMI (ASMI Institute of Business and Multimedia), Jakarta, Indonesia

*Email: Rayhaniwarohmah160102@gmail.com, irakirana02@gmail.com, aniskhrnnisa921@gmail.com, lintangkhoirunnisa1@gmail.com, marukaester1@gmail.com

Received: Sept 2026

Accepted: Sept 2026

ABSTRACT

State-owned banks play a strategic role in financial intermediation and national economic development, which makes their financial performance a concern for depositors, investors, and fund managers during the post-pandemic recovery. This study describes the development of the financial performance of four conventional state-owned banks listed on the Indonesia Stock Exchange (Bank Rakyat Indonesia, Bank Mandiri, Bank Negara Indonesia, and Bank Tabungan Negara) from 2021 to 2025, compares their performance, and identifies the bank that performed better. A quantitative descriptive-comparative design was applied to secondary data from annual financial reports. Performance was measured with seven ratios: non-performing loan (NPL), loan to deposit ratio (LDR), return on assets (ROA), return on equity (ROE), net interest margin (NIM), the operating expenses to operating income ratio (BOPO), and capital adequacy ratio (CAR). Banks were compared on five-year average ratios, and one point of superiority was assigned to the best bank on each ratio. Profitability ratios generally peaked in 2023 and declined thereafter, while credit quality improved at two banks and operating efficiency at three. Bank Rakyat Indonesia led on four ratios (LDR, ROA, NIM, and CAR) and Bank Mandiri on three (NPL, ROE, and BOPO), whereas Bank Negara Indonesia and Bank Tabungan Negara led on none. Bank Rakyat Indonesia is therefore regarded as the better-performing bank on the seven ratios examined. The findings offer preliminary information for decision-making but are neither an overall assessment of bank soundness nor investment advice.

Keywords: Asset Quality; Liquidity; Profitability; Operational Efficiency; Capital Adequacy

1. INTRODUCTION

Financial management concerns how an organization acquires funds and allocates them effectively and efficiently to achieve its objectives, and sound financial management is a precondition for organizational sustainability and optimal performance (Iqbal, 2025; Jirwanto et al., 2024). Banks are among the institutions in which this function is most visible. Under Law No. 7 of 1992 on Banking, as most recently amended by Law No. 4 of 2023 on the Development and Strengthening of the Financial Sector, a bank is a business entity that collects funds from the public in the form of deposits and channels them back to the public as loans, financing, or other forms in order to improve people's welfare. As financial intermediaries, banks sustain the payment system,

support economic activity, and promote national economic growth; they must therefore preserve public trust through sound financial performance.

Because banks report their activities periodically, financial statements are the main source of information for assessing their condition and performance. Such assessment is commonly carried out through financial ratio analysis, which compares related items in the financial statements to evaluate past and present performance and to indicate future prospects and risks (Irwanti, 2024). For banks, the ratios must reflect sector characteristics. Non-performing loan (NPL), loan to deposit ratio (LDR), return on assets (ROA), return on equity (ROE), net interest margin (NIM), the operating expenses to operating

income ratio (BOPO, from the Indonesian *Biaya Operasional terhadap Pendapatan Operasional*), and the capital adequacy ratio (CAR) are widely used to assess asset quality, liquidity, profitability, efficiency, and capital.

By ownership, banks in Indonesia comprise state-owned banks, regional government banks, private national banks, foreign banks, joint-venture banks, and cooperative banks. This study focuses on state-owned banks, in which the state holds all or most of the capital. Beyond seeking profit, these banks support government policy, maintain financial system stability, and finance strategic sectors. Four conventional state-owned banks listed on the Indonesia Stock Exchange (IDX) are examined: PT Bank Rakyat Indonesia (Persero) Tbk (BRI), PT Bank Mandiri (Persero) Tbk (Bank Mandiri), PT Bank Negara Indonesia (Persero) Tbk (BNI), and PT Bank Tabungan Negara (Persero) Tbk (BTN). They were selected for their large scale, extensive networks, and consistent publication of annual financial reports, and because, as conventional banks, they have relatively similar operating characteristics.

