

The Effect of Net Interest Margin, Loan to Deposit Ratio, and Non-Performing Loans on Profit Growth at PT Bank CIMB Niaga Tbk for the Period 2015-2024

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Abstract: *The banking sector plays an important role in maintaining financial stability and supporting economic growth, while profit growth reflects bank performance. This study aims to analyze the effect of Net Interest Margin (NIM), Loan to Deposit Ratio (LDR), and Non-Performing Loan (NPL) on profit growth at PT Bank CIMB Niaga Tbk for the period 2015–2024. This study uses an associative quantitative approach with secondary data from annual financial reports. The sample consists of 10 observation periods. Data were collected through documentation and analyzed using descriptive statistics, classical assumption tests, multiple linear regression, t-tests, F-tests, and the coefficient of determination using SPSS 27. The results show that NIM has a negative and significant effect on profit growth, LDR has no significant effect, and NPL has a positive and significant effect. Simultaneously, NIM, LDR, and NPL have a significant effect on profit growth, with an adjusted R² of 75.4%, indicating that the model explains 75.4% of the variation in profit growth. These findings indicate that NIM and NPL are significant factors associated with profit growth during the study period.*

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Introduction

The banking sector plays a strategic role in the financial system and economic growth through its intermediary function in collecting and distributing funds. Banks must also maintain financial performance because their operations depend on public trust (Hartono, 2017). In Indonesia, credit growth reached 10.39% year-on-year in December 2024, while the average net interest margin (NIM) decreased from 4.81% in 2023 to 4.62% in 2024 (Financial Services Authority, 2024; Kontan, 2024).

PT Bank CIMB Niaga Tbk also faced fluctuations in profit growth during 2015 to 2024. Profit growth changed from -81.74% in 2015 to 386.51% in 2016, then decreased and fluctuated again to reach 5.30% in 2024. This condition shows that the company's ability to generate profit growth is not yet stable and can be affected by economic conditions, interest rates, the COVID-19 pandemic, and credit risk.



One factor related to profit growth is Net Interest Margin (NIM). According to Kasmir (2021), a higher NIM means a greater net interest income for a bank, potentially increasing profits. CIMB Niaga's NIM has shown a downward trend, from 5.00% in 2016 to 3.68% in 2024. However, research by Yusuf et al. (2022) shows that NIM negatively impacts profit growth, while Syafaat (2021) finds that NIM has no effect on profit growth.

The Loan-to-Deposit Ratio (LDR) is also a factor that can influence profit growth because it reflects a bank's ability to channel third-party funds through credit. According to Ismail (2020), increased credit distribution can increase interest income, but an excessively high LDR can increase liquidity risk. CIMB Niaga's LDR fluctuated from 95.63% in 2015 to 83.62% in 2024. Research by Samosir (2022) indicates an effect of LDR on profit growth, while Fatimah et al. (2022) found that LDR had no effect on profit growth.

Non-Performing Loans (NPLs) are a credit risk indicator that can also impact profit growth. According to Kasmir (2021), a higher NPL means greater credit risk and provisioning costs, which can reduce profits. CIMB Niaga's NPL fluctuated from 3.73% in 2015 to 3.88% in 2016, then declined to 1.83% in 2024. Sinulingga et al. (2023) found that NPLs impact profit growth, while Fadhillah et al. (2022) found that NPLs do not.

Based on these conditions, this study aims to analyze the influence of NIM, LDR, and NPL on the profit growth of PT Bank CIMB Niaga Tbk from 2015 to 2024, partially and simultaneously. This research is important because of the fluctuations in these three ratios, as well as profit growth, and the inconsistencies in previous research results. The novelty of this study lies in the simultaneous examination of these three ratios at PT Bank CIMB Niaga Tbk from 2015 to 2024.

Method

This study uses a quantitative approach with an associative method to analyze the effect of Net Interest Margin (NIM), Loan to Deposit Ratio (LDR), and Non-Performing Loan (NPL) on the Profit Growth of PT Bank CIMB Niaga Tbk for the period 2015 to 2024. The data used are secondary data in the form of financial statements and the company's Annual Report. This approach is used to test the relationship between variables statistically (Sugiyono, 2017:57).

The research instrument is the documentation of PT Bank CIMB Niaga Tbk's financial statements for the period 2015 to 2024. The data collected includes net interest income, productive assets, credit, third-party funds, non-performing loans, total credit, current year profit, and previous year's profit. The NIM measurement refers to Hantono (2017), LDR in Hantono (2017), NPL in Kasmir (2016), and Profit Growth in Harahap (2015).

