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Investment Strategy in the Banking Sector: Probability Ratio Analysis and Comparison of Financial Performance in Core Bank Group 4 (BCA, BRI, BNI, Mandiri)

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Abstract

This study aims to analyze performance bank finances in KBMI group 4 (Bank BCA, BRI, BNI, and Mandiri) with a focus on the ratio profitability as a foundation taking decision investment. Using the method descriptive comparatively, this study analyzes financial data in five year period Lastly, with a focus on the Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), and Cost of Goods (Cash) indicators. Operational to Income Operational (BOPO). Research results show that there is difference significant in profile profitability the four banks, with BCA showing consistency highest in profitability and efficiency operational. BRI shows superiority in NIM, while Mandiri and BNI show improvement stable performance. Investment strategy model formulated based on analysis risk -return, cycle economy, and trends industry banking. This research provides different investment strategy recommendations based on profile investor risk, taking into account special to impact digital transformation and change regulation in the sector Indonesian banking.

Keywords: Profitability ratio, core capital bank 4, investment strategy, financial performance, indonesian banking.

1. Introduction

The banking sector plays an important role in supporting national economic stability and growth. The main function of banks as financial intermediary institutions allows funds to be channeled from surplus to deficit parties, and is the backbone of financing the real sector. In Indonesia, the dominance of the banking market is controlled by four major banks with the largest core capital, namely Bank Central Asia (BCA), Bank Rakyat Indonesia (BRI), Bank Negara Indonesia (BNI), and Bank Mandiri, which are collectively inherited as Core Capital Bank 4 (OJK, 2023).

The financial performance of these four banks is very crucial because it reflects the stability of the national banking industry and is a reference for investors in making investment decisions. One of the fundamental aspects in assessing the feasibility of investing in banking sector stocks is through profitability ratio analysis. This ratio measures the bank's ability to generate profits from assets, equity, and net interest income, and reflects the operational efficiency and competitiveness of financial institutions. Ratios such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) are the main indicators commonly used in making investment decisions. ROA assesses the bank's efficiency in utilizing all of its assets, ROE assesses the returns given to shareholders, and NIM shows the bank's ability to manage net interest income against productive assets (Wadyakto et al., 2023).

Various studies have been conducted to examine the relationship between financial ratios and bank stock performance. Setiawan and Wibowo (2019) found that ROE and NIM have a significant effect on bank stock prices, while ROA contributes to investor attractiveness in the long term. Meanwhile, Sari and Ramadhani (2021) examined the comparison of profitability between conventional commercial banks and concluded that each bank has different operational strategies and efficiencies, depending on its market orientation and asset management. Fauzan et al. (2022) also noted that bank profitability is greatly influenced by operational cost efficiency and financing structure.

However, there is a significant research gap, namely the lack of comprehensive studies comparing profitability ratios between Core Capital Banks 4 in the context of investment decision making. Most previous studies are partial both in terms of objects that only focus on one or two banks, and approaches that do not yet understand financial ratios with practical investment strategies. In fact, in the era of digital banking competition and regulatory pressure, a holistic analysis is needed to see the differences in performance and competitive positions of each bank strategically.

Based on the background of the ratio, this study was conducted to analyze and compare profitability (ROA, ROE, and NIM) at Bank BCA, BRI, BNI, and Mandiri, and to allow for results on the preparation of stock investment strategies. This study uses a quantitative descriptive-comparative approach by utilizing secondary data in the form of annual financial reports for a certain period (Frestiva and Sholahuddin, 2024). The research objects include the four largest national banks that have different operational characteristics and market bases, so that the results of the analysis are expected to be able to provide strategy preparation between banks. This study offers novelty in terms of integration between profitability ratio analysis and national banking data-based investment strategy research, which has previously been minimal. In addition, this study is an important contribution for investors in compiling portfolios, for scientists in enriching bank financial analysis literature, and for bank management in opening their performance competitively.

Thus, the main objective of this study is to present a comparison of the profitability objectives of Bank Modal Inti 4, as well as to build a basis for analysis for investment strategies in the banking sector. The advantages of this study compared to previous studies are that it covers a wider range of objects, integrates key profitability indicators, and focuses on the application of investment decision making. There has been no study that systematically examines the performance of these four major banks simultaneously and their predecessors with real investment strategies. Therefore, this study is expected to be useful for investors, capital market analysts, financial authorities, and academic institutions in supporting policies and strategies in the national financial sector.

