

THE IMPACT OF BANK SIZE, RETURN ON EQUITY AND CAPITAL ADEQUACY RATIO ON NON PERFORMING LOANS

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ABSTRACT

This study aims to examine the effects of Bank Size, Return on Equity (ROE), and Capital Adequacy Ratio (CAR) on Non-Performing Loans (NPL) in conventional banking companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2025 period. NPL is one of the key indicators used to assess loan quality and the level of credit risk faced by banks. A high NPL ratio may weaken banking stability, reduce profitability, and undermine public confidence in the banking sector. Therefore, identifying the determinants of NPL is essential for maintaining sound banking performance and financial stability. The independent variables employed in this study are Bank Size, Return on Equity (ROE), and Capital Adequacy Ratio (CAR), while NPL serves as the dependent variable. This research adopts a quantitative approach using secondary data obtained from the annual financial statements of conventional banks for the period 2021–2025. The data were measured using a ratio scale, and the sample was selected through a purposive sampling technique. A total of 42 conventional banking companies listed on the Indonesia Stock Exchange were included in the study. Panel data regression analysis was used EViews 13 software. The most appropriate estimation model was determined through the Chow test, Hausman test, and Lagrange Multiplier test. The findings reveal that Bank Size, ROE, and CAR also significantly affects NPL. These results suggest that bank size, Return on Equity (ROE), and Capital Adequacy Ratio (CAR) are important factors influencing credit quality and should be carefully managed to control banking credit risk.

Keywords : Bank Size; ROA; CAR; NPL

ABSTRAK

Penelitian ini memiliki tujuan untuk mengetahui Pengaruh Bank Size, Return on Equity (ROE) dan Capital Adequacy Ratio (CAR) terhadap Non Performing Loan (NPL) (pada Perusahaan Sub Sektor Perbankan Konvensional yang terdaftar di Bursa Efek Indonesia (BEI) periode tahun 2021-2025). NPL merupakan salah satu indikator utama yang digunakan untuk mengukur kualitas kredit dan tingkat risiko yang dihadapi oleh bank. Tingginya tingkat Non Performing Loan (NPL) dapat mengganggu stabilitas keuangan bank serta menurunkan kepercayaan masyarakat terhadap industri perbankan. Variabel pada penelitian ini terdiri dari Bank Size, Return on Equity (ROE) dan Capital Adequacy Ratio (CAR) sebagai variabel independen dan Non Performing Loan (NPL) sebagai variabel dependen. Penelitian ini menggunakan pendekatan kuantitatif dengan menggunakan data sekunder berupa laporan keuangan tahunan bank periode 2021-2025. Pengukuran yang digunakan dalam penelitian ini adalah skala rasio. Sampel penelitian diperoleh dengan menggunakan teknik purposive sampling. Jumlah sampel terdiri dari 42 Perusahaan Sub Sektor Perbankan Konvensional terdaftar di BEI yang digunakan dalam penelitian ini. Teknik analisis yang digunakan adalah regresi data panel yang diolah menggunakan software Eviews 13. Pemilihan

model terbaik dilakukan melalui uji Chow, uji Hausman, dan uji Lagrange Multiplier. Hasil penelitian menunjukkan bahwa Bank Size memiliki pengaruh terhadap Non Performing Loan (NPL). Return on Equity (ROE) berpengaruh terhadap Non Performing Loan (NPL). Capital Adequacy Ratio (CAR) berpengaruh terhadap Non Performing Loan (NPL). Temuan pada penelitian ini mengindikasikan bahwa karakteristik ukuran bank, tingkat profitabilitas (Return on Equity), dan kecukupan modal merupakan faktor penting yang perlu diperhatikan dalam upaya menjaga kualitas kredit suatu bank dan mengendalikan risiko kredit perbankan.

Kata Kunci : Bank Size; ROA; CAR; NPL

INTRODUCTION

Banks contribute significantly to the economy by performing an intermediation role, whereby financial resources are collected from depositors and distributed to sectors that support productive investments. In Indonesia, banking supports key economic activities, including consumption, investment, and trade, which together account for approximately 80% of national economic activity (Winarto Yudho, 2020). Banking stability is essential for sustaining economic growth, particularly in Indonesia, where lending activities remain the primary source of bank income (Juliani, 2022). Non-Performing Loans (NPL) have become a major concern in banking and finance because they influence credit distribution, profitability, capital adequacy, and financial stability. High NPL levels may increase credit risk, weaken bank performance, and reflect deficiencies in management and supervision (Ozili K Peterson, 2025). Furthermore, fluctuations in NPL, driven by domestic and global economic conditions, can disrupt financial intermediation and limit access to financing (Menpan, 2025). Therefore, understanding the determinants of NPLs remains crucial for both banking stability and economic development.

Based on Table 1.1, A reduction in NPL ratios was documented among Southeast Asian countries between 2020 and 2024, suggesting improvements in loan portfolio quality and the implementation of stronger risk management frameworks within the banking sector. Singapore, Indonesia, Thailand, and Malaysia recorded lower and more stable NPL levels over the period. In contrast, Vietnam and Cambodia experienced significant increases in NPL ratios, while the Philippines continued to report relatively high NPL levels despite a gradual decline. These findings suggest that although banking stability has improved in several Southeast Asian countries, credit risk

remains a challenge in some economies due to the declining repayment capacity of borrowers.

