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Policies of Credit Restructuring Relaxation as Moderation Variable on the Relationship between Financial Ratios and Banking Performance in Indonesia

Cita Pelangi Putri Sulistyoadi

Faculty of Economics and Business, Universitas Indonesia, Salemba, Jakarta Pusat, 10440, Indonesia

Abstract

This study investigates the impact of Indonesia's newly implemented restructuring relaxation policies as moderating variables on the banking sector's performance. Utilizing panel data regression analysis on a sample of 105 banks from 2017 to 2022, the research examines the relationships between non-performing loans (NPL), loan loss provisions (LLP), efficiency ratios, and bank return on assets (ROA). The findings indicate that prior to the policy implementation, the efficiency ratio negatively affected government banks' ROA, while both LLP and the efficiency ratio negatively impacted private and foreign banks' ROA. Post-implementation, the interaction between these policies and each variable (NPL, LLP, and efficiency ratio) was found to be significant for government banks, whereas none of them showed significance for private or foreign banks. This research contributes to understanding financial regulation dynamics and provides insights for policymakers and banking institutions navigating market complexities.

Keywords: Credit restructuring relaxation policies; bank performance; non-performing loans; loan loss provisions; efficiency ratios; Indonesia.

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1. Introduction

The credit restructuring relaxation policy is a relaxation of the existing credit restructuring rules. Indonesia first announced this relaxation policy on March 24, 2020, and formally implemented it through POJK No. 11/POJK.03/2020. During the COVID-19 pandemic, Indonesia formulated the policy to assist small and medium-sized enterprises in recovering from the epidemic's effects by adjusting their bank obligations to align with their reduced capabilities, thereby accelerating the national economic recovery. It went against the usual rules for restructuring because the requirements for simplification went from three pillars (payment accuracy, business prospects, and financial conditions) to just one pillar (payability accuracy), and it did not count the restructured credit as a low-quality asset.

On the bank side, this policy can have some impact on the banking sector. First, this policy allows banks to restructure faster to minimize the credit risk (number of non-performing loans, or NPL) that may arise if the debtor's payment is pending due to pandemic difficulties. Second, a relaxation policy that simplifies the restructuring requirements should be able to minimize the costs that banks have to incur in carrying out credit rescue, thereby improving the bank's profitability and performance. But on the other hand, when pandemics occur, banks may have to allocate more resources to deal with problematic credit, and the efficiency ratio (the operating cost-to-operating income ratio) may increase as operational costs increase while income decreases (Degryse & Huylebroek, 2023). Third, by exempting restructured credit from low-quality assets, this relaxation policy can help banks reduce the allocation of loan loss provisions (LLP) to cover the anticipated losses of a low-quality asset.

The banking sector plays a significant role in the national economic recovery. Because of the importance of the banking sector to a country, assessing its performance is critical. Al-Matari et al. (2014), in their research, found that the most dominant company performance measurement uses the return on assets (ROA) ratio, with a presentation of 46% of the total sample surveyed. It shows the use of ROA as a variable that represents bank performance as a dependent variable,

* Corresponding author.
E-mail address: cita.pelangi21@ui.ac.id

which is very common to use. ROA measures bank profitability by calculating the ratio of net income to total assets. ROA is a more reliable indicator of bank profitability than return on equity (ROE) because it focuses on the overall performance of bank assets, not just the share of equity (Ashiru et al., 2023).

Generally, banks use NPL as a major indicator to describe credit risks that could lead to bank failure and contribute to a banking crisis (Reinhart & Rogoff, 2011). The NPL measures the proportion of non-performing loans to the total loans disbursed by the bank. NPL serve as a reflection of a bank's credit quality and the potential risk of blocking or defaulting on its credit portfolio (Abdelaziz et al., 2022). Some studies showed a negative correlation between credit risk and profitability, highlighting the impact of credit risk on bank performance (Annor & Obeng, 2018; EL-Chaarani et al., 2023; Lawrence et al., 2020; Raftis et al., 2024; Yurttadur et al., 2019). While some other research finds a significant positive relationship between credit risk and profitability, which means that even when failing to pay high loans, NPL increase relative to profitability, banks that take higher credit risk also set higher interest rates, fees, commissions, and fines, and thus tend to be profitable (Afriyie, 2013; Saeed MS, 2016).