Public reliance on banks is substantial. According to the Indonesia Deposit Insurance Corporation (LPS), 677.53 million deposit accounts were registered with the institution, and BRI alone has approximately 720,000 shareholders according to IDN Financials. Such trust should rest on an understanding of a bank's fundamental condition rather than on brand popularity, because bank failures and fraud can harm depositors and shareholders; the 2008 Bank Century case, which arose from a severe liquidity crisis and led to a major corruption case, is a well-known example in Indonesia. Information on financial performance therefore helps depositors decide where to save or borrow and helps investors decide where to invest.

The period 2021–2025 was chosen because it covers the post-pandemic economic recovery, which was marked by changing macroeconomic conditions, monetary policy adjustments, and shifting dynamics in the banking industry. Preliminary data show uneven development across banks. In 2021, ROA stood at 1.83% for BRI, 1.77% for Bank Mandiri, 1.14% for BNI, and 0.64% for BTN; in 2023 it had risen to 3.08%, 2.76%, 1.94%, and 0.80%, respectively. NPL, LDR, BOPO, and CAR also differed across the banks, which calls for a more thorough ratio-based analysis.

Information on bank performance is also useful for financial managers and investment managers who place funds in short-term instruments such as time deposits and must consider capital adequacy (CAR), credit risk (NPL), and intermediation capacity (LDR) before choosing a bank. Investment decisions, however, depend on many other factors. This study is therefore limited to financial performance as measured by seven ratios and does not offer investment recommendations.

Previous studies have mostly analyzed a single bank, or compared several banks over short periods using selected ratios (Aprilian & Hulu, 2026; Fitriyah & Nawangsari, 2026; Rachmawati et al., 2025; Sa'adah et al., 2025; Suhendi et al., 2022). The present study differs in that it covers all four conventional state-owned banks listed on the IDX over 2021–2025, uses seven ratios representing five performance dimensions, and identifies the bank that performs better. Its

objectives are (1) to analyze the development of the financial performance of state-owned banks during 2021–2025; (2) to compare their financial performance on the basis of the ratios; and (3) to determine which bank performs better on the seven ratios.

2. LITERATURE REVIEW

2.1. Financial Management and Financial Statement Analysis

Financial management comprises planning, organizing, controlling, and supervising the use of funds to achieve organizational goals (Jirwanto et al., 2024). Its two main functions are raising funds and allocating them appropriately, which underpin decisions on investment, financing, and profit management. Its overarching goal is to maximize firm value while maintaining liquidity, business continuity, and a manageable capital structure (Iqbal, 2025). In banking, where large volumes of public funds are managed, these functions demand prudence and measurable performance indicators.

Financial statement analysis involves identifying, examining, comparing, and interpreting the information in financial statements in order to understand an entity's condition, performance, and development. Commonly used methods include horizontal analysis (comparison across periods), vertical analysis (proportions within a period), trend analysis, common-size analysis, and ratio analysis (Irwanti, 2024). Ratio analysis compares specific line items to produce indicators of liquidity, asset quality, profitability, operational efficiency, activity, and capital. It is adopted here because it allows banks of different sizes to be evaluated on a comparable basis. Bank statements differ from those of non-bank firms because they are dominated by loans, third-party funds, interest income, and interest expense, which relate directly to banking ratios.

2.2. Bank Performance Ratios

Seven ratios grouped into five dimensions are used. Asset quality is represented by NPL, the share of non-performing loans (substandard, doubtful, and loss) in total loans; a lower NPL indicates better credit quality and credit-risk management. Liquidity is represented by LDR, the ratio of loans to third-party funds, which reflects the bank's ability to meet customers' withdrawals while channeling funds as loans, and therefore also indicates its intermediation function. Profitability is represented by ROA (net income relative to total assets), ROE (net income relative to equity), and NIM (net interest income relative to earning assets); higher values indicate more effective use of assets, equity, and earning assets (Ayu & Arthamevia, 2023; Jirwanto et al., 2024). Operational efficiency is represented by BOPO, the ratio of operating expenses to operating income, where lower values indicate better cost control. Capital adequacy is represented by CAR, the ratio of capital to risk-weighted assets (RWA), where higher values indicate a stronger capacity to absorb potential losses (Aprillia et al., 2023).