Differences in NPL levels across countries are influenced by economic conditions, income levels, financial stability, and the effectiveness of credit risk management. Countries with stronger banking systems generally exhibit lower NPL ratios, while higher NPL levels indicate weaker banking sector health (Juliani, 2022). Although Indonesia's banking industry maintained overall credit quality in 2023, several banks still reported NPL ratios above 5%, and KB Bukopin recorded an NPL ratio of 10.8% in 2024 despite having adequate capital. It was observed that adequate capital levels did not necessarily guarantee effective credit risk management. Higher NPL ratios were commonly attributed to shortcomings in credit management practices and were regarded as a significant source of financial instability (Ristić & Jemović, 2021).

Non-Performing Loans (NPL) are influenced by several bank-specific factors, including bank size, profitability, and capital adequacy. Bank size, commonly measured by total assets, reflects a bank's operational capacity and ability to manage its business activities. The research of (Juliani, 2022), (Ahmed et al., 2021), dan (Mai, 2022) have reported mixed findings regarding the relationship between bank size and NPL, with some identifying of (Syina Ibnu & Widyawati, 2025) have significant effect while others found no association.

Profitability, represented by Return on Equity (ROE), was considered a relevant factor in explaining variations in non-performing loan. This measure was utilized to evaluate the extent to which banks were able to generate returns from shareholders' equity. The research of (Erdas & Ezanoglu, 2022), (Juliani, 2022), dan (Mai, 2022) have also produced inconsistent results.

The Capital Adequacy Ratio (CAR) was recognized as a key measure of financial strength within the banking sector. It was used to assess the sufficiency of capital in relation to risk-weighted assets, whereby higher CAR values reflected a stronger ability to withstand potential losses associated with credit risk and other asset-related risks. Empirical evidence of (Syina Ibnu & Widyawati, 2025), (Rohadi Catur Sigit et al., 2024) dan (Ristić & Jemović, 2021) have regarding the effect of CAR on NPL remains inconclusive, and the research (Juliani Meily, 2022) has documented a significant relationship, whereas others have found no significant impact.

Based on the preceding discussion, bank size, ROE, and CAR were identified as key factors that may influence the level of non-performing loans (NPL) in conventional banks. Accordingly, this study was conducted to investigate the effects of bank size, ROE, and CAR on NPL among conventional banking companies listed on the Indonesia Stock Exchange during the 2021–2025 period.

LITERATURE REVIEW

Non-Performing Loans (NPL) represent a key indicator of a bank's ability to manage problematic loans and assess credit quality. As part of the CAMELS framework, NPLs are used to evaluate the quality of a bank's loan portfolio, particularly loans that fail to generate timely principal or interest payments (Kasmir, 2019). According to the Financial Services Authority (OJK), NPL is the ratio of non-performing loan to total loan disbursed. Furthermore, SEOJK No. 24/SEOJK.03/2021 defines credit risk as the risk arising from a borrower's failure to fulfill obligations to the bank. Indonesian Banking Law No. 10 of 1998 states that credit involves the provision of funds under an agreement requiring repayment within a specified period along with interest, while Law No. 7 of 1992 emphasizes the importance of the bank's confidence in the borrower's repayment ability.

According to Kasmir, (2018), Banks were recognized as financial institutions responsible for collecting funds from the public and channeling them to individuals and businesses through lending activities and other financial services. Bank Size, commonly measured by total assets, reflects a bank's operational scale and financial capacity. Bank size was frequently regarded as an important determinant of banking performance and stability, as larger institutions were generally supported by greater financial resources, more extensive lending operations, and stronger risk management frameworks.

Profitability was generally measured through financial ratios designed to assess a company's effectiveness in utilizing its resources, including sales, cash, capital, workforce, and operational networks, to generate earnings (Darmawan, 2020). Return on Equity (ROE) was recognized as one of the most commonly used profitability indicators, reflecting the company's ability to produce net income after tax from the equity invested by (Kasmir, 2019).

Capital Adequacy Ratio (CAR) was recognized as an indicator of capital strength, reflecting the relationship between a bank's capital and its risk-weighted assets. The

ratio was established and monitored in accordance with regulatory provisions governing banking institutions (Kasmir, 2018). According to Riyadi, (2020), CAR represents the minimum capital requirement that banks must maintain to support their operations. CAR reflects a bank's ability to provide funds for business expansion while absorbing potential losses arising from operational and credit risks. In Indonesia, the maintenance of a minimum CAR level of 8% was mandated for banking institutions to ensure adequate capital coverage against potential risks, in line with international standards established by the Bank for International Settlements (BIS).

Previous Studies

Based on prior empirical findings, variations in Non-Performing Loans (NPL) have been found to be significantly associated with bank-specific factors. Juliani, (2022) documented a significant relationship between bank size and NPLs, indicating that the scale of banking operations may influence credit risk exposure. Erdas & Ezanoglu, (2022) found that profitability, as measured by Return on Equity (ROE), significantly affects NPL levels. In addition, (Ristić & Jemović, 2021) reported that Capital Adequacy Ratio (CAR) has a significant impact on NPLs, highlighting the importance of capital strength in managing credit risk. Collectively, these studies provide evidence that bank size, profitability, and capital adequacy are key determinants of banking asset quality.

Hypotesis

Effect of Bank Size on Non-Performing Loans

The size of a bank was commonly proxied by total assets, revenue, or operational scale and was regarded as an indicator of the institution's financial capacity and operational magnitude (Ichsan & Marsono, 2025). Larger banking institutions were generally characterized by stronger capabilities in diversifying risks, monitoring credit quality, and implementing effective risk management practices Juliani, (2022). These characteristics were expected to affect credit risk exposure and the level of Non-Performing Loans (NPLs). Consistent with this argument, empirical evidence presented by Mai, (2022) revealed a significant relationship between bank size and NPL. Accordingly, bank size is considered an important factor in explaining variations in the quality of bank loan portfolios.