2. Literature Review

2.1. Investment Strategy

Investment strategy is a series of systematic approaches used by investors to achieve financial goals through asset allocation in certain instruments, including banking stocks (Fofana, 2024). In the context of the capital market, this strategy is closely related to fundamental analysis that assesses company performance based on financial indicators and macroeconomic conditions. Optimal stock selection can be done by considering the risk, profitability, and intrinsic value of the company's shares (Sohdi, 2024).

2.2. Profitability Ratio

Profitability ratio reflects the company's ability to generate profits from its operational activities. The three main ratios that are often used in bank performance analysis are Return on Assets (ROA): Measures the effectiveness of the company in using assets to generate profits, Return on Equity (ROE): Measures the rate of return on capital provided by shareholders, and Net Interest Margin (NIM): Measures the efficiency of net interest income on productive assets (Choiriyah et al., 2020). These ratios are the main parameters in assessing the efficiency and competitiveness of banks and are often used as indicators in making investment decisions.

2.3. Bank Financial Performance

A bank's financial performance reflects the effectiveness of the bank in managing assets, liabilities, and equity in creating profits. Financial performance assessments not only include profitability, but also liquidity, solvency, and operational efficiency (Kusumadewi et al., 2023). Banks with high profitability are usually more in demand by investors because they are considered capable of providing stable returns.

2.4. Core Capital Bank 4 (Book IV)

The Financial Services Authority (OJK) groups commercial banks based on core capital in the category of Commercial Banks in Business Groups (BUKU). Banks with core capital above IDR 70 trillion are included in Core Capital Bank 4, including BCA, BRI, BNI, and Bank Mandiri. Banks in this category have a wide business coverage, national and international networks, and high liquidity potential, making them favorites of investors in the financial sector (OJK, 2023).

2.5. Previous Relevant Research

Several previous studies have highlighted the relationship between profitability ratios and investor interest, including, Setiawan and Wibowo (2019) found that ROE and NIM have a significant effect on bank stock prices, Sari and Ramadhani (2021) emphasized the importance of comparing profitability between banks as a basis for evaluating sector performance, Fauzan et al. (2022) studied that operational cost efficiency also drives profitability, which in turn influences investment decisions. However, these studies are still limited in terms of object coverage or do not simultaneously compare the four major national banks. This indicates a gap in the literature review that can be filled by the current research.

3. Research Methods

3.1. Types and Approaches of Research

This research is a quantitative research with a comparative descriptive method. Quantitative is used because the data processed are in the form of financial figures that can be measured and analyzed statistically. Comparative descriptive is chosen to describe the financial performance conditions of Bank Modal Inti 4 (BCA, BRI, BNI, Mandiri) and to compare performance between banks in a certain period of time.

3.2. Objects and Subjects of Research

The object of research is financial performance as measured using profitability ratios, namely:
1) Return on Assets (ROA)
2) Return on Equity (ROE)
3) Net Interest Margin (NIM)

The research subjects were Core Capital Bank 4 which consisted of:
1) PT Bank Central Asia Tbk (BCA)
2) PT Bank Rakyat Indonesia Tbk (BRI)
3) PT Bank Negara Indonesia Tbk (BNI)
4) PT Bank Mandiri (Persero) Tbk

3.3. Data source

The data used is secondary data, obtained from:
1) Annual Financial Report of each bank for the last five years.
2) Financial Services Authority (OJK) publications such as Indonesian Banking Statistics.
3) Official report of the Indonesia Stock Exchange (IDX).
4) Other relevant and reliable sources.

3.4. Data collection technique

The data collection method is carried out using documentation techniques, namely accessing and collecting official bank financial reports that have been published. The data collected includes profit and loss reports, balance sheets, and notes to financial statements.

3.5. Data Analysis Techniques

3.5.1. Financial Ratio Calculation

Analysis done by calculating four ratio indicators finance, namely:

1. Return on Assets (ROA)
   Measure ability company produce profit clean of total assets owned.

$$ROA = \frac{Net\ Profit}{total\ Assets} \times 100\% \quad (1)$$

2. Return on Equity (ROE)
   Measure level return on the capital invested by the shareholders share.

$$ROE = \frac{Net\ Profit}{Equity} \times 100\% \quad (2)$$

3. Net Interest Margin (NIM)
   Describe how much effective bank in produce net interest income from asset productive.

$$NIM = \frac{Net\ Interest\ Income}{Productive\ Assets} \times 100\% \quad (3)$$

3.5.2. Analysis Descriptive

Ratio data finance will analyze in a way descriptive using:
1) Average (Mean) to see mark middle performance of each bank.

2) Chart to visualize change performance in five years.
3) Comparison Table to make it easier analysis interbank.

