DIJEFA:
Dinasti International Journal of Economics, Finance & Accounting
E-ISSN: 2721-303X
P-ISSN: 2721-3021
https://dinastipub.org/DIJEFA dinasti.info@gmail.com +62 811 7404 455
DOI: https://doi.org/10.38035/dijefa.v6i3
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The Influence of Operational Costs And Operational Revenues (BOPO), Debt To Equity Ratio (DER), and Capital Adequacy Ratio (CAR) On Profitability In Banking Companies Listed On The Indonesia Stock Exchange (IDX) For The 2018-2023 Period

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Abstract: This study investigates the influence of the Operational Costs to Operational Revenues Ratio (BOPO), Debt to Equity Ratio (DER), and Capital Adequacy Ratio (CAR) on the profitability of Indonesian banks listed on the Indonesia Stock Exchange (IDX) during the period from 2018 to 2023. Employing a quantitative approach and multiple linear regression analysis, the research reveals that BOPO has a significant negative impact on profitability, indicating that higher operational costs lead to diminished profitability. In contrast, both DER and CAR exhibit significant positive effects, highlighting that increased leverage and adequate capital can enhance profitability. The study applies purposive sampling, selecting 25 banks based on specific criteria, and relies on secondary data from financial reports. Classical assumption tests—such as normality, multicollinearity, autocorrelation, and heteroscedasticity—verify the reliability of the data. The findings demonstrate that BOPO, DER, and CAR collectively account for 45% of the variation in profitability, while the remaining 55% is attributed to external factors. These results align with previous studies emphasizing the critical roles of operational efficiency, leverage management, and capital adequacy in driving bank profitability. This study provides valuable insights for bank executives, investors, and policymakers, underscoring the importance of efficient cost control, balanced leverage, and sufficient capital to ensure financial stability and profitability within the banking sector.

Keywords: BOPO, DER, CAR, Profitability, Banking Company

INTRODUCTION

Banks play a vital role in the economy, acting as financial intermediaries between those with surplus funds and those in need of capital. They facilitate payment systems and heavily rely on public trust, making financial stability crucial to their operations. The economic development of a nation is often reflected in the performance of its banking sector. Despite this significance, banks encounter operational challenges that can undermine public trust and overall financial health. Profitability serves as a key indicator of a bank's performance,

influenced by internal factors such as the Operational Costs to Operational Revenues Ratio (BOPO), Debt to Equity Ratio (DER), and Capital Adequacy Ratio (CAR) (Sari et al., 2022). BOPO is an essential measure of operational efficiency, where a lower ratio signifies better cost management. However, its impact on profitability varies across studies. For instance, while some research suggests that higher operational efficiency enhances profitability, other studies indicate that a low BOPO does not always guarantee substantial profits (Afiroh & Sulistyowati, 2022). These contradictions highlight the complexities of operational efficiency in banking.

Similarly, DER, which assesses a bank's leverage, yields conflicting results regarding profitability. Some studies reveal a positive relationship, suggesting that increased leverage can boost profitability by enabling banks to utilize borrowed capital for expansion (Ardhefani et al., 2021). Other research, however, indicates that excessive leverage may heighten financial risks, leading to either minimal or negative impacts on profitability (Zeuspita & Yadnya, 2019). These differing findings emphasize the need for a more nuanced understanding of how leverage affects bank performance.

CAR, which evaluates a bank's capital adequacy, is often regarded as a stabilizing factor that fosters confidence among investors and consumers. A higher CAR implies that a bank is better prepared to manage financial risks, enhancing trust and stability. Yet, the relationship between CAR and profitability varies across studies, with some identifying significant benefits (Sari et al., 2022), while others report no notable correlation (Syakhrun et al., 2019).
Acknowledging the discrepancies and gaps in prior research, this study seeks to reevaluate the impact of BOPO (Operational Costs to Operational Revenues Ratio), DER (Debt to Equity Ratio), and CAR (Capital Adequacy Ratio) on the profitability of Indonesian banks listed on the Indonesia Stock Exchange. Through this endeavor, the research aims to provide a more comprehensive understanding of these dynamics, ultimately contributing to the broader discourse on banking performance and economic stability. Such insights are crucial for stakeholders, including bank executives, investors, and policymakers, as they navigate the financial landscape.