H1: Bank Size has a significant effect on Non-Performing Loans.

Effect of Return on Equity on Non-Performing Loan

Profitability was commonly assessed through financial ratios designed to evaluate a firm's ability to generate earnings from its operational activities. Among these measures, Return on Equity (ROE) was widely used to determine the extent to which net income could be generated from shareholders' equity and to assess managerial efficiency in utilizing internal capital resources (Astuti et al., 2021). Improved financial performance and more efficient capital utilization were generally reflected by higher ROE levels. Consequently, banks with stronger profitability were expected to possess greater capacity to manage credit risk and maintain asset quality, thereby influencing the occurrence of Non-Performing Loans (NPL). This argument was supported by the empirical evidence of Erdas & Ezanoglu, (2022), which revealed a significant relationship between ROE and NPL. Therefore, profitability was considered a key factor in explaining credit risk in the banking industry.

H2: Return on Equity has a significant effect on Non-Performing Loan.

Effect of Capital Adequacy Ratio on Non-Performing Loan

Capital Adequacy Ratio (CAR) was recognized as a key indicator of capital strength, reflecting the relationship between a bank's available capital and its risk-weighted assets. The ratio was determined and monitored in accordance with regulatory standards governing the banking sector (Kasmir, 2018). CAR is widely used as an indicator of banking soundness because it reflects a bank's capital strength and its ability to absorb potential losses arising from business activities and credit risk. A higher CAR indicates that a bank has a stronger capital base to withstand risks associated with loan disbursement and other risk-bearing assets (Yunita Afni Nur, 2018). A significant contribution to asset quality preservation and credit risk mitigation was generally attributed to capital adequacy. Evidence from the study conducted by Ristić & Jemović, (2021) revealed that CAR significantly affected the level of Non-Performing Loans (NPLs). As a result, capital adequacy was widely recognized as a critical determinant of NPLs in the banking sector.

H3: Capital Adequacy Ratio has a significant effect on Non-Performing Loans.

RESEARCH METHODS

Method is a method of work that can be used to obtain something. While the research method can be interpreted as a work procedure in the research process, both in

searching for data or disclosing existing phenomena (Zulkarnaen, W., et al., 2020). This study adopted a quantitative verification approach to empirically examine the proposed hypotheses and verify the causal relationships among the research variables. The verification approach was selected because it enables the testing of theoretical assumptions through objective statistical analysis using measurable financial data. Accordingly, this study evaluates whether Bank Size, Return on Equity (ROE), and Capital Adequacy Ratio (CAR) significantly influence Non-Performing Loans (NPL) in conventional banks. The research relied on secondary data obtained from the audited annual financial statements of conventional banks listed on the Indonesia Stock Exchange (IDX) for the 2021–2025 period. These financial reports provide consistent and reliable information required to measure all variables included in the study.

The population comprised all conventional banks continuously listed on the IDX during the observation period, totaling 44 banks. The sample was determined using a purposive sampling technique to ensure that only banks meeting the established research criteria were included. Specifically, the selected banks were required to: (1) remain listed on the IDX throughout 2021–2025; (2) publish complete audited annual financial statements for every year under investigation; and (3) disclose sufficient financial information to calculate Bank Size, ROE, CAR, and NPL. Banks that were delisted or had incomplete financial information were excluded from the analysis.

After applying these selection criteria, the final sample consisted of 43 conventional banks, generating a balanced panel dataset of 215 firm-year observations. Given that the dataset combines cross-sectional observations across banks and time-series observations over multiple years, panel data regression was employed as the analytical method. This technique allows the model to capture both differences among banks and changes occurring over time, thereby providing more robust empirical evidence.

The analytical procedure was conducted in several stages. Initially, descriptive statistics were used to summarize the characteristics of the research data. Subsequently, three panel regression specifications Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) were estimated. The most appropriate model was then identified using the Chow test, Hausman test, and Lagrange Multiplier (LM) test. Diagnostic tests, including multicollinearity and heteroskedasticity

assessments where applicable, were performed before hypothesis testing. Finally, the selected panel regression model was used to test the proposed hypotheses, and the empirical findings were interpreted. All statistical analyses were performed using EViews 13 software.

Operational Definition of Variables

The operational definition of variables explains how each research variable is conceptually defined and empirically measured. This study includes three independent variables, namely Bank Size, Return on Equity (ROE), and Capital Adequacy Ratio (CAR), as well as one dependent variable, namely Non Performing Loans (NPL). The measurements were based on widely accepted financial indicators in banking literature. Data for all variables were obtained from the audited annual financial statements of conventional banks listed on the Indonesia Stock Exchange (IDX). Refer to table 1.1.

RESULTS AND DISCUSSION

Research Data Analysis Results

Descriptive Statistics Analysis

The descriptive statistical analysis revealed that Non Performing Loans had a mean value of 0.078720 and a standard deviation of 0.259133, with observed values ranging from 0.000000 to 3.250114. These results indicate that the average level of non-performing loans among the sampled banks was relatively low, although considerably higher NPL ratios were observed in several institutions.

Bank Size exhibited a mean value of 31.64979 and a standard deviation of 1.749880, with a minimum value of 27.47740 and a maximum value of 37.51686. The mean value was found to be higher than the median, suggesting a slightly positively skewed distribution. This finding indicates the presence of moderate variation in the size of banks included in the sample.

Return on Equity (ROE) recorded a mean value of 0.034082 and a standard deviation of 0.149520. The observed values ranged from -1.239267 to 0.732204. These figures suggest substantial differences in profitability across the sampled banks, as some institutions reported negative returns while others achieved relatively high levels of profitability.