3.5.3. Comparative Analysis

Analysis done to compare ratio interbank with the approach:
1) Comparison yearly (year by year)
2) Comparison overall mean) for five years)

3.5.4. Interpretation of Results

Data interpretation is done by identifying:
1) Bank with level the highest and most stable profitability.
2) Banks that show trend increase or decrease.
3) Factors external possible influence difference performance interbank.

3.5.5. Preparation of Investment Recommendations

Based on results analysis, compiled investment strategy recommendations stocks in the sector banking, considering:
1) Consistent rate of return
2) Efficiency operational
3) Prospects growth term long

3.5.6. Analysis Tools

Microsoft Excel: for calculations ratio finance, manufacturing chart trends, tables and calculations statistics descriptive. Manual approach to interpretation qualitative.

4. Results And Discussion

4.1. Comparative Analysis of Profitability Ratios

1. Return on Assets (ROA)

Table 1: Comparison of bank KBMI ROA 4 periods 2020-2024 (in %)

Bank	2020	2021	2022	2023	2024	Average
BCA	3.3	3.5	3.7	3.8	3.9	3.64
BRI	1.9	2.7	3.3	3.5	3.6	3.00
BNI	0.5	1.6	2.3	2.8	2.9	2.02
Independent	1.6	2.3	2.8	3.2	3.4	2.66

Data up to Q2 2024 Source: Report Bank Finance, processed (2024)

Based on Table 1, BCA in general consistent lead in ROA matters during period 2020-2024 with an average of 3.64%. This shows BCA's superior capabilities in produce profit from assets owned. BRI shows improvement significant from 1.9% in 2020 to 3.6% in 2024, reflecting repair substantial in efficiency management assets. BNI had the lowest ROA in 2020 at 0.5%, however show the most significant improvement to reach 2.9% in 2024. Bank Mandiri show trend stable positive with ROA increasing from 1.6% in 2020 to 3.4 % in 2024. In general overall, all KBMI 4 banks show trend increase in ROA during period analysis, indicating recovery and strengthening performance post- COVID-19 pandemic.

2. Return on Equity (ROE)

Table 2: Comparison of bank KBMI ROE 4 periods 2020-2024 (in %)

Bank	2020	2021	2022	2023	2024	Average
BCA	16.5	17.4	18.2	18.6	18.8	16.5
BRI	14.8	17.6	19.3	20.1	20.3	14.8
BNI	3.7	10.3	14.2	16.5	17.1	3.7
Independent	9.8	14.2	16.5	17.8	18.3	9.8

Data up to Q2 2024 Source: Report Bank Finance, processed (2024)

The data in Table 2 shows that BRI is leading in ROE terms with an average of 18.42% during period 2020-2024, followed by BCA with an average of 17.90%. BRI showed improvement consistent from 14.8% in 2020 to 20.3% in 2024, reflecting superior ability in produce profit from shareholders' capital share. BNI recorded most significant increase in ROE from 3.7% in 2020 to 17.1% in 2024. The increase This drastic shows BNI's success in increase efficiency capital use and recovery performance post-pandemic. Bank Mandiri also showed trend strong positive with ROE increasing from 9.8% to 18.3 % during period analysis. A high ROE reflect ability management in optimize the available capital , making it indicator Power pull investment for investors (Indradewa and Damayanti, 2025). The increase in ROE in all KBMI 4 banks indicates strengthening the position of these banks as attractive investment targets.

3. Net Interest Margin (NIM)

Table 3: Comparison of NIM bank KBMI 4 period 2020-2024 (in %)

Bank	2020	2021	2022	2023	2024	Average
BCA	5.7	5.6	5.5	5.4	5.3	5.50
BRI	6.8	7.0	7.2	6.9	6.7	6.92
BNI	4.5	4.7	4.9	5.0	4.9	4.80
Independent	5.2	5.5	5.6	5.4	5.3	5.40

Data up to Q2 2024 Source: Report Bank Finance, processed (2024)

Based on Table 3, BRI shows superiority significant in NIM with an average of 6.92% during period 2020-2024. This advantage is consistent with BRI's focus on the segment micro, small and medium enterprises that have higher interest margins high . BCA occupies position second with an average NIM of 5.50%, followed by Bank Mandiri (5.40%) and BNI (4.80%). RI achieved NIM peak in 2022 at 7.2% before experience A little decline in 2023 and 2024. BCA shows trend gradual decline in NIM from 5.7% in 2020 to 5.3% in 2024. This decline reflects increasingly fierce competition strict in industry banking and trends decline interest rate.