The research population was all annual financial reports of PT Bank CIMB Niaga Tbk, while the sample consisted of the financial position report and profit and loss report for the period 2015 to 2024. Therefore, the study used 10 observation periods. The determination of the population and sample refers to the concept proposed by Sugiyono (2022:130, 131).

Data was collected through documentation studies, literature reviews, and online data searches. Data were obtained from the financial statements and Annual Report of PT Bank CIMB Niaga Tbk, as well as official sources from the Indonesia Stock Exchange. The collected data was then selected, calculated using formulas for each variable, and organized according to the research period.

The research procedure was carried out by determining the object and period of research, collecting financial reports, calculating NIM, LDR, NPL, and Profit Growth, then processing the data using SPSS version 27. The analysis included descriptive statistics, classical assumption tests, multiple linear regression, t-test, F-test, and coefficient of determination.

Descriptive statistical analysis was used to describe the characteristics of the research data (Muchson, 2017:6). Classical assumption tests include normality, multicollinearity, heteroscedasticity, and autocorrelation. The normality test refers to Ghazali (2018:154), multicollinearity uses tolerance and VIF (Ghozali, 2018:103; Priyatno, 2016:60), heteroscedasticity uses scatterplot (Ghozali, 2018:137), and autocorrelation uses Durbin-Watson (Ghozali, 2018:107).

Multiple linear regression is used to determine the effect of NIM, LDR, and NPL on Profit Growth (Sugiyono, 2017:275). The model used is $Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$, with Y as Profit

Growth, X_1 as NIM, X_2 as LDR, X_3 as NPL, α as constant, β as regression coefficient, and e as error.

Hypothesis testing was conducted through t-test and F-test with a significance level of 0.05. The t-test was used to determine the effect of each independent variable partially, while the F-test was used to determine the effect of NIM, LDR, and NPL simultaneously on Profit Growth (Ghozali, 2018:178; Sugiyono, 2017:257).

The coefficient of determination (R^2) is used to determine the ability of NIM, LDR, and NPL to explain variations in Profit Growth. The R^2 value ranges from 0 to 1, with values closer to 1 indicating a greater ability of the independent variable to explain the dependent variable (Ghozali, 2018:177).

Results and Discussion

Descriptive Statistical Analysis

Table 1 Descriptive Analysis Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
NIM	10	5.00	476.00	351.8000	175.40544
LDR	10	734.00	9764.00	7461.3000	3556.34632
NPL	10	31.00	388.00	279.1000	114.24190
Pertumbuhan Laba	10	-8174.00	38651.00	4776.2000	12891.99172
Valid N (listwise)	10				

Based on Table 1, the results of descriptive statistical analysis show that NIM has a minimum value of 5.00, a maximum of 476.00, a mean of 351.80, and a standard deviation of 175.40544, indicating a relatively stable condition during the study period. LDR has a minimum value of 734.00, a maximum of 9764.00, a mean of 7461.30, and a standard deviation of 3556.34632, indicating a fairly high fluctuation in credit distribution to third-party funds.

NPL has a minimum value of 31.00, a maximum of 388.00, a mean of 279.10, and a standard deviation of 114.24190, so the level of non-performing loans tends to be around the average value. Meanwhile, Profit Growth has a minimum value of -8174.00, a maximum of 38651.00, a mean of 4776.20, and a standard deviation of 12891.99172, which indicates very high variation in profit growth and the presence of periods of significant decline and increase in profits.