Capital Adequacy Ratio (CAR) has a mean value of 38.26722 and a standard deviation of 42.78059, with values ranging from 8.145346 to 476.7050. The standard

deviation exceeding the mean indicates substantial variation in capital adequacy across banks, suggesting that the sample includes institutions with markedly different capital structures and risk-bearing capacities.

In general, the descriptive statistics revealed considerable heterogeneity in terms of profitability, capital adequacy, and credit risk across the conventional banking institutions included in the sample during the period under study.

Panel Data Model Selection

Chow Test

To determine the suitable panel data model, the Chow test was applied to compare the Common Effect Model (CEM) and the Fixed Effect Model (FEM). The obtained cross-section Chi-square probability value of 0.5082 was found to be greater than 0.05, indicating that the null hypothesis could not be rejected. Consequently, the Common Effect Model (CEM) was selected as the preferred estimation model.

Hausman Test

Based on the Hausman test results, a cross-section random Chi-square probability value of 0.9957 was obtained, which was greater than the predetermined significance level of 0.05. This finding indicated that the null hypothesis could not be rejected, implying that the Random Effect Model (REM) provided a more appropriate specification than the Fixed Effect Model (FEM). Consequently, the REM was chosen as the estimation model for the panel data analysis.

Lagrange Multiplier Test

The findings of the Lagrange Multiplier test showed that the cross-section random Chi-square probability value was 0.0000, which was statistically significant at the 5% level. Accordingly, the null hypothesis was rejected, indicating that the Common Effect Model (CEM) was less suitable than the Random Effect Model (REM). Based on the combined results of the Chow, Hausman, and Lagrange Multiplier tests, the Random Effect Model (REM) was determined to be the most appropriate model for estimating the panel data in this study. According to Napitupulu Basnmandala Runggu et al. (2021), when the Random Effect Model (REM) is selected, classical assumption tests are not required.

Interpretation of Regression Coefficients

1. The estimated constant is 8.309. The positive intercept indicates that when all independent variables—Bank Size, Return on Equity (ROE), and Capital Adequacy Ratio (CAR) are assumed to remain unchanged at zero, the predicted value of Non-Performing Loans (NPLs) is 8.309.
2. The coefficient of Bank Size is -1.033 . This result indicates that a one-unit increase in Bank Size is associated with a decrease of 1.033 units in NPLs, holding other variables constant. In other words, larger banks tend to exhibit lower levels of non-performing loans.
3. The coefficient of Return on Equity (ROE) is -1.707 . This suggests that a one-unit increase in ROE leads to a decrease of 1.707 units in NPLs, *ceteris paribus*. Therefore, banks with higher profitability tend to experience lower levels of credit risk as reflected by lower NPL ratios.
4. The coefficient of Capital Adequacy Ratio (CAR) is -2.854 . This indicates that a one-unit increase in CAR is associated with a reduction of 2.854 units in NPLs, assuming other variables remain constant. Thus, banks with stronger capital adequacy tend to have lower levels of non-performing loans due to their greater capacity to absorb potential credit losses.

Coefficient of Determination Analysis

The regression model produced a coefficient of determination (R-squared) of 0.865280, indicating that approximately 86.52% of the variability in Non-Performing Loans (NPLs) was accounted for by Bank Size, ROE, and CAR. Meanwhile, 13.48% of the variation remained unexplained by the model and was likely influenced by other factors not examined in this study. The magnitude of the R-squared value demonstrated that the model provided substantial explanatory power in capturing the determinants of NPLs among conventional banking institutions.

F-Test

Based on the results of the simultaneous significance test, the F-statistic probability value was recorded at 0.000256, which was below the predetermined significance level of 0.05. Moreover, the computed F-statistic of 6.662258 exceeded the critical F-value of 2.338277. Therefore, it was concluded that Bank Size, Return on

Equity (ROE), and Capital Adequacy Ratio (CAR) simultaneously and significantly affected the level of Non-Performing Loans (NPLs) among the sampled banks.

T-Test

Based on the results of the t-test, Bank Size was found to have a probability value of 0.0031 and a calculated t-statistic of 2.987350, both of which satisfied the criteria for statistical significance at the 5% level. Thus, the hypothesis proposing a significant effect of Bank Size on NPLs was supported. The results for Return on Equity (ROE) showed a probability value of 0.0045 and a t-statistic of 2.173536, indicating that ROE significantly influenced NPLs. Likewise, Capital Adequacy Ratio (CAR) produced a probability value of 0.0036 and a t-statistic of 2.874606, confirming its significant effect on NPLs. Therefore, all independent variables included in the model were found to have statistically significant effects on Non-Performing Loan.

CONCLUSION

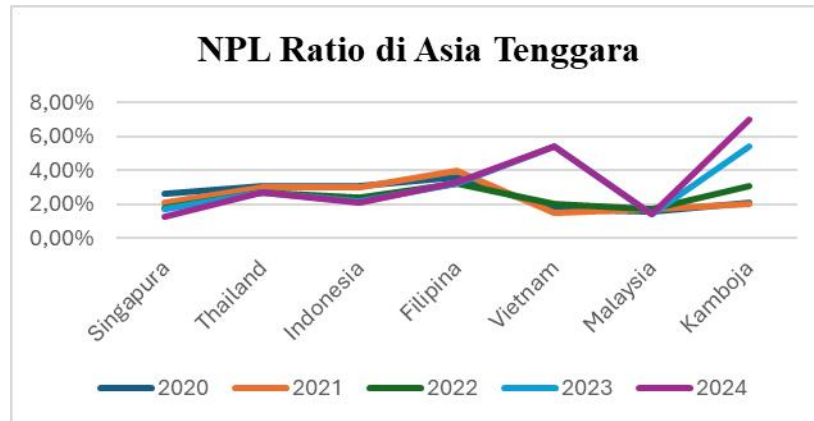
The level of Non-Performing Loans (NPL) was widely associated with several bank-specific characteristics, including bank size, profitability, and capital adequacy. Larger banks were generally expected to possess greater resources and more diversified operations, which could influence their exposure to credit risk. Profitability, represented by Return on Equity (ROE), reflected managerial efficiency in generating returns from shareholders' equity and maintaining loan quality. Meanwhile, Capital Adequacy Ratio (CAR) served as an indicator of a bank's financial strength and its capacity to withstand potential losses resulting from credit and operational risks. Consequently, these factors were considered significant determinants of NPLs in the banking industry.