The reviewed literature highlights the intricate and diverse relationships between financial ratios and bank profitability, underscoring the complexity of this field. For instance, Afiroh & Sulistyowati (2022) revealed that Third-Party Funds and Operational Efficiency negatively affect profitability, whereas Credit Distribution shows no significant impact. Similarly, Sitompul & Nasution (2019) found that BOPO negatively affects Return on Assets (ROA), while CAR, NPF (Non-Performing Financing), and FDR (Financing to Deposit Ratio) have no significant influence on the profitability of Islamic banks. Related studies by Insan Aji et al. (2022) showed that NIM (Net Interest Margin) positively affects ROA, while LDR (Loan to Deposit Ratio) has no effect, and BOPO again demonstrates a negative impact on profitability.

Delving further into these relationships, Ferly et al. (2023) demonstrated that CAR positively influences NIM and ROA, while BOPO negatively impacts NIM but positively affects ROA, with NIM acting as a mediator in the relationship between CAR, BOPO, and profitability. Conversely, Rembet & Baramuli (2020) concluded that CAR significantly impacts ROA, whereas NPL (Non-Performing Loans), NIM, BOPO, and LDR do not. Additionally, Ardhefani et al. (2021) found that DER positively influences ROA, whereas the Current Ratio (CR) does not. Zeuspita & Yadnya (2019) reported that CAR positively impacts ROA, but NPL and DER negatively affect it. Amanda (2019) observed that CR positively impacts profitability, whereas Cash Turnover, Receivable Turnover, and Inventory Turnover do not significantly contribute. Similarly, Syakhrun et al. (2019) concluded that CAR, BOPO, and NPF negatively influence profitability, while FDR positively affects it. Finally,

Kusumastuti & Alam (2019) found that BOPO significantly affects ROA, whereas CAR and NPF do not.

Collectively, these findings underscore the inconsistent and multifaceted nature of the factors influencing bank profitability, highlighting the need for further research to better understand these dynamics and their implications for the banking sector.

Based on this foundation, the study aims to: (1) Analyze the impact of BOPO on profitability in banking companies listed on the Indonesia Stock Exchange (IDX) for the period 2018–2023. (2) Examine the effect of DER on profitability in the same set of companies over the specified period. (3) Evaluate the effectiveness of CAR in influencing profitability. Overall, this research aspires to provide an in-depth perspective on how these key financial ratios affect banking profitability in Indonesia.

METHOD

This study employs a quantitative approach, emphasizing theoretical exploration and numerical measurement of variables, which are subsequently analyzed using statistical techniques. Grounded in a theoretical framework, the research aims to establish fundamental insights and determine the significance of relationships between the examined variables.

The research design is both descriptive and explanatory, focusing on identifying causal relationships between independent and dependent variables (Sekaran, 2014). The dependent variable is profitability, measured by Return on Assets (ROA), while the independent variables include BOPO (Operational Costs to Operational Revenues Ratio), DER (Debt to Equity Ratio), and CAR (Capital Adequacy Ratio). ROA is calculated by dividing net profit after tax by total assets; BOPO evaluates operational efficiency by comparing operational costs to operational revenues; DER assesses the ratio of debt to equity; and CAR measures the adequacy of a bank's capital to manage risks.

The population of this study comprises all banking companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2023. The sample includes 25 companies selected through purposive sampling, based on criteria such as the absence of mergers, availability of audited financial reports, and completeness of data. Data is derived from secondary sources, specifically financial statements obtained from the IDX website and the banks' official websites. The study performs classical assumption tests, including normality, multicollinearity, autocorrelation, and heteroskedasticity, to ensure data reliability.

