

Determinants of Capital Adequacy of Rural Banks in Central Java: The Role of Credit Risk, Allowance for Impairment Losses, and the Mediating Effect of Profitability

Yutdi Yuwono*, Jacobus Widiatmoko, Maria Goretti Kentris Indarti

Universitas Stikubank, Indonesia

Email: yutdiyuwono7041@mhs.unisbank.ac.id*, jwidiatmoko@edu.unisbank.ac.id,
kentris@edu.unisbank.ac.id

Keywords:

Capital Adequacy; Allowance for Impairment Losses; Liquidity; Credit Risk; Profitability; Rural Banks

Abstract

The implementation of the Indonesian Financial Accounting Standards for Private Entities (SAK EP) in January 2025 and the mandate for Allowance for Impairment Losses (CKPN) under POJK 1/2024 have placed additional pressure on Rural Bank (BPR) performance, particularly regarding the minimum core capital requirement of IDR 6 billion that must be fulfilled by the end of 2024. This study aimed to examine the effects of credit risk (NPL) and CKPN on capital adequacy (KPMM), with profitability (ROA) as a mediating variable in BPRs in Central Java. Firm size, operational efficiency (BOPO), liquidity (LDR), and a time-period dummy variable representing the period before and after CKPN implementation were included as control variables. The population consisted of all BPRs headquartered in Central Java. Using purposive sampling, the sample criteria included total assets of at least IDR 100 billion, complete financial statements, no recorded losses, and data availability. Path analysis and the Sobel test were used for data analysis. The findings showed that, in the first model, CKPN had a positive and significant effect on ROA, whereas NPL had no significant effect. In the second model, KPMM was positively and significantly affected by CKPN and ROA but was not affected by NPL. Furthermore, the Sobel test indicated that ROA did not mediate the effects of NPL or CKPN on KPMM. In conclusion, the new regulation's provisioning allocation procedures directly strengthened BPR capital resilience and profitability; however, this effectiveness was not achieved indirectly through ROA.

INTRODUCTION

Because it helps absorb losses, reduce insolvency risk, and maintain operational resilience, capital adequacy is a fundamental requirement for bank sustainability (Basel Committee on Banking Supervision, 2011). The sustainability of Rural Banks' (BPRs) intermediation function depends on their capital strength because these institutions mobilize public funds and channel them back into the economy through loans or financing activities (Law Number 10 of 1998; Law Number 4 of 2023). A decline in credit quality may reduce the Minimum Capital Adequacy Requirement (KPMM) of BPRs (Financial Services Authority, 2026) by decreasing interest income, increasing provisioning requirements, and limiting profits as a source of internal capital formation (Birni et al., 2020).

Following the implementation of the Indonesian Financial Accounting Standards for Private Entities (SAK EP) on January 1, 2025, POJK Number 1 of 2024 concerning BPR Asset Quality, and SEOJK Number 21/SEOJK.03/2024, this study became increasingly relevant. The

Allowance for Impairment Losses (CKPN), which is based on expected credit losses, replaced the Allowance for Asset Quality Assessment (PPKA) in the provisioning process. To estimate impairment risks of earning assets, banks are required to consider historical data, current conditions, and forward-looking information, as stipulated by the Financial Services Authority (2024). The implementation of these regulations coincided with the deadline for fulfilling the IDR 6 billion minimum core capital requirement, placing additional pressure on BPRs with poor credit quality in terms of capital adequacy, profitability, and provisioning capacity. The relationship between asset quality, CKPN, profitability, and capital adequacy is further emphasized through the alignment of KPMM calculations under SEOJK Number 2/SEOJK.03/2025.

This condition is also observed among conventional BPRs in Central Java. According to data from the Financial Services Authority, the Non-Performing Loan (NPL) ratio increased from 7.03% in 2019 to 13.86% in 2023, 15.90% in 2024, and 18.79% in December 2025. Meanwhile, Return on Assets (ROA) declined from 2.38% in 2019 to 0.78% in 2023 before increasing to 1.44% in 2024 and 1.81% in December 2025. These trends indicate that increasing non-performing loans have coincided with declining asset profitability performance. Under the CKPN framework, deteriorating credit quality may also lead to increased provisioning costs and reduced retained earnings as a source of internal capital.