2.3. Previous Studies and Research Gap

Prior studies consistently show that financial ratios are an

effective tool for assessing bank performance. Sa'adah et al. (2025) found that ratios capture the profitability and efficiency of state-owned banks listed on the IDX in 2019–2023. Rachmawati et al. (2025) applied conventional banking ratios to BRI for 2023–2024 and showed that ratio analysis can assess liquidity, profitability, and capital. Suhendi et al. (2022) used ratios to evaluate the effect of economic conditions on the performance of state-owned banks, although the two-year observation period did not reveal long-term trends. Fitriyah and Nawangsari (2026) showed that combining several ratios gives a more comprehensive picture of BRI's condition in 2020–2024, and Aprilian and Hulu (2026) used ratios to evaluate the development of BNI's performance.

Taken together, these studies confirm the usefulness of ratio analysis, but most focus on one bank, cover short periods, or use only selected ratios, so few compare all state-owned banks on a uniform set of indicators. This study addresses that gap by comparing four conventional state-owned banks on the same seven ratios over five years and by identifying the bank that performs better on those indicators.

3. RESEARCH METHODOLOGY

3.1. Research Design

This study employs a quantitative approach with a descriptive-comparative design. A quantitative approach is appropriate because the data are numerical throughout collection, processing, interpretation, and presentation (Syahroni, 2022), and they are obtained from annual financial reports and converted into ratios. The descriptive-comparative design describes and compares the financial performance of four state-owned banks on the same indicators, namely the seven ratios, over 2021–2025. The comparison is made descriptively, by presenting, calculating, and interpreting the ratios; no inferential test is applied because the study does not test relationships, effects, or hypotheses. Data collection and analysis were carried out online between April and August 2026.

3.2. Population and Sample

The population comprises all state-owned banks listed on the IDX that operate as conventional commercial banks and published annual financial reports for 2021–2025: BRI, Bank Mandiri, BNI, and BTN. Because the population is small, total sampling (a census) was used, so all four banks form the sample. Only conventional banks are included because of their relatively similar operating characteristics.

3.3. Data and Variables

Secondary data were collected through documentation and a literature study. The documents are the annual consolidated financial reports of the four banks for 2021–2025, obtained from the banks' official websites, the IDX, and Indonesia's Financial Services Authority (OJK). The literature study drew on books, journal articles, regulations, and accounting standards. Because the study does not test relationships, there are no independent or dependent variables; the single variable is financial performance, measured through the seven ratios defined in Table 1.

Table 1. Operationalization of financial performance

Dimension	Ratio	Formula	Better
Asset quality	NPL	Non-performing loans ÷ Total loans × 100%	Lower
Liquidity	LDR	Total loans ÷ Third-party funds × 100%	Higher
Profitability	ROA	Net income after tax ÷ Total assets × 100%	Higher
Profitability	ROE	Net income after tax ÷ Total equity × 100%	Higher
Profitability	NIM	Net interest income ÷ Earning assets × 100%	Higher
Efficiency	BOPO	Operating expenses ÷ Operating income × 100%	Lower
Capital	CAR	Capital ÷ Risk-weighted assets × 100%	Higher

Note: Non-performing loans = substandard + doubtful + loss loans; third-party funds = demand, savings, and time deposits. For LDR, the assessment considers the ratio's position as an indicator of intermediation. Source: Processed by the authors (2026).