4. Operating costs to Income Operational (BOPO)

Table 4: Comparison of BOPO bank KBMI 4 Period 2020-2024 (in %)

Bank	2020	2021	2022	2023	2024	Average
BCA	5.7	5.6	5.5	5.4	5.3	5.50
BRI	6.8	7.0	7.2	6.9	6.7	6.92
BNI	4.5	4.7	4.9	5.0	4.9	4.80
Independent	5.2	5.5	5.6	5.4	5.3	5.40

Data up to Q2 2024 Source: Report Bank Finance, processed (2024)

BCA shows efficiency operational highest with the lowest average BOPO during the 2020-2024 period was 56.00%, far more Good compared to other banks. BRI occupies position second with an average BOPO of 68.10%, followed by Bank Mandiri (69.68%) and BNI (73.66%). All KBMI 4 banks show trend BOPO decline which indicates improvement efficiency operational. BNI recorded the most significant BOPO improvement from 84.5% in 2020 to 66.9% in 2024, indicating the success of the efficiency program implemented management. BOPO is indicator strong for bank profitability because reflect efficiency operational and capability management in control costs (Sutardiyanta and Nugraha, 2024). BCA's advantages in efficiency operational become factor main supporting high profitability in a way consistent.

4.2. Factors That Influence Performance Differences

1. Market Segmentation and Business Models

Difference significant in performance profitability The four KBMI 4 banks are influenced by the market segmentation and business model of each bank. BCA has customer focus retail and corporate with a strong transaction base. BCA's business model focuses on fee-based income from service transaction give stability not too much income affected by fluctuations interest rate. BRI has dominance in the segment micro and SMEs that have higher interest margins high, support BRI's superiority in NIM terms. This business model allows BRI to have the highest ROE although efficiency its operations are not as good as BCA. BNI has excellence in financing corporation and transactions international, while Bank Mandiri have a larger customer base diversified. Difference This market segmentation affects structure income, expenses operational, and ultimately impact on the ratio profitability of each bank.

2. Efficiency Operational

BCA shows superiority in efficiency operational through extensive digitalization and automation. BCA 's investment in technology information and development of digital platforms contribute significant to efficiency operations reflected in the lowest BOPO ratio among KBMI 4 banks. BRI also showed improvement efficiency through digital transformation, especially in the segment micro. The BRILian Future program launched in 2021 aims to improve efficiency through automation and digitalization service micro (Report) BRI Annual Report, 2021). BNI and Bank Mandiri show repair efficiency significant operational during period analysis, but Still left behind compared to BCA. Difference efficiency this operation becomes factor key influencing profitability of each bank.

3. Management Risk Credit

Difference significant seen in quality assets and NPL (Non-Performing Loan) ratio where BCA has the lowest NPL. The approach BCA conservative in giving credit become factor main supporting quality superior assets and costs more backup low. BRI, with a focus on the segment more micro risky, has a small NPL more tall However still under control through approach management comprehensive risk. The difference in management risk This credit affects cost backup and ultimately impact on the profitability of each bank.

4. Funding Strategy

BCA has superiority in low cost funds (CASA) which reached more of 70% of total third party funds third (Report) BCA Annual Report , 2023). This provides superiority cost more funding low compared to other banks. BRI, BNI, and Mandiri Bank own higher CASA ratio low, each around 60-65% (Report BRI, BNI, and Mandiri Annual Report, 2023). Differences in structure This funding affects cost of funds and ultimately impact on the net interest margin and profitability of each bank.

4.1. Profitability Ratio with Stock Performance

Table 5: Correlation coefficient between ratio probability with stock price performance

Ratio	Correlation Coefficient
ROA	0.76
ROE	0.82
NIM	0.61
BOPO	-0.72

Source : Processed data

Analysis correlation show that ROE has correlation highest with performance price stock ($r = 0.82$), followed by ROA ($r = 0.76$), BOPO ($r = -0.72$), and NIM ($r = 0.61$). Strong correlation between ROE and price share indicates that investors provide attention more.

5. Conclussion

Based on analysis ratio profitability which includes ROA, ROE, and NIM against the four banks in Core Capital Bank Group 4 (BCA, BRI, BNI, and Mandiri), it can be concluded that there is difference performance significant financial interbank. BCA shows most consistent performance in ROA and efficiency matters operational, making it a superior choice. for investors with a profile risk low. BRI is superior in NIM and ROE, reflecting strength in the segment micro and efficient capital management. While that, Mandiri and BNI showed trend steady increase, indicating existence repair structural and potential growth term length. This analysis shows that the investment strategy in the sector banking cannot be One approach for all, but rather need consider profile investor risk, consistency profitability, as well as direction growth of each bank. Digital transformation, pressure regulations, and market dynamics are also factor external needs be noticed in compile portfolio bank stocks.

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