Loan loss provisions (LLP) are a set-aside fund established by a bank with the aim of covering potential decreases in the value of financial assets, particularly the recorded initial value of loans disbursed. A reduction in the allocation of funds for LLP can provide banks with greater flexibility in reallocating those funds towards more productive purposes. Consequently, banks can redirect their funds to other businesses or investments deemed more profitable. Previous research has indicated that higher LLP levels are associated with lower performance, indicating a negative impact of LLP provisions on profitability (Cicchiello et al., 2022).

The efficiency ratio is the measure used to assess the efficiency of a bank in managing resources and generating profits. This ratio is usually calculated by dividing the bank's operating costs by its operating income. Previous research has shown that banks with higher efficiency levels, as demonstrated by lower efficiency ratios, tend to have greater profits compared to less efficient banks (Raftis et al., 2024). The level of credit risk is one factor that can affect the efficiency ratio (Raftis et al., 2024; Raina et al., 2019).

The implementation of credit restructuring relaxation policies has also been applied during the pandemic by other developing countries such as India, Korea, Malaysia, and Thailand (Ahamed & Mallick, 2017). Despite widespread adoption in various countries, the impact of restructuring relaxation on bank performance remains uncertain due to variations in policy design. Therefore, each country's conditions and implementation should guide the research on the effects of restructuring relaxation. Previous studies on restructuring in general present two different perspectives regarding the application of credit restructuring. One persepective indicates that banks' primary goal in restructuring credit is to maintain the quality of their assets in order to avoid negative impacts on profitability. Additionally, banks can utilize funds that would otherwise be allocated for LLP to facilitate new lending and enhance profitability (Ahamed & Mallick, 2017). On the other hand, other research suggests that banks may use credit restructuring to explore more economical options rather than prolonged legal processes, potentially leading to indications of loan evergreening. This includes issuing new loans to pay, extend, or postpone repayment of existing loans, potentially causing long-term financial difficulties for banks (Tan & Luo, 2021). Based on these factors, researching the impact of Indonesia's newly implemented restructuring relaxation policies on the performance of the banking sector, as the primary entity affected by these policies, becomes an intriguing subject for investigation. This study seeks to delve into this discourse, examining the nuanced interactions between financial ratios, banking performance indicators, and the moderating influence of credit restructuring relaxation policies in Indonesia.

The remaining of this paper is as follows. Section 2 offers a comprehensive literature review on credit restructuring relaxation policies in Indonesia and presents the hypothesis development. Section 3 delineates the research methodology, encompassing sample selection and data collection procedures. Section 4 elucidates the findings derived from panel data regression tests, both with and without moderation, highlighting the impacts of non-performing loans (NPL), loan loss provisions (LLP), and efficiency ratios on bank return on assets (ROA). Lastly, Section 5 concludes the paper by summarizing the key findings and suggesting avenues for future research.

2. Literature Review

2.1. Credit restructuring relaxation policy in Indonesia

Credit restructuring is a remedial effort undertaken in the lending process for debtors who may encounter difficulties in fulfilling their obligations. Debtors eligible for credit restructuring must demonstrate strong business prospects so they can be deemed capable of meeting their obligations after the credit has been restructured. Credit restructuring can

involve changes in terms and conditions, including reductions in loan interest rates, extensions of loan terms, reductions in arrears of loan interest, reductions in arrears of loan principal, addition of credit facilities, and conversion of credit into temporary equity participation (OJK, 2019).