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GAMBAR DAN TABEL



Gambar 1.1 NPL Ratio di Asia Tenggara Periode 2020-2024
Sumber: Data yang Diolah (2026)

Table 1.1 Operational Definition of Variables

Variable	Operational Definition	Measurement Formula
Non Performing Loans (NPL)	Non Performing Loans (NPL). Non-Performing Loans (NPL) are used to assess a bank's ability to manage credit risk arising from loans that have become non-performing or are in default (Kasmir, 2019).	$NPL = \frac{\text{Non Performing Loans}}{\text{Total Loans}} \times 100\%$
Bank Size	Bank Size refers to the overall scale of a bank's operations and is commonly measured by its total assets (Ichsan & Marsono, 2025).	$\text{Bank size} = \text{Total Assets}$
Return on Equity (ROE)	Return on Equity (ROE) is a profitability ratio that measures a bank's ability to generate net income after tax from shareholders' equity, indicating how efficiently equity is utilized to produce earnings (Kasmir, 2019).	$\text{Return on equity} = \frac{\text{Net Income}}{\text{Total Equity}}$
Capital Adequacy Ratio (CAR)	Capital Adequacy Ratio (CAR) represents the proportion of a bank's capital relative to its risk-weighted assets, as required by banking regulations, and reflects the bank's capacity to absorb potential losses and maintain financial stability (Kasmir, 2018).	$CAR = \frac{\text{Total Capital}}{\text{Risk Weighted Assets}} \times 100\%$

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
1	AGRO	2021	0,007429761	30	-1,239267217	20,23591692
		2022	0,006276991	30	0,033815904	20,23591692
		2023	0,028575457	30	0,007119666	43,73800554
		2024	0,027631888	30	0,014736866	44,28623544
		2025	0,032588949	30	-0,165578651	40,24477016
2	AGRS	2021	0,020467681	30,29036485	0,004262945	39,66614947
		2022	0,018495768	30,5381728	0,024819439	43,44943219
		2023	0,014283738	30,59512871	0,034141546	48,03970764
		2024	0,017734672	30,6298296	0,038686358	39,73321203

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
		2025	0,01876428	30,78404505	0,033950598	34,85725492
3	AMAR	2021	0,01699217	31,58285024	0,003858122	29,84577185
		2022	0,009073466	29,13621913	-0,048920508	82,29652619
		2023	0,021862837	29,10793673	0,05400506	119,2253263
		2024	0,032855665	29,2136365	0,064380736	126,3077866
		2025	0,021728091	29,54256591	0,072951927	98,47496249
4	ARTO	2021	0,003196831	30,14162979	0,01042784	169,9182599
		2022	0,004743136	30,4621909	0,001925637	82,75103748
		2023	0,001767859	30,98242275	0,008659064	61,77327962
		2024	0,008138724	30,98242275	0,015086178	44,40453769
		2025	0,004007729	31,22853464	0,031298005	31,63096021
5	BABP	2021	0,037235714	30,27117499	0,010708713	24,31117928
		2022	0,031009489	30	0,056448431	23,62040229
		2023	0,034595359	30,5295472	0,033852051	30,99665781
		2024	0,034300996	30,66940135	0,025619483	24,52945839
		2025	0,026429246	30,64029306	0,024866209	24,65825279
6	BACA	2021	0	30,73676779	0,0163866	40,51806286
		2022	0,001696044	30,65769478	0,00977297	53,76950632
		2023	0,000694643	30,58900931	0,030016931	35,57228573
		2024	0,000625586	30,74858179	0,01651483	40,07716594
		2025	0,003669856	30,96459455	0,018651005	36,85560238
7	BBCA	2021	0,084079753	34,74444387	0,015499297	26,85272812
		2022	0,060426662	34,81240899	0,184262895	26,84219357
		2023	0,210258149	34,88102265	0,200620837	29,39572119
		2024	0,32723897	34,90985799	0,208690836	29,13675845
		2025	0,013257697	35,00051379	0,204350856	30,36750895
8	BBHI	2021	0,001247047	29,16775008	0,147685809	17,15413994
		2022	0,002759916	30,03426175	0,042117935	27,13222846
		2023	0	30,17658647	0,064569533	28,50382841
		2024	0,001478156	30,26893592	0,064288836	28,50460799
		2025	0,001045641	30,54717289	0,07650655	25,6214547
9	BBKP	2021	0,080497902	32,12207786	-0,1743371	20,25633622
		2022	0,022489011	32,13077914	-0,448665528	19,72065347
		2023	0,067399769	32,06548957	-0,481028249	28,05437424
		2024	0,22750844	32,05076852	-0,794874416	21,02343229
		2025	0,277439458	32,12854886	0,008281773	17,91212257
10	BBMD	2021	0,009045771	30,4025563	0,121119304	48,1185373
		2022	0,005684926	30,43945894	0,114909852	44,23653145
		2023	0,002971028	30,40703046	0,085066411	49,92754965
		2024	0,001699463	30,43909527	0,079277056	44,92631057