Classical Assumption Test

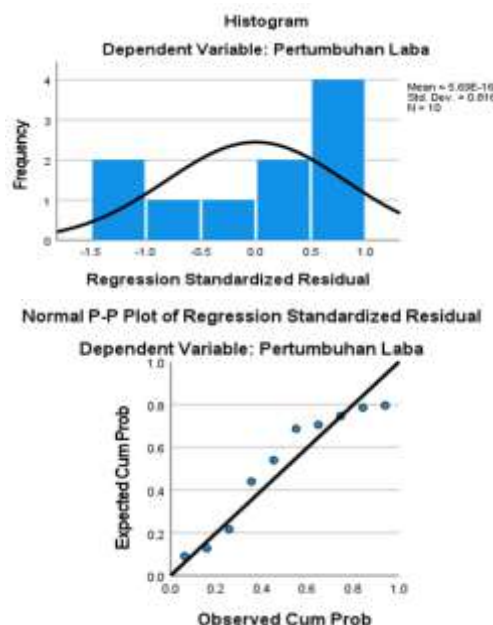


Figure 1 Normality Test of Histogram Data and Normal P-Plot

Table 2 Kolmogorov-Smirnov Test Results

One-Sample Kolmogorov-Smirnov Test				
			Unstandardized Residual	
N			10	
Normal Parameters ^{a,b}				
Mean			.00000000	
Std. Deviation			.521614383	
Most Extreme Differences	Absolute		.325	
	Positive		.198	
	Negative		-.325	
Test Statistic			.325	
Asymp. Sig. (2-tailed) ^c			.166	
Monte Carlo Sig. (2-tailed) ^d	Sig.		.167	
	90% Confidence Interval			
	Lower Bound		.157	
			Upper Bound	.179

a. Test distribution is normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors method based on 10000 Monte Carlo samples with starting seed 2088990.

The table above shows the results of the Kolmogorov-Smirnov Asymp. Sig (2-tailed) test = $0.166 > 0.05$. These results indicate that the data from the population has a normal distribution..

Table 3 Multicollinearity Test Results

Coefficients ^a							
Model	Unstandardized Coefficients			Standardized Coefficients		Collinearity Statistics	
	B	Std. Error		Beta	t	Sig.	Tolerance VIF
1	(Constant)	17951.845	8006.316		2.242	0.066	
	NIM	-71.848	13.562	-0.977	-5.297	0.002	0.801 1.248
	LDR	-1.048	0.624	-0.388	-1.680	0.144	0.922 1.084
	NPL	71.356	20.234	0.832	3.527	0.012	0.849 1.178

a. Dependent Variable: Pertumbuhan Laba

Table 3 presents the results of multicollinearity testing that can be concluded that the results of the multicollinearity test provide an explanation regarding the tolerance score of the NIM variable having a value of 0.801, LDR 0.922 and NPL 0.849 greater than 0.10. While the Variance Influator Factors (VIF) value at NIM 1.248, LDR 1.084, NPL 1.178 is smaller than 10.00, so it can be understood that there is no multicollinearity problem in this study.

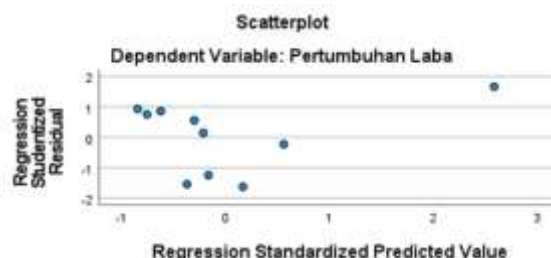


Figure 4 Heteroscedasticity Test (Scatterplot)

Table 4 Autocorrelation Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.914 ^a	0.836	0.754	6388.44499	2.373

a. Predictors: (Constant), NPL, LDR, NIM

b. Dependent Variable: Pertumbuhan Laba

Based on the presentation of the analysis results above, it shows that the results of the durbin watson value of 2.373 durbin watson value with the number of data (N) = 10 and the number of independent variables (K) = 3 and $\alpha = 0.05$ are $dL = 0.5253$ and $dU = 2.0163$ and the value of $4 - dU = 4 - 2.0163 = 1.9837$. It can be concluded that there is no negative or positive autocorrelation because the dU value of 2.0163 is smaller than dW 2.373 and smaller than $(4 - dU)$ of 1.9837 or symbolized by the observation criteria, namely $dU < d \leq dU$.

Simple Linear Regression Analysis

Table 5 Results of Simple Regression Analysis of NIM on Profit Growth

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.678 ^a	0.459	0.391	10056.91049	2.316
a. Predictors: (Constant), NIM					
b. Dependent Variable: Pertumbuhan Laba					
Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	22295.425	7437.724	2.998	0.017
	NIM	-49.799	19.112	-0.678	0.031
a. Dependent Variable: Pertumbuhan Laba					

Based on the Coefficients table, the regression equation $Y = 22,295.425 - 49.799X$ is obtained. The constant value of 22,295.425 indicates that if the NIM is 0, then profit growth is 22,295.425 units. The NIM coefficient of -49.799 indicates a negative relationship, so that every increase in NIM by 1 unit is predicted to reduce profit growth by 49.799 units, assuming other variables are constant.

The R Square value of 0.459 or 45.9% shows that NIM is able to explain 45.9% of the variation in profit growth, while the remaining 54.1% is explained by other variables outside the research model.