The credit restructuring relaxation policy is a relaxation of the existing credit restructuring provisions. This relaxation policy was first announced on March 24, 2020, and officially enforced through POJK No. 11/POJK.03/2020 regarding the National Economic Stimulus Policy as a Countercyclical Measure Impacting the Spread of Coronavirus Disease. Developed during the COVID-19 pandemic, this policy aims to assist small and medium-sized businesses in recovering from the pandemic's effects, thereby accelerating the national economic recovery. Additionally, the credit restructuring relaxation policy endeavors to shield banks from potential credit risks that may arise if debtors default due to pandemic-related difficulties. Originally scheduled to expire on March 31, 2021, this policy has undergone two extensions: first through POJK No. 48/POJK.03/2020, extending the policy until March 31, 2022, and subsequently through POJK No. 17/POJK.03/2021, extending the policy until March 31, 2023.

The relaxation of the usual restructuring rules involves simplifying the requirements for credit restructuring, typically based on three pillars (payment accuracy, business prospects, and financial conditions), to just one pillar (payment accuracy). Additionally, restructured credits may be exempted from low-quality asset calculations. This relaxation policy helps small and medium-sized entrepreneurs adjust their obligations to banks to their potentially decreased capabilities due to the pandemic. Restructuring schemes that can be provided to debtors include extending the loan term, deferring principal or interest payments, or a combination of both, or significant reductions in principal or interest payments, or a combination of both, if necessary (OJK, 2022).

2.2. Hypothesis development

In recent years, several studies have been conducted on the relationship between credit risk and bank performance. Credit risk is commonly depicted by the non-performing loan (NPL) ratio as a primary indicator of credit risk that leads to bank failures and contributes to banking crises (Reinhart & Rogoff, 2011). The NPL measures the proportion of non-performing loans to the total loans disbursed by the bank. In accordance with Financial Services Authority Regulation No. 40/POJK.03/2019 concerning the Assessment of the Quality of General Banking Assets, credit quality (commonly referred to as collectability) is divided into 5 categories: collectability 1 (performing, with no principal and/or interest arrears), collectability 2 (special mention, with principal and/or interest arrears between 1-90 days), collectability 3 (substandard, with principal and/or interest arrears between 91-120 days), collectability 4 (doubtful, with principal and/or interest arrears between 121-180 days), and collectability 5 (loss, with principal and/or interest arrears exceeding 180 days). Collectabilities 3, 4, and 5 are classified as non-performing loans, or NPL; thus, all loans with principal and/or interest arrears exceeding 90 days fall into the NPL category. Generally, NPL reflects the credit quality and potential default risk of a bank's loan portfolio.

Some studies indicate a negative correlation between credit risk and profitability, highlighting the impact of credit risk on bank performance (Annor & Obeng, 2018; EL-Chaarani et al., 2023; Lawrence et al., 2020; Raftis et al., 2024; Yurttadur et al., 2019). When NPL levels rise, return on assets (ROA) tends to decrease, and vice versa. This suggests that the higher the level of non-performing loans, the lower the bank's ability to generate profits from its assets. Banks bear additional burdens from NPL, such as loss provisions, which reduce the bank's net income. On the other hand, some studies find a significant positive relationship between credit risk and profitability, meaning that even with higher loan defaults, non-performing loans (NPL) increase proportionally with profitability. Banks that take higher credit risks also tend to set higher interest rates, fees, commissions, and fines, and thus tend to be profitable (Afriyie, 2013; Saeed MS, 2016). NPL also have implications for the stability of a country's banking industry, as high NPL have the potential to jeopardize the stability of the banking industry and a country's overall financial system (Abdelaziz et al., 2022). Therefore, the prevention and resolution of NPL are essential elements of financial supervision emphasized in government strategies and plans.

Hypothesis 1. Non-performing loans (NPL) significantly affects bank return on assets (ROA).