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
		2025	0,006330236	30,44435167	0,005870433	46,4934042
11	BBNI	2021	0,009597663	34,50298101	0,086761405	22,88328374
		2022	0,008557967	34,5681768	0,131826592	22,32138031
		2023	0,006490378	34,62188883	0,136404603	21,95205129
		2024	0	34,66082201	0,129612081	21,39829434
		2025	0,014229356	34,84777079	0,114047363	20,66230668
12	BBRI	2021	0,013954036	35,05643725	0,105404924	25,28477087
		2022	0,015142023	35,16238002	0,169442981	23,30081711
		2023	0,196014157	37,51685731	0,190933229	25,22966753
		2024	0,014590153	35	0,187641904	24,41662915
		2025	0,018234449	35,29741685	0,172635878	21,06706948
13	BBSI	2021	0,004173078	28,53829132	0,031686138	201,5718148
		2022	0,002812652	28,82905323	0,024405899	283,3780386
		2023	0,019483341	28,92256859	0,041488219	158,0584075
		2024	0,003129011	29,52585568	0,037367126	82,62969339
		2025	0,004180135	30,13363641	0,053229019	45,30638199
14	BBTN	2021	0,001533555	33,5495609	0,141863973	19,13518051
		2022	0,001175746	33,62784207	0,147236515	20,17356822
		2023	0,017628972	33,71495029	0,114865007	20,07214634
		2024	0,020379018	33,78293327	0,09232894	18,50040647
		2025	0,027730705	33,89972607	0,096689469	19,02433158
15	BBYB	2021	0,003781828	30,05916419	-0,341296901	55,4917473
		2022	0,005906911	30,61134935	-0,210719732	36,78971553
		2023	0,017181039	30,53076774	-0,172486691	27,86199845
		2024	0,02206776	30,48801216	0,005582793	35,30130581
		2025	0,004411924	30,57407856	0,133709912	49,06871688
16	BCIC	2021	0,020935042	30,69055297	-0,167465665	15,81785057
		2022	0,042078576	31	0,023245379	14,85698579
		2023	0,008979877	31,30057279	0,007421276	14,04143665
		2024	0,012494164	31,32634715	0,011600735	13,88872458
		2025	0,015532888	31,3468858	0,022579097	13,08655295
17	BDMN	2021	0,018392	32,88959643	0,03689789	26,82452263
		2022	0,016033696	32,917922	0,072235545	26,34220621
		2023	0,013986799	33,03056084	0,732204018	27,51786292
		2024	0,01144786	33,12134028	0,063499269	26,23500992
		2025	0,009936964	33,25038654	0,072299387	25,37179876
18	BEKS	2021	0,57054348	29,81139462	-0,140219666	41,6835816
		2022	0,378346618	29,60829952	-0,145748872	43,59643608
		2023	0,412275555	29,54806446	0,015931674	44,7230564
		2024	0,512703553	29,65271635	0,023085091	42,99048208

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
		2025	0,04296626	29,9337507	0,027640888	36,73140355
19	BGTG	2021	0,050930158	27,4773978	0,005056566	67,15497341
		2022	0,002755431	29,82469852	0,014669159	106,1037571
		2023	0,011337773	29,87197641	0,032046402	94,37781542
		2024	0,007730737	29,96880442	0,058547909	72,55059348
		2025	0,011834205	30,05939181	0,061556234	78,73061752
20	BINA	2021	0,008218454	30,34278774	0,016745342	53,13799908
		2022	0,00822915	30,65401519	0,047762712	31,12121415
		2023	0,250865028	30,79076725	0,048651948	26,30057078
		2024	0,007531333	30,82710861	0,022653913	25,06702137
		2025	0,147564044	31,07458273	-0,11149183	19,2957235
21	BJBR	2021	0,00740787	32,69586739	0,154283775	17,91046815
		2022	0,006950435	32,83085036	0,152263945	19,40486503
		2023	0,007284089	32,86903359	0,108820962	20,17049491
		2024	0,008459283	33,02446998	0,074097874	18,88693905
		2025	0,013282055	33,03075402	0,076083995	19,74307811
22	BJTM	2021	0,177662402	32,24339857	0,13959622	23,52382091
		2022	3,250114385	32,26605459	0,13479318	24,737545
		2023	0,99974475	32,27401463	0,120985652	25,70557911
		2024	0,903231564	32,40290948	0,08875442	24,36644484
		2025	0,029669876	32,76006054	0,071877474	29,08884024
23	BKSW	2021	0,000839774	30,50467202	-0,392091936	29,92077184
		2022	0,00425866	30,44745249	-0,086115607	38,5922444
		2023	0,008385504	30,09517091	0,014760685	62,23498791
		2024	0,028727196	30,18458848	0,01171644	56,14886436
		2025	0,024887343	30,21155729	-0,010261089	52,22328406
24	BMAS	2021	0	30,28667978	0,060217405	13,69078769
		2022	0	30,33615388	0,036458938	31,54799761
		2023	0	30,60991049	0,009408989	50,12265744
		2024	0	30,73583423	-0,038246809	43,5233259
		2025	0	30,74080644	0,004893676	45,75597448
25	BMRI	2021	0,098849184	35,08435766	0,137548605	19,60303811
		2022	0,0906398	35,22818895	0,178208832	19,45582912
		2023	0,05365272	35,31544612	0,20887973	21,48120087
		2024	0,091181862	35,42552431	0,195119813	20,10098637
		2025	0,075764536	35,57903474	0,187372507	19,358317
26	BNBA	2021	0,029787832	29,79023342	0,019037584	41,87462136
		2022	0,039426009	29,73653137	0,012655802	59,27418378
		2023	0,043648903	29,70940641	0,01809515	72,87195788
		2024	0,036434857	29,73221505	0,02198618	65,06695924