Table 6 Results of Simple Regression Analysis of LDR on Profit Growth

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	0.026 ^a	0.001	-0.124	13669.31386		
a. Predictors: (Constant), LDR						
b. Dependent Variable: Pertumbuhan Laba						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5485.928	10491.395		0.523	0.615
	LDR	-0.095	1.261	-0.026	-0.074	0.943
a. Dependent Variable: Pertumbuhan Laba						

Based on the Coefficients table, the regression equation is $Y = 5,485.928 - 0.095X$. The constant value of 5,485.928 indicates that if the LDR is 0, then profit growth is 5,485.928 units. The LDR coefficient of -0.095 indicates a negative relationship, so that every 1 unit increase in LDR is predicted to reduce profit growth by 0.095 units, assuming other variables are constant.

The R Square value of 0.001 or 0.1% indicates that LDR is only able to explain 0.1% of the variation in profit growth, while the remaining 99.9% is explained by other variables outside the research model.

Table 7 Results of Simple Regression Analysis of NPL on Profit Growth

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	0.263 ^a	0.069	-0.047	13191.76858		
a. Predictors: (Constant), NPL						
b. Dependent Variable: Pertumbuhan Laba						
Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-3514.586	11524.284		-0.305	0.788
	NPL	29.705	38.491	0.263	0.772	0.462
a. Dependent Variable: Pertumbuhan Laba						

Based on the Coefficients table, the regression equation is $Y = -3,514.586 + 29.705X$. The constant value of -3,514.586 indicates that if the NPL is 0, then profit growth is -3,514.586 units. The

NPL coefficient of 29.705 indicates a positive relationship, so that every increase in NPL by 1 unit is predicted to increase profit growth by 29.705 units, assuming other variables are constant.

The R Square value of 0.609 or 60.9% shows that NPL is able to explain 60.9% of the variation in profit growth, while the remaining 39.1% is explained by other variables outside the research model.

Multiple Linear Regression Analysis

Table 8 Multiple Linear Regression Analysis

Coefficients ^a							
Model		Unstandardized Coefficients	Standard Error	Standardized Coefficients	t	Sig.	Collinearity Statistics
1	(Constant)	17951.045	8096.316		2.242	0.068	
	NIM	-71.840	13.562	-0.877	-5.297	0.002	0.801 1.248
	LDR	-1.048	0.624	-0.289	-1.680	0.144	0.922 1.084
	NPL	71.356	20.234	0.632	3.527	0.012	0.649 1.178

a. Dependent Variable: Pertumbuhan Laba

Based on the regression equation $Y = 17,951.045 - 71.840(NIM) - 1.048(LDR) + 71.356(NPL)$, it can be seen that the constant value of 17,951.045 indicates that if NIM, LDR, and NPL are 0, then profit growth is 17,951.045 units. The NIM coefficient of -71.840 indicates that every 1 unit increase in NIM will decrease profit growth by 71.840 units, assuming other variables are constant. The LDR coefficient of -1.048 indicates that every 1 unit increase in LDR will decrease profit growth by 1.048 units, assuming other variables are constant. Meanwhile, the NPL coefficient of 71.356 indicates that every 1 unit increase in NPL will increase profit growth by 71.356 units, assuming other variables are constant.

Hypothesis Testing

Table 9 Results of the Determination Coefficient Test

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.914 ^a	0.836	0.754	6388.44499	2.373

a. Predictors: (Constant), NPL, LDR, NIM

b. Dependent Variable: Pertumbuhan Laba

From the table above, it can be understood that the adjusted R Square determination coefficient score shows 0.754, meaning that the adjusted R Square value obtained is 0.754.

Table 10 Partial Test Results (T-Test)

Coefficients ^a							
Model		Unstandardized Coefficients	Standard Error	Standardized Coefficients	t	Sig.	Collinearity Statistics
1	(Constant)	17951.045	8096.316		2.242	0.068	
	NIM	-71.840	13.562	-0.877	-5.297	0.002	0.801 1.248
	LDR	-1.048	0.624	-0.289	-1.680	0.144	0.922 1.084
	NPL	71.356	20.234	0.632	3.527	0.012	0.649 1.178

a. Dependent Variable: Pertumbuhan Laba

Based on the t-test results, NIM has a negative and significant effect on profit growth, with a significance value of $0.002 < 0.05$ and a calculated t of $-5.297 < -2.447$. LDR does not have a significant effect on profit growth, with a significance of $0.144 > 0.05$ and a calculated t of -1.680 between -2.447 and 2.447. Meanwhile, NPL has a positive and significant effect on profit growth, with a significance of $0.012 < 0.05$ and a calculated t of $3.527 > 2.447$.