In addition to shielding banks from potential credit risks, restructuring relaxation policies also play a crucial role in reducing liquidity risks. Restructuring relaxation policies, which exempt restructured loans from counting as low-quality assets, not only help banks reduce their exposure to troubled loans but also offer additional benefits in managing liquidity. This step enables banks to mitigate the need for loan loss provisions (LLP) allocated as a precaution for potential losses arising from low-quality assets. Banks become more flexible in utilizing the funds initially allocated as

LLP for more productive purposes. Banks, for example, can use the freed-up resources to diversify into other businesses or investments that are more profitable, thereby improving the bank's overall profitability.

According to OJK (2019), the LLP serves as a set-aside fund to offset potential declines in the value of financial assets from their initial recorded value. The calculation concept of LLP, as regulated in the Indonesia Financial Accounting Standards Statement PSAK 71, categorizes credit accounts into three stages based on their risk levels. Credit accounts with principal and/or interest arrears between 0 and 30 days and not in quarantine fall under LLP stage 1, necessitating the formation of reserves for 12 months to anticipate loss risks, provided the credit risk of financial instruments has not significantly increased since the reporting date. Credit accounts in LLP stage 2 have principal and/or interest arrears of more than 31 to 90 days or are in restructuring quarantine. Credit accounts in LLP stage 3 have principal and/or interest arrears of more than 90 days or have collectabilities of 3, 4, or 5 (NPL). According to PSAK 71, reserves must be formed for credit accounts included in stages 2 and 3 for their remaining expected life (lifetime) to anticipate loss risks over the remaining expected life of financial instruments if the credit risk of such financial instruments increases significantly since initial recognition on the reporting date. The LLP calculation is performed at the end of each month, and staging transitions can occur if there is a significant increase in credit risk, specifically default risk.

Previous research has revealed that higher LLP is associated with lower performance, indicating a negative impact of LLP on bank profitability (Cicchiello et al., 2022). Therefore, restructuring relaxation policies may potentially have a positive impact on bank performance through reducing LLP and enhancing flexibility in capital utilization.

Hypothesis 2. Loan loss provisions (LLP) significantly affects bank return on assets (ROA).

During a pandemic, banks may need to allocate more resources to handle troubled loans, leading to an increase in the efficiency ratio as operational costs rise while income decreases (Degryse & Huylebroek, 2023). A bank uses the efficiency ratio as a measure to evaluate its effectiveness in resource management and profit generation. It is typically calculated by dividing a bank's operating expenses by its operating income.

Previous research indicates that banks with higher efficiency levels, as indicated by lower efficiency ratios, tend to have greater profits compared to less efficient banks (Raftis et al., 2024). The level of credit risk is one factor that can influence the efficiency ratio (Raftis et al., 2024; Raina et al., 2019). Relaxation policies that simplify restructuring requirements should minimize the costs that banks have to incur in credit rescue, thereby potentially enhancing bank profitability and performance.

Hypothesis 3. The efficiency ratio significantly affects bank return on assets (ROA).

According to the regulations, relaxation policies on credit restructuring can have several impacts on banking institutions. First, this policy enables banks to carry out restructuring more swiftly to minimize the potential credit risk (number of non-performing loans/NPLs) that may arise if debtors default due to pandemic-induced difficulties. Second, relaxation policies that simplify restructuring requirements should minimize the costs incurred by banks in credit rescue efforts, potentially boosting profitability and overall bank performance. However, during a pandemic, banks may need to allocate more resources to handle troubled loans, leading to an increase in the efficiency ratio as operational costs rise while income decreases (Degryse & Huylebroek, 2023). Third, the exemption of restructured loans from being calculated as low-quality assets under this relaxation policy can assist banks in reducing the LLP allocated to cover anticipated losses.

Hypothesis 4. The credit restructuring relaxation policy moderates the influence of non-performing loans (NPL) on bank return on assets (ROA).

Hypothesis 5. The credit restructuring relaxation policy moderates the influence of loan loss provisions (LLP) on bank return on assets (ROA).