3.4. Data Analysis

The analysis proceeded in eight steps: (1) collecting the annual financial reports; (2) identifying the required items (total loans, non-performing loans, third-party funds, net income, total assets, total equity, net interest income, operating expenses, operating income, capital, and RWA); (3) calculating the seven ratios; (4) presenting the results by bank and year; (5) describing the development of each ratio; (6) comparing the banks; (7) determining the better-performing bank; and (8) drawing conclusions.

In step 7, banks were compared on the five-year average of each ratio. For NPL and BOPO, a lower average indicates superior performance; for ROA, ROE, NIM, and CAR, a higher average does. For LDR, the comparison considers the ratio's position as an indicator of the intermediation function, and in this study the highest average is treated as the strongest intermediation. The best bank on each ratio receives one point of superiority, and the bank with the most points is regarded as the better performer. No weighting or composite index is applied, and the result is not intended as a statement of overall bank soundness.

4. RESULTS AND DISCUSSION

4.1. Characteristics of the Banks

At the end of 2025, Bank Mandiri had the largest total assets (Rp2,829.94 trillion), followed by BRI (Rp2,135.37 trillion), BNI (Rp1,362.05 trillion), and BTN (Rp527.79 trillion). The banks differ in business focus. BRI, founded in 1895, is known for financing micro, small, and medium enterprises (MSMEs). Bank Mandiri was formed in 1998 from the merger of four state-owned banks (Bank Bumi Daya, Bank Dagang Negara, Bank Ekspor Impor Indonesia, and Bank Pembangunan Indonesia) during the restructuring of the national banking sector. BNI, established in 1946, was the first state-owned commercial bank after independence and focuses on corporate, small-business, and international banking. BTN, which originated from Postspaarbank, specializes in housing finance and holds the largest share of mortgage lending in Indonesia. These differing business models help to interpret the ratio differences discussed

below.

Table 2 presents the annual ratios and five-year averages of each bank. The discussion follows the five performance dimensions.

4.2. Development of Financial Ratios

Table 2. Financial ratios of state-owned banks, 2021–2025 (%)

Ratio	Bank	2021	2022	2023	2024	2025	Average
NPL	BRI	3.00	2.67	2.95	2.78	3.07	2.89
	Bank Mandiri	2.74	1.93	1.19	1.11	1.10	1.62
	BNI	3.70	2.81	2.13	1.97	1.93	2.51
	BTN	3.31	3.14	3.23	3.60	3.57	3.37
LDR	BRI	91.58	87.09	93.23	99.21	99.58	94.14
	Bank Mandiri	79.48	78.65	86.23	95.55	87.85	85.55
	BNI	79.88	84.00	85.74	96.32	86.42	86.47
	BTN	83.56	82.83	84.84	82.29	79.04	82.51
ROA	BRI	1.83	2.76	3.08	3.04	2.68	2.68
	Bank Mandiri	1.77	2.26	2.76	2.52	2.17	2.30
	BNI	1.14	1.79	1.94	1.92	1.48	1.65
	BTN	0.64	0.76	0.80	0.64	0.66	0.70
ROE	BRI	10.54	16.94	19.09	18.76	17.26	16.52
	Bank Mandiri	13.75	17.82	20.89	19.51	18.74	18.14
	BNI	8.68	13.18	13.64	12.96	11.40	11.97
	BTN	11.10	11.75	11.49	11.10	9.67	11.02
NIM	BRI	6.96	6.88	7.17	7.39	7.45	7.17
	Bank Mandiri	4.35	4.65	4.65	4.44	3.98	4.42
	BNI	3.76	4.11	3.91	3.73	3.08	3.72
	BTN	3.71	3.97	3.27	2.53	3.56	3.41
BOPO	BRI	77.85	54.53	66.32	70.83	72.61	68.43
	Bank Mandiri	72.65	62.94	57.47	61.27	64.51	63.76
	BNI	81.13	69.39	67.72	70.63	74.06	72.58
	BTN	89.22	84.45	85.87	88.79	89.24	87.52
CAR	BRI	27.16	15.54	21.48	20.10	23.53	23.56
	Bank Mandiri	19.60	19.46	21.48	20.10	19.36	20.00
	BNI	22.50	25.29	24.14	21.62	21.62	23.03
	BTN	19.14	20.17	20.07	18.50	19.02	19.38

Note: Bold = best five-year average on each ratio (lowest for NPL and BOPO; highest for the others). Source: Processed by the authors (2026), from the banks' annual financial reports.