Statistical analysis consists of an F-test to evaluate the collective impact of independent variables, a t-test to assess individual effects, and the coefficient of determination (R^2) to measure the explanatory power of the model. Multiple linear regression analysis is utilized to explore relationships between variables, expressed through the equation: $ROA = \alpha + \beta 1BOPO + \beta 2DER + \beta 3CAR + e$. This methodology aims to provide a comprehensive understanding of the factors influencing banking profitability in Indonesia.

RESULTS AND DISCUSSION

Research Data

This study relies on secondary data sourced from the Indonesia Stock Exchange (IDX), focusing on the financial statements of banking companies listed on the IDX from 2018 to 2023. The sampling method applied is purposive sampling, which involves selecting samples based on specific criteria rather than random selection. These criteria were established by the researcher to identify banking companies listed on the IDX within the designated timeframe.

As a result of this sampling method, the study includes the following banking institutions: PT Bank MNC Internasional Tbk, Bank Capital Indonesia, Bank Central Asia, PT Bank Mestika Dharma, Bank Negara Indonesia Tbk, Bank Rakyat Indonesia (Persero) Tbk, Bank Tabungan Negara (Persero) Tbk, Bank Danamon Indonesia Tbk, PT Bank Ganesa Tbk, Bank

Pembangunan Daerah Jawa Barat dan Banten Tbk, Bank Pembangunan Daerah Jawa Timur, PT Bank Maspion Tbk, Bank Mandiri (Persero) Tbk, Bank Bumi Arta Tbk, Bank Cimb Niaga Tbk, PT Bank Maybank Indonesia Tbk, Bank Permata Tbk, Bank Sinarmas Tbk, Bank Tabungan Pensiunan Nasional Tbk, Bank Mayapada Internasional, PT Bank China Construction Bank Indonesia, Bank Mega Tbk, PT Bank OCBC NISP Tbk, Bank Pan Indonesia Tbk, and PT Bank Woori Saudara Indonesia Tbk. These companies were chosen based on their listing status and the availability of relevant data throughout the study period.

Data Analysis

Descriptive Analysis

Table 1. Descriptive Statistics of Research Variables

Variabel	*Minimum*	*Maximum*	*Mean*	*SD*
Profitabilitas (ROA)	0,04	11,10	1,9165	1,71224
Biaya Operasional dan Pendapatan Operasional (BOPO)	43,80	119,43	81,0713	13,25492
Debt to Equity Ratio (DER)	155,98	1607,86	570,0357	253,49465
Capital Adequacy Ratio (CAR)	10,78	106,41	26,8233	13,20580

Sumber: Hasil Olah Data Statistik Deskriptif, 2024.

Based on Table 1, the following insights can be derived: The average profitability (ROA) is 1.9165, with a minimum value of 0.04, a maximum value of 11.10, and a standard deviation of 1.71224 across 150 observations. The proximity of the mean ROA to its standard deviation indicates low variability in the data. The average Operational Costs to Operational Revenues Ratio (BOPO) is 81.0713, with a minimum of 43.80, a maximum of 119.43, and a standard deviation of 13.25492 over 150 observations. The closeness of the mean BOPO to its standard deviation suggests minimal data dispersion. The average Debt to Equity Ratio (DER) is 570.0357, with a minimum of 155.98, a maximum of 1607.86, and a standard deviation of 253.49465 for 150 observations. The average DER's proximity to its standard deviation reflects low data deviation. Lastly, the average Capital Adequacy Ratio (CAR) is 26.8233, with a minimum of 10.78, a maximum of 106.41, and a standard deviation of 13.20580 over 150 observations. The similarity between the mean CAR and its standard deviation highlights low variability in the data. In summary, all variables exhibit low dispersion, as their means closely align with their respective standard deviations.