Based on financial intermediation theory and capital buffer theory, NPL may reduce KPMM directly by increasing potential losses and indirectly by decreasing ROA due to lower interest income and higher credit resolution and provisioning costs. CKPN may also affect KPMM directly through adjustments to capital components and indirectly through impairment expenses that reduce profitability. Several studies have identified negative effects of NPL and CKPN on profitability and capital adequacy (Rahadian and Permana, 2021; Achmad and Kristijadi, 2021; Tui and Alam, 2023; Zaki and Sudrajat, 2023; Rahmawati et al., 2024). However, other studies have reported positive or insignificant effects (Sutriani and Fermayani, 2018; Safitri and Mukharomahomah, 2023; Mangasa Tua and Manik, 2024). This inconsistency is further supported by research in other industrial sectors showing that variations in financial risk management and profit optimization continue to produce different patterns of influence on corporate capital costs (Pratiwi et al., 2024). Therefore, the relationships among these variables require further investigation.

ROA was appropriately positioned as a mediating variable because profitability strengthens internal capital formation through accumulated earnings. High NPL levels reduce interest income, while increased CKPN suppresses current-period profits; consequently, declining ROA weakens BPRs' ability to increase capital through retained earnings. Previous studies have generally examined these direct relationships separately, whereas research integrating NPL, CKPN, ROA, and KPMM among conventional BPRs in Central Java remains limited. Furthermore, the implementation of SAK EP and asset quality regulations since 2025 has introduced a new regulatory context that may influence the sensitivity of profitability and capital adequacy to credit risk and provisioning requirements.

This study examined the effects of NPL and CKPN on KPMM, both directly and indirectly through ROA, to address this research gap. The novelty of this study lies in its integrated analysis of the pathways from NPL and CKPN to KPMM and the mediating role of ROA within the context of the new BPR regulatory framework. In addition to providing

insights for BPR management regarding credit quality control, CKPN determination, profitability management, and capital planning, the findings are expected to contribute to a better understanding of credit risk transmission and capital provisioning mechanisms.

Theoretical Framework

This study was based on several theoretical perspectives, including risk-based capital theory, financial intermediation theory, agency theory, and capital buffer theory. Risk-based capital theory is a global regulatory framework developed by the Basel Committee on Banking Supervision (BCBS) through the Basel I, Basel II, and Basel III accords. This theory requires banking institutions to maintain minimum capital levels proportional to the risk profile of their assets and operations. Such capital serves as a safety buffer against unexpected losses. Financial Services Authority Regulation (POJK) Number 5/POJK.03/2015 regulates the implementation of this framework for Rural Banks (BPRs) in Indonesia. The regulation requires BPRs to maintain a minimum capital adequacy ratio (KPMM) of at least 12% of Risk-Weighted Assets (RWA). Furthermore, BPRs were required to achieve a minimum core capital requirement of IDR 6,000,000,000.00 by December 31, 2024.

Financial intermediation theory, developed by Diamond (1984), explains the fundamental role of banks as intermediary institutions that connect parties with surplus funds and parties requiring financing. In performing this function, banks reduce information asymmetry through borrower screening, credit monitoring, risk management, and fund allocation to productive activities. The effectiveness of the intermediation function may decline when credit quality deteriorates, as reflected in an increasing Non-Performing Loan (NPL) ratio. An increase in NPL not only reduces interest income and causes certain interest recognition to shift from an accrual basis to a cash basis but also increases the need for Allowance for Impairment Losses (CKPN). The resulting increase in provisioning expenses may raise operating costs, increase the BOPO ratio, and reduce profitability as measured by Return on Assets (ROA). Lower profitability may subsequently reduce banks' ability to generate internal capital through retained earnings and ultimately place pressure on the Minimum Capital Adequacy Requirement (KPMM) ratio.