Asset quality and liquidity. Bank Mandiri recorded the lowest average NPL (1.62%), having reduced the ratio from 2.74% in 2021 to 1.10% in 2025. BNI also improved steadily, from 3.70% to 1.93% (average 2.51%). BRI fluctuated, falling to 2.67% in

2022 but rising again to 3.07% in 2025 (average 2.89%), while BTN had the highest average (3.37%), moving from 3.31% to 3.57%. On liquidity, BRI had the highest average LDR (94.14%), rising from 91.58% in 2021 to 99.58% in 2025, which implies that almost all third-party funds were channeled into loans. BNI (86.47%) and Bank Mandiri (85.55%) reached peaks in 2024 (96.32% and 95.55%) and declined in 2025, and BTN had the lowest average (82.51%), falling from 83.56% to 79.04%, which indicates relatively slower loan expansion.

Profitability. ROA, ROE, and NIM show a common pattern at most banks: gains until 2023 followed by declines. BRI had the highest average ROA (2.68%), peaking at 3.08% in 2023 and easing to 2.68% in 2025. It was followed by Bank Mandiri (2.30%; from 2.76% in 2023 to 2.17% in 2025), BNI (1.65%), and BTN (0.70%), which remained below 1% throughout. Bank Mandiri recorded the highest average ROE (18.14%), rising from 13.75% in 2021 to a peak of 20.89% in 2023 and standing at 18.74% in 2025, ahead of BRI (16.52%), BNI (11.97%), and BTN (11.02%). BRI dominated NIM with an average of 7.17% and a rising trend from 6.96% to 7.45%, compared with 4.42% for Bank Mandiri, 3.72% for BNI, and 3.41% for BTN, whose NIM fell to 2.53% in 2024 before recovering to 3.56% in 2025.

Operational efficiency and capital adequacy. Bank Mandiri was the most efficient, with the lowest average BOPO (63.76%) and a minimum of 57.47% in 2023. BRI averaged 68.43%, with a sharp fall to 54.53% in 2022 followed by a rise to 72.61% in 2025. BNI averaged 72.58%, with BOPO rising toward the end of the period (74.06% in 2025), and BTN had the highest average (87.52%), indicating the lowest operating efficiency. Regarding capital, all banks maintained CAR levels well above the regulatory minimum. BRI recorded the highest average CAR (23.56%), followed by BNI (23.03%), Bank Mandiri (20.00%), and BTN (19.38%). BRI's CAR fluctuated between 15.54% and 27.16%, whereas BTN's remained comparatively stable between 18.50% and 20.17%.

4.3. Comparative Performance of the Banks

Table 3 summarizes the comparison on the five-year averages. No bank led on all indicators. BRI performed best on four of the seven ratios (LDR, ROA, NIM, and CAR), indicating strength in loan disbursement, profit generation from assets, net interest income, and capital. Bank Mandiri performed best on three (NPL, BOPO, and ROE), indicating strength in credit-risk management, cost efficiency, and returns on equity. BNI and BTN did not lead on any ratio, although their development differed: BNI steadily improved its NPL, whereas BTN recorded the least favorable average on all seven ratios under the criteria used. On this basis, BRI is identified as the better-performing bank, ahead of Bank Mandiri.