Hypothesis 6. The credit restructuring relaxation policy moderates the influence of the efficiency ratio on bank return on assets (ROA).

3. Research Method and Materials

The study was conducted on 105 (one hundred five) banks in Indonesia. The data used was derived from each bank's annual financial reports from 2017 to 2022. Data from 2017 to 2019 depicted the pre-policy conditions, while data from 2020 to 2022 served as comparative data during the policy's enforcement, ensuring an equal number of observations before and after the policy's implementation.

In this study, the dependent variable used is ROA, which serves as an indicator of company performance. Meanwhile, the independent variables consist of NPL, LLP, and efficiency ratio. In this research, the moderating variable is REG, a dummy variable that represents the implementation of the relaxation policy on restructuring. The dummy variable is utilized to transform qualitative variables into a quantifiable form, with values ranging between 0 and 1. The value of the moderating variable is 0 if the observation was made before the implementation of the relaxation policy on restructuring (2017–2019) and 1 if the observation was made during the policy's enforcement (2020–2022). To enhance the robustness of this research, it also employs control variables that differentiate between government-owned banks and those owned by private entities and foreigners.

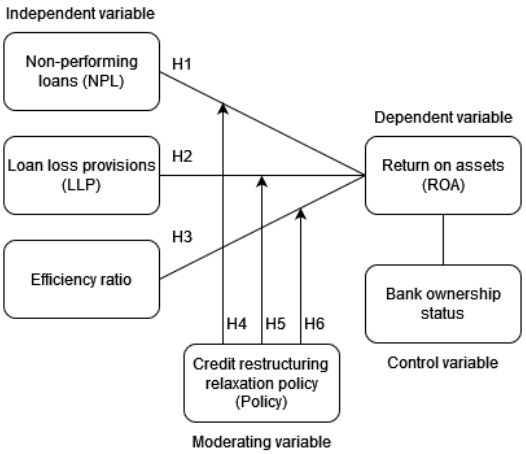

Figure 1. Research framework.

Panel data regression, a regression technique that combines cross-sectional and time-series data, serves as the processing method. The equation used is as follows:

$$ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 LLP_{it} + \beta_3 \text{Efficiency Ratio}_{it} + \beta_4 Policy_{it} \varepsilon_{it} \quad (1)$$

$$ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 LLP_{it} + \beta_3 \text{Efficiency Ratio}_{it} + \beta_4 Policy_{it} + \beta_5 (NPL_{it} \times Policy_{it}) + \beta_6 (LLP_{it} \times REG_{it}) + \beta_7 (\text{Efficiency Ratio}_{it} \times REG_{it}) + \varepsilon_{it} \quad (2)$$

3.1. Descriptive statistics

This analysis is used to describe the characteristics of the sample being tested. The analysis process involves calculating the mean, median, and standard deviation, as well as the maximum and minimum values. To obtain an overall picture of the collected sample and meet the criteria for research sampling, descriptive statistics are necessary. Furthermore, descriptive statistical analysis can help facilitate the reader's understanding of the variables used in the study.

3.2. Test of classical assumptions

Multiple regression analysis must adhere to classical assumptions to prevent biased data outcomes (Rahmadano, 2018). Damodar & Dawn (2009) state that in order to avoid violating the Best Linear Unbiased Estimate (BLUE), one must perform classical assumptions, also known as the Classical Linear Regression Model (CLRM). Some tests for classical assumptions in panel data include the normality test, the multicollinearity test, the heteroskedasticity test, and the autocorrelation test. When issues arise regarding classical assumptions in panel data, it is necessary to rectify the data before conducting final hypothesis testing.

3.3. A panel data estimation model

Panel data estimation includes three models: (1) the Common Effect Model (CEM), which uses merged data across space and time and assumes that the intercept and slope of each individual stay the same; (2) the Fixed Effect Model (FEM), which is different from CEM in that the intercept can change between individuals and over time; and (3) the

Random Effect Model (REM), which uses errors to show differences in individuals and time characteristics instead of the intercept. To determine the appropriate model among the three existing models, some tests need to be conducted.