Agency theory, proposed by Jensen and Meckling (1976), explains the contractual relationship between shareholders as principals and bank management as agents. This relationship is vulnerable to information asymmetry, which may result in adverse selection, referring to limited information available to principals regarding managerial decisions, and moral hazard, referring to opportunistic behavior by agents that conflicts with owners' interests. In banking operations, agency conflicts may occur when management relaxes lending standards to achieve performance targets or personal objectives, thereby increasing credit risk as reflected in higher NPL ratios. This situation may arise because managers have discretion in selecting accounting policies that could benefit their own interests without adequately considering their responsibilities to shareholders, thereby generating agency costs (Widiatmoko et al., 2023; Wicaksono et al., 2024). Increased NPL levels encourage higher CKPN formation, reduce profitability, and weaken banks' ability to strengthen capital adequacy, ultimately affecting shareholder value.

Capital buffer theory, initiated by Marcus (1984), states that banks tend to maintain capital above the regulatory minimum as a preventive measure against unexpected losses. The primary function of this capital buffer is to absorb potential losses arising from economic

downturns or increases in non-performing loans. For BPRs, maintaining capital above the minimum requirement is essential for preserving operational stability and sustaining depositor and market confidence. The mechanisms for capital provision and fulfillment of the minimum core capital requirement for BPRs are regulated through POJK Number 5/POJK.03/2015, as updated by POJK Number 7 of 2026 and SEOJK Number 2/SEOJK.03/2025.

Hypothesis Development

The Effect of Credit Risk (NPL) on Profitability (ROA)

The Non-Performing Loan (NPL) ratio represents the proportion of substandard, doubtful, and loss-category loans to total loans extended and reflects a bank's level of credit risk and earning-asset quality. A high NPL indicates deteriorating credit quality and may reduce profitability as proxied by Return on Assets (ROA). Agency theory explains that conflict between shareholders as principals and bank management as agents may encourage management to assume excessive risk or relax credit standards in order to achieve profit-growth and loan-volume targets. Such behavior reflects moral hazard and management's failure to address information asymmetry in borrower screening, thereby increasing NPL and harming shareholders through a decline in ROA. Financial intermediation theory also emphasizes that banks must monitor borrowers and mitigate default risk. Therefore, a high NPL indicates inefficiency in the intermediation function, places pressure on liquidity, reduces profitability, and weakens the bank's lending capacity. Studies by Suryaningsih and Sudirman (2020) and Surya and Reina (2025) on BPRs in Bali show that NPL has a negative and significant effect on ROA. Adhim and Mulyati (2024) found similar results for commercial banks listed on the Indonesia Stock Exchange. Shkodra et al. (2024), examining commercial banks in Albania, Kosovo, Montenegro, North Macedonia, and Serbia, also demonstrated that an increase in NPL leads to a decline in ROA. Accordingly, the following hypothesis is formulated.

H1: Credit Risk (NPL) has a negative effect on Profitability (ROA) of BPRs in Central Java.

The Effect of CKPN on Profitability (ROA)

Within the framework of Financial Intermediation Theory, banks act as screening and monitoring institutions to reduce information asymmetry between depositors and borrowers. The establishment of the Allowance for Impairment Losses (CKPN) reflects the implementation of delegated monitoring and serves as a prudential instrument for absorbing potential losses and maintaining customer confidence. However, CKPN also represents an intermediation cost that may increase when banks fail to select borrowers accurately. This condition creates a dilemma because banks must establish adequate reserves to maintain stability, while a large provisioning expense may suppress profitability as proxied by Return on Assets (ROA). Hassoon and Smaoui (2024), studying companies listed on the Iraq Stock Exchange, demonstrated that asset impairment negatively affects profitability. This finding is consistent with Alhadab and Alsahawneh (2016), who found that Loan Loss Provision negatively affects the profitability of commercial banks in Jordan. Siregar et al. (2023), examining Islamic Commercial Banks and Islamic Business Units in Indonesia, also found a negative relationship between CKPN and ROA. Based on these arguments and empirical evidence, the following hypothesis is formulated.