Data Quality Testing Normality Test

Normality Test

The normality test assesses whether the dependent and independent variables in the regression model follow a normal distribution. A successful regression model requires data that is either normally distributed or approximately normal (Ghozali, 2016). The Kolmogorov-Smirnov test is used to evaluate normality. The probability value serves as the decision criterion: if it exceeds 0.05, the regression model aligns with the assumption of normality; otherwise, it does not. The normality test conducted via the Kolmogorov-Smirnov method yielded the following results:

Table 2. Normality Test Results

Variabel	Sig.	Nilai Kritis	Keterangan
Residual	0,967	0,05	Normalitas

Sumber: Lampiran Hasil Uji Asumsi Klasik, 2024.

The Kolmogorov-Smirnov test findings reveal a probability value of 0.967, which exceeds 0.05, indicating that the regression model adheres to the normality assumption.

Multicollinearity Test

The multicollinearity test examines whether the independent variables are linearly correlated, which would violate the assumptions of standard regression. Multicollinearity occurs when independent variables have an exact linear relationship, making it challenging to isolate their individual effects on the dependent variable. This study employs the Variance Inflation Factor (VIF) approach to identify multicollinearity. A VIF value of ≥ 10 indicates multicollinearity, whereas a VIF value of < 10 suggests the absence of multicollinearity. The results of the VIF test are presented below:

Table 3. Multicollinearity Test Results

Persamaan	VIF	Nilai Kritis	Keterangan
BOPO	1,041	10	Tidak terkena multikolinearitas
DER	1,428	10	Tidak terkena multikolinearitas
CAR	1,380	10	Tidak terkena multikolinearitas

Sumber: Lampiran Hasil Olah Data Regresi Linier Berganda, 2024.

The results of the multicollinearity test, conducted using the VIF method, indicate that all VIF values are below 10. This demonstrates the absence of multicollinearity among the independent variables, ensuring that the regression analysis is unbiased. The lack of multicollinearity confirms that the independent variables are not linearly interrelated in a way that would distort the analysis.

Autocorrelation Test

Autocorrelation arises when error terms in one time period correlate with those in another, suggesting non-random patterns. This issue can result from factors such as inertia, data manipulation, model specification errors, the cobweb phenomenon, or the inclusion of lagged variables. In this study, autocorrelation is identified using the Durbin-Watson test. The decision criteria are as follows:

- If the calculated d-value is below dL or above (4 - dL), the null hypothesis (Ho) is rejected, indicating autocorrelation.
- If the d-value falls between dL and (4 - dL), Ho is accepted, indicating no autocorrelation.
- If the d-value lies between dL and dU or between (4 - dU) and (4 - dL), the presence of autocorrelation remains inconclusive.
- Regression analysis yielded a Durbin-Watson statistic of 1.889. With n = 150, k = 3, and a significance level (α) of 5%, the critical values are dL = 1.693 and dU = 1.774, yielding (4 - dU) = 2.226 and (4 - dL) = 2.307.

Table 4. Autocorrelation Test Results

Tingkat Autokorelasi (DW)	Jenis Autokorelasi
(4 -DW.L) < DW < 4	Ada Autokorelasi negatif
(4 -DW.U)< DW< (4 –DW.L)	Tanpa kesimpulan
1,774 < 1,889 < (2,226)	Tidak Ada Autokorelasi
DW.L < DW < DW.U	Tanpa Kesimpulan
0 < DW < DW. L	Ada Autokorelasi positif

Sumber: Lampiran Hasil Olah Data Regresi Linier Berganda, 2024.

As indicated by the table, the Durbin-Watson statistic of 1.889 lies within the Ho acceptance range, confirming that the model does not exhibit autocorrelation.

Heteroscedasticity Test

Homoscedasticity implies that the variance (σ^2) of the error terms remains constant across all observations of X. Heteroscedasticity occurs when the variance of the dependent variable (Y_i) increases with the variance of the independent variables (X_i), leading to unequal variance in Y_i (Ghozali, 2016). In this study, heteroscedasticity was evaluated using the Glejser method, with a probability value greater than 0.05 indicating no heteroscedasticity (Ghozali, 2016):

Table 5. Heteroscedasticity Test Results

Variabel	Sig.	Nilai Kritis	Keterangan
BOPO	0,070	0,05	Homoskedastisitas
DER	0,574	0,05	Homoskedastisitas
CAR	0,545	0,05	Homoskedastisitas

Sumber: Lampiran Hasil Olah Data Uji Asumsi Klasik, 2024.