Table 3. Comparison of five-year average ratios, 2021–2025

Ratio	BRI	BMRI	BNI	BTN	Better bank
NPL	2.89	1.62	2.51	3.37	Bank Mandiri
LDR	94.14	85.55	86.47	82.51	BRI
ROA	2.68	2.30	1.65	0.70	BRI
ROE	16.52	18.14	11.97	11.02	Bank Mandiri
NIM	7.17	4.42	3.72	3.41	BRI
BOPO	68.43	63.76	72.58	87.52	Bank Mandiri
CAR	23.56	20.00	23.03	19.38	BRI

Note: BRI = Bank Rakyat Indonesia; BMRI = Bank Mandiri; BNI = Bank Negara Indonesia; BTN = Bank Tabungan Negara. Source: Processed by the authors (2026).

4.4. Discussion

The results indicate that no single bank dominates every dimension and that each bank's strengths correspond broadly to its business orientation. BRI's markedly higher NIM and LDR are consistent with its focus on MSME lending, which typically combines higher lending yields with a high rate of fund deployment. However, its comparatively high NPL average and the rise of its LDR toward 100% suggest that this strategy requires careful management of credit risk and liquidity. Bank Mandiri's lowest NPL and BOPO and highest ROE point to strong risk management and cost discipline across a large and diversified asset base. BTN's weaker results across all ratios are consistent with its concentration on housing finance and its smaller scale, which may constrain profitability and efficiency. These interpretations are contextual and were not tested statistically.

The common 2023 peak in ROA, ROE, and NIM, followed by declines through 2025, together with the deterioration of BOPO after 2022–2023, suggests that the post-pandemic recovery supported profitability until 2023, after which conditions normalized. Because macroeconomic and policy factors were not research variables, these explanations should be read as interpretation rather than causal findings. The results agree with earlier studies that ratio analysis can capture profitability, efficiency, liquidity, and capital (Fitriyah & Nawangsari, 2026; Rachmawati et al., 2025; Sa'adah et al., 2025), and they extend that work by comparing all four conventional state-owned banks on uniform indicators over five years. In practical terms, depositors and investors may use the findings as an initial screening, and bank managers may focus on the ratios in which their bank trails, particularly where NPL and BOPO are relatively high.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The financial performance of the four state-owned banks fluctuated during 2021–2025. NIM, ROE, and ROA rose until 2023 and then declined, NPL improved at Bank Mandiri and BNI, BOPO in 2025 was lower than in 2021 at three banks, and LDR

and CAR moved differently across banks. Performance also differed among the banks: Bank Mandiri led on NPL, BOPO, and ROE, while BRI led on LDR, CAR, NIM, and ROA. Based on the seven ratios, BRI performed better than the other state-owned banks during 2021–2025, having the best result on four ratios against three for Bank Mandiri, while BNI and BTN led on none. This conclusion is limited to the seven ratios and the 2021–2025 period. It is based on descriptive comparison without statistical testing, uses a context-dependent interpretation of LDR, and excludes macroeconomic, regulatory, and managerial factors. It should not be read as a statement that a bank is the soundest or safest overall, or as a buy, sell, or hold recommendation.

5.2. Recommendations

Investors and the public may use the findings as an initial reference for assessing the fundamental condition and financial performance of state-owned banks before placing funds, using banking services, or making investment decisions. Bank management is encouraged to sustain and improve operational efficiency and credit-risk management, particularly at banks with relatively high BOPO and NPL, so that profitability can be optimized. Future research may extend the observation period, add private or Islamic banks, apply statistical comparison tests such as the independent-samples t-test or ANOVA, and use comprehensive bank soundness methods such as RGEC.