3.3.1. Chow test

The Chow test is conducted to choose the best model between the FEM and the CEM. In this Chow test, the F-statistic serves as the basis for decision-making. If the F-statistic's probability value exceeds 0.05, select CEM, and if it falls below 0.05, select FEM.

If the result indicates that the selected regression model is FEM, then the Hausman test will be conducted next. However, if the Chow test result shows that the selected model is CEM, the next step is to conduct the Lagrange multiplier test.

3.3.2. Hausman test

The Hausman test is conducted to determine the most suitable regression model between the REM and the FEM. The decision-making process for the Hausman test is based on observing the chi-square's probability value. If the probability value exceeds 0.05, select REM, and if it is less than 0.05, select FEM.

If the results of the Chow test indicate that the selected regression model is CEM and the Hausman test indicates that the selected regression model is REM, then the third test, the Lagrange multiplier test, is conducted.

3.3.3. Lagrange multiplier test

The Lagrange multiplier test is conducted to determine the most suitable regression model between the REM and the CEM. The decision-making process for the Lagrange multiplier test is contingent upon observing the probability value associated with the Lagrange multiplier statistic. If the probability value exceeds 0.05, select CEM; conversely, if it is less than 0.05, select REM.

3.4. Hypothesis testing using Moderated Regression Analysis (MRA)

Moderated Regression Analysis (MRA) is a specific form of multiple linear regression where the regression equation contains interaction terms between the independent variables and the moderating variable. This interaction depicts the influence of the moderating variable on the relationship between the independent variables and the dependent variable. While MRA can be applied in various contexts, including panel data analysis, it is not inherently exclusive to panel data regression; it can also be utilized in cross-sectional or time-series data analysis.

4. Results and Discussion

4.1. Descriptive statistics

Table 1. Results of descriptive statistical analysis

	ROA	NPL	LLP	Efficiency ratio	Policy
Mean	1,22	2,92	2,07	88,65	0,50
Maximum	13,58	22,27	37,60	428,40	1,00
Minimum	-15,89	0,00	0,00	0,74	0,00
Std. Dev.	2,57	2,39	2,26	32,29	0,50
Observations	630	630	630	630	630

It is evident from descriptive statistics that the values of the research variables used vary. This indicates that the relaxation policy restructuring has the potential to significantly influence ROA and the independent variables under study. Further analysis using panel data regression is being conducted to confirm these findings more comprehensively.

4.2. Test of classical assumptions

Table 2. Results of classical assumptions testing

Normality test	
Central limit theorem: n > 30 is assumed to be normally distributed	
Multicollinearity test	
Variable	VIF
NPL	1.39
LLP	1.32
Efficiency ratio	1.10
Heteroscedasticity test	
Breusch-pagan sig	0.0000
Autocorrelation test	
Durbin's chi-square sig	0.3528

The test results indicate that there is a violation of the assumption of heteroscedasticity in the regression model, which can affect the interpretation of the results. Therefore, corrective measures will be taken, including the use of robust regression methods that are robust to heteroscedasticity.

4.3. A panel data estimation model

To select the appropriate estimation model for use, several tests were conducted. First, a Chow test was conducted to choose between the Fixed Effect Model (FEM) and the Common Effect Model (CEM). The result shows that the probability of the F-statistic is less than 0.05, rejecting the null hypothesis (H0) and accepting the alternative hypothesis (H1), indicating that FEM is more suitable than CEM. Second, a Hausman test was conducted to choose between FEM and the Random Effect Model (REM). The results show that the chi-square probability is less than 0.05, rejecting H0 and accepting H1, indicating that FEM is more suitable than REM. Finally, the Lagrange multiplier test was not conducted as the model selection has been made with both the Chow and Hausman tests, which both indicate that FEM is more suitable. The result of these tests is that FEM was selected as the most appropriate estimation model for the panel data used in this study.