The probability values obtained from the heteroscedasticity test using the Glejser method are all greater than 0.05, indicating that the estimated model is free from heteroscedasticity.

Multiple Linear Regression Analysis

Table 6. Multiple Linear Regression Analysis

Variabel	Koefisien Regresi	Standart Error	t-statistik	Sig.
Konstanta	9,764	0,752	12,988	0,000
BOPO	-0,078	0,008	-9,632	0,000
DER	0,002	0,000	3,157	0,002
CAR	0,024	0,009	2,542	0,012
R^2	: 0,450			
Adj. R^2	: 0,438			
$F_{statistik}$	: 39,754, Sig = 0,000.			
$DW_{statistik}$	: 1,889			
N	: 150			

Sumber: Hasil Olah Data Regresi Linier Berganda, 2024.

The results of the multiple linear regression analysis can be expressed mathematically as follows: ROA = 9.764 - 0.078 BOPO + 0.002 DER + 0.024 CAR. This equation illustrates the influence of the independent variables (BOPO, DER, and CAR) on the dependent variable (ROA). The regression coefficients indicate that if BOPO, DER, and CAR are all set to zero, profitability (ROA) would equal 9.764%. Furthermore, a 1% increase in BOPO results in a 0.078% decrease in ROA, assuming all other factors remain constant. Meanwhile, a 1% increase in DER leads to a 0.002% rise in ROA, and a 1% increase in CAR produces a 0.024% improvement in ROA, under the same conditions.

Statistical and Hypothesis Testin

a. F-Test

The F-test is applied to assess the combined influence of the independent variables BOPO, DER, and CAR on profitability (ROA). The hypotheses for this test are formulated as follows:

H_0: $b_1 = b_2 = b_3 = 0$, indicating that BOPO, DER, and CAR have no significant impact on ROA.

H_a: $b_1 \neq b_2 \neq b_3 \neq 0$, indicating that the variables significantly affect ROA.

The testing criteria are as follows:

- If the F-statistic is below the critical F-table value, H_0 is rejected, suggesting that BOPO, DER, and CAR collectively have no significant effect on ROA.
- If the F-statistic equals or exceeds the F-table value, H_0 is accepted, signifying that these variables collectively have a significant influence on ROA.

The analysis indicates a significance value (Sig.F) of 0.000, which is below the 0.05 significance threshold. Consequently, H_0 is rejected, and H_a is accepted. This confirms that BOPO, DER, and CAR collectively exert a significant influence on ROA.

b. T-Test

The T-test evaluates the individual impact of BOPO, DER, and CAR on profitability (ROA), assuming all other variables remain constant. Based on statistical analysis using SPSS for Windows, the results are as follows:

Table 7. T-Test

Variabel	t-statistik	Sig.
BOPO	-9,632	0,000
DER	3,157	0,002
CAR	2,542	0,012

Sumber: Hasil Olah Data Regresi Linier Berganda, 2024

The results of statistical analysis using SPSS for Windows are as follows: BOPO has a t-statistic of -9.632 and a significance value of 0.000, DER has a t-statistic of 3.157 and a significance value of 0.002, while CAR has a t-statistic of 2.542 and a significance value of 0.012. For BOPO, the significance value of 0.000, which is below the 0.05 threshold, leads to rejecting H_0 and accepting H_a, confirming a significant negative impact of BOPO on ROA. For DER, the significance value of 0.002, also below 0.05, results in rejecting H_0 and accepting H_a, indicating a significant positive impact of DER on ROA. Similarly, for CAR, the significance value of 0.012, which is below 0.05, causes H_0 to be rejected and H_a to be accepted, signifying a significant positive effect of CAR on ROA. Collectively, these findings highlight the distinct and significant impacts of BOPO, DER, and CAR on ROA.

c. Determinant Coefficient Test R^2

The regression analysis conducted using the Ordinary Least Squares (OLS) method produces an R^2 (coefficient of determination) value of 0.450. This demonstrates that 45.0% of the variation in the dependent variable, profitability (ROA), is explained by the independent variables: BOPO, DER, and CAR ratios. The remaining 55.0% of variation is attributed to factors outside the model.