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
		2025	0,033562072	29,77648947	0,002933602	63,2891924
27	BNGA	2021	0,025769356	33,37012878	0,09446322	11,25637381
		2022	0,021224729	33,35706821	0,112570488	11,00912896
		2023	0,014116563	33,44326699	0,132787801	11,96853412
		2024	0,012895847	35,42552431	0,195119813	11,86650491
		2025	0,013176226	35,57903474	0,187372507	12,72293173
28	BNII	2021	0,003823298	32,75922003	0,05888327	27,10414987
		2022	0,002845066	32,71126902	0,05191351	26,6478434
		2023	0,025504608	32,77736999	0,059025458	27,74449309
		2024	0,023409753	32,91513723	0,038407715	25,55467206
		2025	0,018393677	32,89742271	0,051451505	27,3111241
29	BNLI	2021	0,069309469	33,08796076	0,03362475	34,93537226
		2022	0,182118456	33,17272563	0,053523607	34,18879658
		2023	0,227184678	33	0,064642858	35,29071629
		2024	0,185469051	35,49069487	0,08371485	34,64687195
		2025	0,088683421	33,22328461	0,078248428	34,63706509
30	BSIM	2021	0,02407793	31,59510476	0,017358443	29,11574546
		2022	0,003534414	31,48860063	0,030358237	29,489632
		2023	0,011674094	31,59440234	0,009684202	25,33804457
		2024	0,011397673	31,64964366	0,043041078	31,26212197
		2025	0,011321976	31,69567056	0,034734899	35,19685493
31	BSWD	2021	0,089616604	29,07923187	-0,020077196	49,03310068
		2022	0,048235551	29,43273849	0,000480195	63,71238269
		2023	0,212871411	29,44398126	0,017793439	46,26802598
		2024	0,974327367	29,55017018	0,029826297	44,28784337
		2025	0,430490474	29,60193676	0,0137468	43,89657242
32	BTPN	2021	0,010252106	32,88808824	0,08603956	25,5511495
		2022	0,009519932	32,97416702	0,092090472	27,28831751
		2023	0,009585524	32,93655435	0,064977769	29,89960974
		2024	0,010450591	33,11621808	0,013340057	30,02130058
		2025	0,010369733	33,13573525	-0,000415415	29,3089154
33	BVIC	2021	0,063002272	30,84778042	-0,039497911	17,60335216
		2022	0,03258264	30,88649889	0,061120304	21,97342518
		2023	0,214077025	31,01961408	0,026620147	19,94732106
		2024	0,187656553	31,06649075	0,029963251	21,5264568
		2025	0,281792512	31,22012711	0,030155025	23,84482782
34	DNAR	2021	0,043421422	29,67500958	0,005744077	50,87639329
		2022	0,071099822	29,95178116	0,003718706	476,705032
		2023	0,117461262	30,03572507	0,007993276	49,22386576
		2024	0,139495055	30,10507678	0,013749277	46,83135855

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
		2025	0,295590134	30,22759046	0,042127059	42,20240312
35	INPC	2021	0,02937934	30,89402176	-0,042505101	21,77378291
		2022	0,024345904	30,86725081	0,013734245	23,30644563
		2023	0,01465058	30,89309477	0,03518385	24,96121257
		2024	0,020376732	31,03642275	0,035134719	26,35876663
		2025	0,019648739	30,94788782	-0,149303324	27,76564362
36	MASB	2021	0,020773513	30,77530802	0,078905816	26,41927387
		2022	0,027348715	30,68838114	0,089114187	28,52422873
		2023	0,019606237	30,94107155	0,06622024	27,19564926
		2024	0,022162393	30,99450036	0,055124115	23,60330044
		2025	0,018775077	31,13064886	0,049969307	22,75463903
37	MAYA	2021	0,038943989	32,41101973	0,003156826	14,36617773
		2022	0,046710568	32,53912753	0,001876138	11,13251502
		2023	0,036952871	30,30441058	0,001392963	10,78037034
		2024	0,033936624	32,64288349	0,001509687	10,49518883
		2025	0,387238057	30,42723713	0,002678505	10,10200555
38	MCOR	2021	0,025373064	32,02119895	0,000984344	37,95949377
		2022	0,019719984	32,02119895	0,001685691	32,72683612
		2023	0,014078838	30,95792395	0,036891506	37,44952682
		2024	0,020244503	31,14392268	0,04317609	30,71245415
		2025	0,012358113	31,27080772	0,042256978	29,47917222
39	MEGA	2021	0,011931706	32,52046299	0,209358225	27,29928802
		2022	0,008687609	32,58508923	0,19641082	25,41208822
		2023	0,011457963	32,51419866	0,161369732	26,16612154
		2024	0,013942199	32,53566973	0,124210605	25,77408101
		2025	0,013201116	32,57856072	0,134179573	30,49139405
40	NISP	2021	0,016245836	32,99884406	0,077940251	23,04725732
		2022	0,015316094	33,10538439	0,097247277	21,52871432
		2023	0,014540887	33,15151012	0,016380084	23,68602384
		2024	0,012289849	33,2694051	0,017318887	23,59963393
		2025	0,015772906	33,36157593	0,115315536	24,39121624
41	NOBU	2021	0,001172431	30,66321275	0,036372538	19,80795902
		2022	0,003556308	30,72733899	0,055454982	17,41617548
		2023	0,002380034	30,91277228	0,042439389	23,47705767
		2024	0,002820775	31,13735302	0,090165815	23,79389
		2025	0,009473674	31,3498344	0,115472588	22,2983982
42	PNBN	2021	0	32,95140591	0,037426577	29,86149845
		2022	0,109074079	32,98964249	0,064535924	30,06763682
		2023	0,153821593	33,03374377	0,056375838	32,39960065
		2024	0,25244056	33,12801955	0,051128636	34,53484085