Table 3. Results of panel data estimation modeling

Model	Test	Probability
FEM vs CEM	Chow	0,0000 (FEM)
REM vs FEM	Hausman	0,0000 (FEM)

4.4. Hypothesis testing

After the FEM model was selected, hypothesis testing was conducted by performing panel data regression tests with the selected model. Regression was conducted twice, both without moderation and with moderation, to explore the relationship between independent variables and ROA before and after the implementation of the credit restructuring relaxation policy.

Table 4. Results of panel data regression tests without moderation

	Government Banks			Private and Foreign Banks		
	Coefficient	Prob.		Coefficient	Prob.	
NPL	-0.0275643	0.331		-0.0234301	0.516	
LLP	-0.0088681	0.574		-0.2673821	0.000	*
Efficiency ratio	-0.0829367	0.000	*	-0.0601815	0.000	*
Constata	8.968469	0.000	*	6.863901	0.000	*
R-squared	0.5615	0.000		0.8033	0.000	

* Significant at $\alpha = 1\%$

Based on the regression results of panel data without moderation for government banks, the coefficient value of the NPL variable shows a negative value of -0.0275643 but is not significant. Similarly, the LLP variable's coefficient value

shows a negative value of -0.0088681 but is not significant. According to Azwar (2005), when a study shows insignificant results, the statistical value is ignored regardless of its magnitude. The efficiency ratio variable in the panel without moderation for government banks has a coefficient value of -0.0829367, which is significant at the 1% level, indicating that this variable has a negative impact on ROA. This result is consistent with the research by Raftis et al. (2024), which indicates that banks with lower efficiency ratios tend to have higher profits compared to those with higher efficiency ratios. The panel without moderation for government banks reveals an R-squared coefficient of 0.5615, indicating that 56.15% of the independent variables effectively explain the dependent variable, with variables outside the model accounting for the remaining 43.85%.

In the panel without moderation for private and foreign banks, the coefficient value of the NPL variable shows a negative value of -0.0234301 but is not significant. However, the LLP and efficiency ratio variables have negative coefficient values of -0.2673821 and -0.0601815, respectively, which are significant at the 1% level, indicating that both variables have a negative impact on ROA. This is consistent with the research by Cicchiello et al. (2022), which shows that LLP has a negative impact on bank profitability, and the research by Raftis et al. (2024), which shows that banks with lower efficiency ratios tend to have higher profits compared to those with higher efficiency ratios. The panel without moderation for private and foreign banks reveals an R-squared coefficient of 0.8033, indicating that 80.33% of the independent variables effectively explain the dependent variable, with variables outside the model accounting for the remaining 19.67%.

Table 4. Results of panel data regression tests with moderation

	Government Banks			**Private and Foreign Banks**		
	Coefficient	Prob.		Coefficient	Prob.	
NPL	-0.0785606	0.001	*	-0.040844	0.269	
LLP	0.0004148	0.975		-0.2412287	0.000	*
Efficiency ratio	-0.0876533	0.000	*	-0.0600545	0.000	*
NPL*Policy	0.2906294	0.000	*	0.003712	0.932	
LLP*Policy	-0.141218	0.000	*	-0.004483	0.940	
Efficiency ratio*Policy	-0.0095257	0.000	*	-0.0019888	0.144	
Constata	9.621666	0.000	*	6.94905	0.000	*
R-squared	0.7113	0.000		0.8060	0.000	

* Significant at $\alpha = 1\%$

The panel data regression results for government banks with moderation show that the interaction variable between NPL and the credit restructuring relaxation policy has a value of 0.2906294, which is significant at the 1% level. This means that this variable has a positive effect on ROA. This is consistent with several previous studies, as revealed by Afriyie (2013) and Saeed MS (2016), which suggest that profitability can increase even with high loan defaults. Banks that take higher credit risks also tend to set higher interest rates, fees, commissions, and penalties. There are negative coefficient values of -0.141218 and -0.0095257 for the interaction variable between LLP and the credit restructuring relaxation policy and between efficiency ratio and the credit restructuring relaxation policy. These values are significant at the 1% level, which means that both variables have a negative effect on ROA. The government bank data panel with moderation has an R-squared coefficient of 0.7113, indicating that 71.13% of the independent variables can effectively explain the dependent variable. Variables outside the model account for the remaining 28.87%.