Table 11 Simultaneous Test Results (F Test)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1250957679	3	416985893.0	10.217	0.006 ^b
	Residual	244873376.5	6	40812229.41		
	Total	1495831056	9			

a. Dependent Variable: Pertumbuhan Laba

b. Predictors: (Constant), NPL, LDR, NIM

Based on the table above, the following information was obtained:

- a. F count is $10.217 > f \text{ table } df1 = 3, df2 = 6$ at 5% level is 4.76
- b. Sig. Value $0.009 < 0.05$

So, simultaneously, the NIM, LDR, and NPL variables simultaneously have a significant effect on profit growth.

Discussion

1. The Effect of Net Interest Margin on Profit Growth

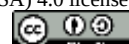
The findings show that Net Interest Margin (NIM) significantly impacts PT Bank CIMB Niaga Tbk's profit growth for the 2015–2024 period, with a negative correlation. This finding is explained by Michael Spence's Signaling Theory. This theory states that the publication of financial information serves as a signal for external parties in assessing a company's condition. However, an increase in NIM is not always accompanied by increased profit growth. This condition can occur when the increase in net interest income is unable to offset increases in operating costs, loan loss provision costs, or other factors that depress the company's profits. The negative influence of NIM on profit growth indicates that the increase in the bank's net interest margin may not necessarily translate into higher profit growth. In some periods, the increase in NIM can be caused by a credit distribution strategy with higher interest rates accompanied by increased credit risk. This risk has the potential to increase provision costs and credit management costs, resulting in a slowdown or decline in the company's profits. Furthermore, profit growth is a measure of year-to-year profit changes. Therefore, even if the NIM is high, profit growth may decline if the profit in the previous period was relatively large or if there was a higher increase in expenses compared to the increase in interest income. The results of previous studies indicate that this research is in line with research conducted by Anggita Hani Nurhanis (2025). This indicates that the bank's ability to generate net interest income from its earning assets can increase the company's profit.

2. The Influence of Loan to Deposit Ratio on Profit Growth

The study results indicate that the Loan to Deposit Ratio (LDR) has no effect on PT Bank CIMB Niaga Tbk's profit growth for the 2015–2024 period. This finding does not completely contradict Signaling Theory, but can be explained through the perspective that signals emitted through the LDR ratio are not always interpreted uniformly by the market. A high level of credit disbursement does not necessarily signal a strong signal to the market if it is not accompanied by adequate improvements in credit quality, resulting in an ambiguous signal received by the market and insufficient to directly drive bank profit growth. The Loan to Deposit Ratio (LDR) in 2020–2023 ranged from 80%, which is why the LDR had no effect on profit growth. Therefore, it can be concluded that a high or low LDR ratio does not affect banking profit growth. This can occur due to various factors, such as bank operational efficiency, revenue diversification strategies, or risk management, which are more dominant in determining profits than the loan to deposit ratio. The findings of this study align with research conducted by Adik A, et al. (2022), who argued that the LDR has no effect on profit growth. This shows that the size of the loan to deposit ratio managed by the bank does not directly affect the company's profit growth in the period studied.

3. The Impact of Non-Performing Loans on Profit Growth

The findings of this study explain that Non-Performing Loans (NPLs) significantly influence the profit growth of PT Bank CIMB Niaga Tbk. Within the framework of Signaling Theory, movements in NPL values send a strong signal to the market regarding the bank's asset quality and operational efficiency. This significant positive effect indicates that fluctuations in the non-performing loan ratio have a real impact in the same direction as the fluctuations in profit growth. This explains that every change in the NPL level is directly responded to by the bank's profitability performance. Although theoretically a high NPL is bad news reflecting credit risk, its significant influence in this study proves that the management of non-performing loans is a crucial factor in determining the efficiency of provision costs. The increase in NPLs, balanced by an effective credit recovery strategy and income from restructuring, is actually able to support the bank's cash flow turnover, thus making a significant contribution to overall profit growth. This finding aligns with risk management theory that the level of non-performing loans is no longer merely an indicator of losses, but rather a sensitive determining variable for management in projecting the company's net



profit targets. The findings of this study are in line with research conducted by Guicheldy et al. (2021) and Samosir et al. (2022) who argued that Non-Performing Loans Affect Profit Growth.