The conclusion must be linked to the title and answer the research formulation or objectives. Do not make statements that are not adequately supported by your findings. Write down improvements made to industrial engineering or science in general. Don't create further discussion, repeat abstracts, or simply list research findings. Don't use bullet points, use paragraph sentences instead.

DISCUSSION

Operational Costs to Operational Revenues (BOPO) and Profitability

The multiple linear regression analysis demonstrates a significant negative relationship between the BOPO ratio and profitability (ROA), indicating that an increase in BOPO results in reduced profitability. This conclusion aligns with prior studies conducted by Hanafia & Karim (2020), Simatupang & Franzlay (2018), and Wibisono & Wahyuni (2017), all of which found that BOPO negatively impacts profitability. According to efficiency theory, higher operational efficiency optimizes profitability. Achieving operational efficiency entails minimizing operational costs, which in turn maximizes operational revenues and supports more stable or improved profitability levels.

Effective management of operational efficiency enables banks to function more effectively and serve customers more efficiently. As suggested by Afiroh & Sulistyowati (2022), operational efficiency implies that the costs incurred in generating profits are smaller than the returns obtained from asset utilization. Reducing operational costs while increasing operational revenues can positively influence bank profitability. BOPO serves as a key indicator of a bank's efficiency in its core operations, particularly in credit allocation, based on the funds it collects. This ratio compares operational costs to operational revenues and is used to evaluate a bank's operational efficiency and performance. Since banks primarily function as intermediaries—collecting and disbursing public funds—operational costs and revenues are heavily influenced by interest expenses and revenues. Increased operational costs reduce pre-tax profits, ultimately lowering profitability (Wibisono & Wahyuni, 2017). In conclusion, BOPO significantly negatively affects profitability. A lower BOPO indicates more efficient operational costs, resulting in higher profitability and better financial outcomes.

Debt to Equity Ratio (DER) and Profitability

The analysis shows a significant positive relationship between the Debt to Equity Ratio (DER) and profitability (ROA), suggesting that higher DER levels enhance profitability. This finding is consistent with studies by Wibowo (2016), Anisa & Priyanto (2022), and Ardhefani et al. (2021), which also reported a positive effect of DER on profitability. DER, which measures the ratio of total debt to equity, reflects a company's ability to meet its obligations using its own capital (Firmansyah & Lesmana, 2021). A balanced DER ensures optimal use of internal and external funds. A higher DER signifies greater reliance on debt compared to equity, requiring careful management to avoid excessive fixed costs that could undermine profitability (Risti Cahyani & Irfan Sophan Himawan, 2024).

According to the Modigliani-Miller (MM) theory, increased debt usage, which is typically cheaper than equity due to lower costs, reduces the weighted average cost of capital, even as equity costs rise. The trade-off theory suggests that companies exclusively relying on

debt or entirely avoiding it are equally inefficient. While high DER implies over-reliance on external debt—raising risk, decreasing stock demand, and ultimately reducing profitability—low DER is associated with improved profitability (Rohmawati & Pratama, 2020).