Table 5. Results of hypotheses testing

No.	**Hypothesis**	**Research Findings**	
		Government Banks	**Private and Foreign Banks**
1.	NPL significantly affects the bank's ROA	Not affecting	Not affecting
2.	LLP significantly affects the bank's ROA	Not affecting	Affecting negatively
3.	The efficiency ratio significantly affects bank's ROA	Affecting negatively	Affecting negatively
4.	The credit restructuring relaxation policy moderates the influence of NPL on bank's ROA	Affecting positively	Not affecting
5.	The credit restructuring relaxation policy moderates the influence of LLP on bank's ROA	Affecting negatively	Not affecting
6.	The credit restructuring relaxation policy moderates the influence of the efficiency ratio on bank's ROA	Affecting negatively	Not affecting

In the data panel for private and foreign banks with moderation, the coefficient value of the interaction variable between NPL and the credit restructuring relaxation policy is 0.003712, but it is not significant. There are negative coefficient values of -0.004483 and -0.0019888 for the interaction variables between LLP and the credit restructuring relaxation policy and between efficiency ratio and the credit restructuring relaxation policy. These values are not significant, though. Following the moderation of the credit restructuring relaxation policy in the panel of private and foreign banks, the R-squared coefficient stands at 0.8060, indicating that 80.6% of the independent variables effectively explain the dependent variable, with variables outside the model accounting for the remaining 19.4%. Table 5 presents the overall test results for each hypothesis in this study.

5. Conclusion

The aim of this research was to investigate the impact of Indonesia's newly implemented restructuring relaxation policies as moderating variables of important financial ratios on the banking sector's performance. The findings reveal insightful nuances in the relationship between financial metrics and banking performance, particularly concerning the effects of restructuring relaxation policies.

Prior to the implementation of restructuring relaxation policies, the efficiency ratio had a notable negative impact on the ROA of government banks, whereas both LLP and the efficiency ratio negatively affected the ROA of private and foreign banks. However, post-implementation of restructuring relaxation policies, significant interactions were observed between these policies and each variable (NPL, LLP, and efficiency ratio) for government banks, while none of these interactions showed significance for private or foreign banks.

In government banks, the interaction between NPL and restructuring relaxation policies positively influenced the ROA, indicating potential benefits of the policy in mitigating credit risks. Conversely, the interactions between LLP and restructuring relaxation policies, as well as between efficiency ratio and restructuring relaxation policies, had adverse effects on ROA. These findings underscore the complex dynamics at play and highlight the importance of considering policy interventions in the analysis of banking performance.

While this research primarily focused on financial ratios, it is crucial to acknowledge that company performance encompasses various other dimensions, including risk management, marketing strategies, and environmental factors. Future research endeavors should aim to incorporate these aspects to yield more comprehensive insights into the factors influencing banking performance.

Furthermore, the findings of this study hold practical implications for regulators in designing effective policies to support stability and growth in the banking sector. Understanding the nuanced impact of restructuring relaxation policies allows regulators to tailor interventions more precisely, especially for government-owned banks significantly affected by these policies. Targeted support or assistance can be provided to mitigate potential adverse effects and bolster resilience. Additionally, these findings offer valuable insights for the banking industry in Indonesia as a whole, irrespective of ownership structure. They can serve as a basis for evaluating strategic responses to policy changes or market conditions, thereby enhancing competitiveness and fostering sustainable growth in this dynamic landscape.

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