4. **The Influence of Net Interest Margin, Loan to Deposit Ratio, and Non-Performing Loans on Profit Growth**

The findings show that NIM, LDR, and NPL simultaneously significantly influence profit growth. This means that when these three ratios are considered together in the regression model, they significantly impact the increase or decrease in bank profits. The adjusted R Square value obtained is 0.754. This means that the NIM, LDR, and NPL variables can explain profit growth by 75.4%, while 24.6% is explained by other factors outside the study. The findings of this study align with research conducted by Adik A, et al. (2022), who argued that Net Interest Margin, Loan to Deposit Ratio, and Non-Performing Loans simultaneously have a significant effect on profit growth.

Conclusion

Based on the research results, Net Interest Margin (NIM) has a negative and significant effect on the profit growth of PT Bank CIMB Niaga Tbk from 2015 to 2024, Loan to Deposit Ratio (LDR) has no significant effect, while Non-Performing Loan (NPL) has a positive and significant effect on profit growth. Simultaneously, NIM, LDR, and NPL have a significant effect on profit growth with an adjusted R Square value of 75.4%, which indicates that the three variables are able to explain most of the variation in profit growth, while 24.6% is influenced by other factors outside the research model. This finding indicates that the management of interest margins and non-performing loans is an important aspect in maintaining profit growth, while changes in LDR individually have not shown a significant effect during the research period.

This study has limitations because it only used one company, PT Bank CIMB Niaga Tbk, with an observation period of 2015 to 2024 and three independent variables. Therefore, the results cannot be generalized to the entire banking industry. Future research is recommended to expand the object and period of study and consider other variables that can influence profit growth. Practically, the results of this study can be used as a consideration for the management of PT Bank CIMB Niaga Tbk in managing interest income, credit distribution, and credit risk more effectively. NIM management needs to pay attention to the balance between interest income and its accompanying expenses, while NPL management needs to be carried out optimally so that credit risk does not hinder profit growth.

Bibliography

- Arsyad, M., Yusuf, NF, & Alam, S. (2022). Review of banking health on profit growth at PT. Bank Negara Indonesia, Tbk. *Paradoks: Journal of Economics*, 5(3), 155–168.<https://doi.org/10.57178/paradoks.v5i3.383>
- Fatimah, AAS, & Rahmah, NA (2022). The effect of NIM, OER, LDR, and NPL on profit growth. *Journal of Comprehensive Science*, 1(3), 419–438.<https://doi.org/10.59188/jcs.v1i3.66>
- Ghozali, I. (2018). *Multivariate analysis application with IBM SPSS 25 program*. Diponegoro University Publishing Agency.
- Guicheldy, & Sukartaatmadja. (2021). The effect of capital adequacy ratio, non-performing loans, operating costs, and operating income on bank profit growth: A case study of six commercial banks listed on the Indonesia Stock Exchange. *Scientific Journal of Unitary Management*, 9(1), 131–140.
- Hantono. (2017). *The concept of financial report analysis using the ratio approach and SPSS*. CV Budi Utama.
- Harahap, SS (2015). *Critical analysis of financial statements* (Ed. 1–12). PT RajaGrafindo Persada.
- Hartono, J. (2017). *Portfolio theory and investment analysis*. BPFE.
- Ismail. (2020). *Banking management: From theory to application*. Prenadamedia Group.
- Kasmir. (2016). *Financial statement analysis* (1st ed., 9th ed.). Rajawali Press.
- Kasmir. (2021). *Financial statement analysis*. PT RajaGrafindo Persada.
- Kontan Data Center. (2024). *NIM of large-asset banks 2023–2024*. Kontan Data Center.
- Muchson, M. (2017). *Descriptive statistics*. Guepedia.



- Financial Services Authority. (2024). Banking sector update December 2024. Financial Services Authority.
- Priyatno, D. (2016). Learning data analysis tools and how to process them with SPSS. Gava Media.
- Samosir, H., Siregar, R., & Sari, WP (2022). The effect of bank health level on profit growth of banking companies listed on the IDX 2015–2019. *Scientific Journal of Accounting, Finance and Business*, 1(1), 68–79.<https://doi.org/10.31289/jbi.v1i1.1062>
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374.<https://doi.org/10.2307/1882010>
- Sugiyono. (2017). Quantitative, qualitative, and R&D research methods. Alfabeta.
- Sugiyono. (2022). Quantitative, qualitative, and R&D research methods. Alfabeta.
- Syafaat, F. (2021). The effect of CAR, ROA, BOPO, and NIM on profit growth in state-owned banks. *Accounting and Management*, 16(1), 37–53.