No	Kode	Tahun	Y (NPL)	X1 (Bank Size)	X2 (ROE)	X3 (CAR)
		2025	0,096326682	33,10045873	0,066028995	37,49134744
43	SDRA	2021	0,000873962	31,4106908	0,067965326	8,542753428
		2022	0,008479265	31,57259174	0,086657175	8,145345552
		2023	0,010325912	31,63511599	0,067931318	8,165886783
		2024	0,030230962	31,70402006	0,008787776	10,56022075
		2025	0,03031066	31,67204837	-0,099985587	10,03090323

Analisis Deskriptif

Date: 05/26/26
Time: 12:52
Sample: 2021 2025

	NPL	Banksiz	ROE	CAR
Mean	0.078720	31.64979	0.034082	38.26722
Median	0.017629	31.07458	0.037367	27.74449
Maximum	3.250114	37.51686	0.732204	476.7050
Minimum	0.000000	27.47740	-1.239267	8.145346
Std. Dev.	0.259133	1.749880	0.149520	42.78059
Skewness	9.238059	0.657943	-3.722805	6.525217
Kurtosis	107.3855	2.898430	33.29088	58.81524
Jarque-Bera	100671.1	15.60428	8716.229	29433.99
Probability	0.000000	0.000409	0.000000	0.000000
Sum	16.92474	6804.706	7.327708	8227.452
Sum Sq. Dev.	14.37005	655.2849	4.784253	391658.2
Observations	215	215	215	215

Uji Chow

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.355560	(42,169)	0.0000
Cross-section Chi-square	130.388708	42	0.0000

Uji Hausman

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.064714	3	0.9957

Uji Lagrange Multiplier

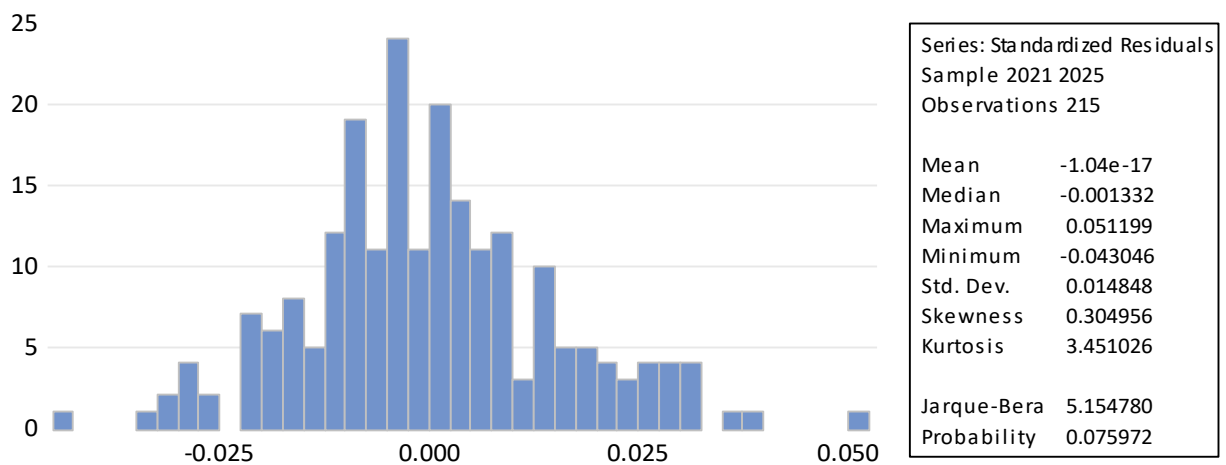
Lagrange Multiplier Tests for Random Effects

Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided
(all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	43.51662 (0.0000)	0.889545 (0.3456)	44.40617 (0.0000)
Honda	6.596713 (0.0000)	-0.943157 (0.8272)	3.997668 (0.0000)
King-Wu	6.596713 (0.0000)	-0.943157 (0.8272)	1.044047 (0.1482)
Standardized Honda	6.983293 (0.0000)	-0.703589 (0.7592)	-0.451995 (0.6744)
Standardized King-Wu	6.983293 (0.0000)	-0.703589 (0.7592)	-1.854344 (0.9682)
Gourieroux, et al.	--	--	43.51662 (0.0000)

Uji Normalitas



Uji Hipotesis

Dependent Variable: NPL
Method: Panel Least Squares
Date: 05/28/26 Time: 12:07
Sample: 2021 2025

Periods included: 5
Cross-sections included: 43
Total panel (balanced) observations: 215

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.083096	0.014785	5.620498	0.0000
BANKSIZE	0.103304	0.345806	2.987350	0.0031
ROE	0.170770	0.078568	2.173536	0.0309
CAR	0.285443	0.099298	2.874606	0.0045
R-squared	0.865280	Mean dependent var		0.032917
Adjusted R-squared	0.735400	S.D. dependent var		0.015535
S.E. of regression	0.149530	Akaike info criterion		-5.549409
Sum squared resid	0.047177	Schwarz criterion		-5.486700
Log likelihood	600.5615	Hannan-Quinn criter.		-5.524072
F-statistic	6.662258	Durbin-Watson stat		0.574227
Prob(F-statistic)	0.000256			