Capital Adequacy Ratio (CAR) and Profitability

The regression analysis also reveals a significant positive relationship between the Capital Adequacy Ratio (CAR) and profitability (ROA), indicating that an increase in CAR leads to higher profitability. This finding is supported by studies conducted by Simatupang & Franzlay (2018), Hanafia & Karim (2020), and Bramandita & Harun (2020), which affirm the positive impact of CAR on profitability. CAR acts as a proxy for capital adequacy, designed to assess whether a bank's capital is sufficient to support its operations efficiently. Higher capital adequacy allows banks to extend more credit, thereby increasing profitability. As CAR improves, a bank's ability to manage risks associated with loans and productive assets also strengthens. In other words, a lower risk profile due to higher capital adequacy enhances operational performance, increases public trust, and ultimately boosts profitability.

Moreover, CAR reflects a bank's capacity to absorb potential losses. When a bank's capital is sufficient to cover its losses, its operational performance improves (Muhammad, 2015). According to the pecking order theory, internal funding is prioritized to minimize issues and costs associated with debt financing. This theory suggests that companies prefer internal funding over external options, following a hierarchy that prioritizes retained earnings and then external equity, such as debt or equity issuance (Ariawan & Solikahan, 2022).

This study investigates the influence of the Operational Costs to Operational Revenues Ratio (BOPO), Debt to Equity Ratio (DER), and Capital Adequacy Ratio (CAR) on the profitability of Indonesian banks listed on the Indonesia Stock Exchange (IDX) during the 2018–2023 period. Using a quantitative approach and multiple linear regression analysis, the findings reveal that BOPO has a significant negative impact on profitability, indicating that higher operational costs lead to reduced profitability. Conversely, DER and CAR have significant positive effects, suggesting that increased leverage and capital adequacy improve profitability. The study employs purposive sampling to select 25 banks based on specific criteria and utilizes secondary data from financial statements. Reliability of the data is confirmed through classical assumption tests, including normality, multicollinearity, autocorrelation, and heteroscedasticity tests. The findings show that BOPO, DER, and CAR collectively explain 45% of the variation in profitability, with the remaining 55% influenced by external factors. These results align with previous research, emphasizing the critical roles of operational efficiency, leverage management, and capital adequacy in enhancing bank profitability. The study provides valuable insights for bank executives, investors, and policymakers by underscoring the importance of efficient cost control, balanced leverage, and adequate capital for maintaining financial stability and profitability within the banking sector.

IMPLICATIONS

The findings of this study hold significant implications for bank management, investors, and policymakers. For bank executives, the study highlights the importance of improving operational efficiency by managing BOPO to reduce costs and enhance profitability. Additionally, maintaining balanced DER is crucial, as it positively influences profitability while minimizing financial risks. Strengthening CAR is equally vital, as it supports risk management while fostering public trust and stability in the banking sector. For investors, these insights can guide decision-making by identifying banks with strong financial health and profitability potential. Policymakers can leverage these findings to develop regulations that promote operational efficiency, balanced leverage, and adequate capital within the banking industry, thereby ensuring long-term financial stability and economic growth.

LIMITATIONS

This study has several noteworthy limitations. First, it focuses exclusively on banks listed on the IDX between 2018 and 2023, which may restrict the applicability of the findings to other regions or time periods. Second, reliance on secondary data from financial statements could introduce bias or errors due to inconsistencies in reporting. Third, the research only examines three financial ratios—BOPO, DER, and CAR—while macroeconomic variables, regulatory changes, and market competition may also impact profitability. Lastly, while purposive sampling is appropriate, it may not fully represent the diversity of the banking sector. Future research could address these limitations by expanding the scope, incorporating additional variables, and utilizing more diverse data sources.

RECOMMENDATIONS

Based on the findings, it is recommended that banks focus on improving operational efficiency by reducing the BOPO ratio through cost-control measures. Additionally, banks should strategically manage DER to balance leverage and maximize profitability while minimizing financial risks. Strengthening CAR is also essential for ensuring adequate capital for risk management and enhancing public confidence. Policymakers should consider implementing regulations that encourage these practices to foster a stable and efficient banking sector. Future research could broaden its scope by incorporating additional variables, such as macroeconomic factors, and exploring a wider sample of banks to provide more comprehensive insights into the drivers of profitability.

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