REFERENCES

- Aprilian, Y. E., & Hulu, D. (2026). Analisis kinerja keuangan PT Bank Negara Indonesia (Persero) Tbk periode 2021–2025 [Financial performance analysis of PT Bank Negara Indonesia (Persero) Tbk, 2021–2025]. *Journal of Sharia Economics Scholar (JoSES)*, 4(1), 199–210. <https://doi.org/10.5281/zenodo.20587645>
- Aprillia, S., Kalsum, U., & Hidayat, R. (2023). Biaya operasional pendapatan operasional (BOPO) dan capital adequacy ratio (CAR) terhadap profitabilitas bank umum syariah di Indonesia [Operating expenses to operating income (BOPO) and capital adequacy ratio (CAR) and the profitability of Islamic commercial banks in Indonesia]. *Balance: Jurnal Akuntansi dan Bisnis*, 8(1), 76–84.
- Ayu, R., & Arthamevia, R. (2023). Pengaruh net interest margin (NIM) dan loan to deposit ratio (LDR) terhadap return on asset (ROA) pada bank BUMN yang terdaftar di BEI periode 2013–2021 [The effect of net interest margin (NIM) and loan to deposit ratio (LDR) on return on assets (ROA) of state-owned banks listed on the IDX, 2013–2021]. <https://jurnal.ubd.ac.id/index.php/akunto>
- Fitriyah, Z. Z., & Nawangsari, A. T. (2026). Analisis kinerja keuangan PT Bank Rakyat Indonesia (Persero) Tbk menggunakan rasio keuangan periode tahun 2020–2024 [Financial performance analysis of PT Bank Rakyat Indonesia (Persero) Tbk using financial ratios, 2020–2024]. *Jurnal Ilmu Akuntansi*.
- Iqbal, M. (2025). Pengenalan manajemen keuangan [Introduction to financial management]. *Maliki Interdisciplinary Journal*, 3. <http://urj.uin-malang.ac.id/index.php/mij/index>
- Irwanti, I. (2024). Analisis laporan keuangan menggunakan metode vertikal dan metode horizontal terhadap kinerja keuangan pada PT. XYZ periode 2019–2023 [Financial statement analysis using vertical and horizontal methods on the financial performance of PT XYZ, 2019–2023]. *Jurnal Riset Manajemen dan Ekonomi (JRIME)*, 2(3), 175–185. <https://doi.org/10.54066/jrime-itb.v2i3.2113>
- Jirwanto, H., Aqsa, M. A., Agusven, T., Herman, H., & Sulfitri, V. (2024). *Manajemen keuangan* [Financial management]. CV Azka Pustaka.
- Rachmawati, S., Kurniawan, W. O., Nisa, S. K., & Alam, C. (2025). Analisis kinerja keuangan PT Bank Rakyat Indonesia (Persero) Tbk tahun 2023–2024 berdasarkan rasio keuangan perbankan konvensional [Financial performance analysis of PT Bank Rakyat Indonesia (Persero) Tbk, 2023–2024, based on conventional banking financial ratios]. *Jurnal Kajian dan Penelitian Umum*, 3(6), 58–70. <https://doi.org/10.47861/jkpu-nalanda.v3i6.2039>
- Republic of Indonesia. (1992). *Undang-Undang Nomor 7 Tahun 1992 tentang Perbankan* [Law No. 7 of 1992 on Banking].
- Republic of Indonesia. (2023). *Undang-Undang Nomor 4 Tahun 2023 tentang Pengembangan dan Penguatan Sektor Keuangan* [Law No. 4 of 2023 on the Development and Strengthening of the Financial Sector].
- Sa'adah, L., Hajjah, R., & Tiansyah, A. (2025). Analisis kinerja keuangan bank BUMN di Bursa Efek Indonesia periode 2019–2023 [Financial performance analysis of state-owned banks on the Indonesia Stock Exchange, 2019–2023]. *Jurnal Nuansa: Publikasi Ilmu Manajemen dan Ekonomi Syariah*, 3(1), 68–77. <https://doi.org/10.61132/nuansa.v3i1.1541>
- Suhendi, C. N., Suhendi, V., & Gabriella, J. (2022). Analisis rasio bank BUMN dengan metode analisis rasio keuangan [Ratio analysis of state-owned banks using the financial ratio analysis method]. *SENAKOTA: Seminar Nasional Ekonomi dan Akuntansi*.
- Syahroni, M. I. (2022). Prosedur penelitian kuantitatif [Quantitative research procedures]. *Jurnal Al-Musthafa STIT Al-Aziziyah Lombok Barat*, 43(3).