H2: CKPN has a negative effect on Profitability (ROA) of BPRs in Central Java.

The Effect of Profitability (ROA) on Capital Adequacy (KPM)

Capital Buffer Theory explains that banks tend to maintain capital above the regulatory

minimum to reduce bankruptcy risk and avoid regulatory sanctions. Adequate KPMM enables banks to operate safely and efficiently, while high profitability strengthens capital through accumulated earnings; thus, ROA has a positive relationship with capital adequacy. This relationship is cyclical because strong profitability increases the capital buffer, while an adequate capital buffer provides management with the flexibility to exploit profitable investment opportunities without violating capital requirements and supports the bank's long-term financial stability. Zaki and Sudrajat (2023), studying conventional commercial banks registered with OJK, and Safitri and Mukharomah (2023), studying Islamic commercial banks, demonstrated that profitability has a positive and significant effect on the capital adequacy ratio. Based on the theoretical foundation and empirical findings described above, the following hypothesis is formulated.

H3: Profitability (ROA) has a positive effect on Capital Adequacy (KPMM) of BPRs in Central Java.

The Effect of Credit Risk (NPL) on Capital Adequacy (KPMM)

Credit risk, proxied by the Non-Performing Loan (NPL) ratio, is one of the factors affecting bank capital adequacy. An increase in NPL indicates deteriorating credit quality and a growing volume of problem loans, thereby increasing the bank's risk of financial distress. This condition reduces interest income and profitability, whereas prior-year profit and current profit are important components of BPR capital formation. Under Financial Intermediation Theory, banks function as intermediaries that conduct screening and monitoring to mitigate default risk. A high NPL reflects the bank's ineffectiveness in performing this function because interrupted cash flows from loan repayments reduce interest income and force the bank to use internal resources to cover losses. The subsequent decline in profit inhibits internal capital formation, narrows the capital buffer, reduces KPMM, and weakens the bank's capacity to absorb future risks. Rahadian and Permana (2021), studying Commercial Banks for Business Activities 1, Achmad and Kristijadi (2021), studying Commercial Banks for Business Activities 3, and Gustika et al. (2021), studying publicly listed private commercial banks in Indonesia, demonstrated that NPL negatively affects capital. The synthesis of the theoretical foundation and empirical findings leads to the following hypothesis.

H4: Credit Risk (NPL) has a negative effect on Capital Adequacy (KPMM) of BPRs in Central Java.

The Effect of CKPN on Capital Adequacy (KPMM)

Banks are required to establish an Allowance for Impairment Losses (CKPN) to cover potential losses on loans extended. An increase in CKPN raises operating expenses, suppresses profitability, and may ultimately weaken bank capital adequacy. Capital Buffer Theory explains that banks maintain capital above the regulatory minimum as a buffer to absorb unexpected losses and avoid bankruptcy costs. Profitability is the principal source of capital-buffer formation; therefore, an increase in CKPN resulting from deteriorating asset quality may reduce profit and narrow the capital buffer. Meanwhile, Risk-Based Capital Theory emphasizes that banks with high-risk assets must provide more capital to cover potential losses. When provisioning costs increase and profitability declines, banks may face difficulty meeting risk-based capital ratios and may restrict lending to maintain KPMM, which may suppress income in the long term. Zaki and Sudrajat (2023), studying conventional commercial banks registered with OJK, and Achmad and Kristijadi (2021), studying Commercial Banks for Business Activities 3, demonstrated that CKPN negatively affects capital. Based on the theoretical explanation and previous empirical findings, the following hypothesis is formulated.

H5: CKPN has a negative effect on Capital Adequacy (KPM) of BPRs in Central Java.

The research model illustrating the relationships among the variables in this study is presented in Figure 1.

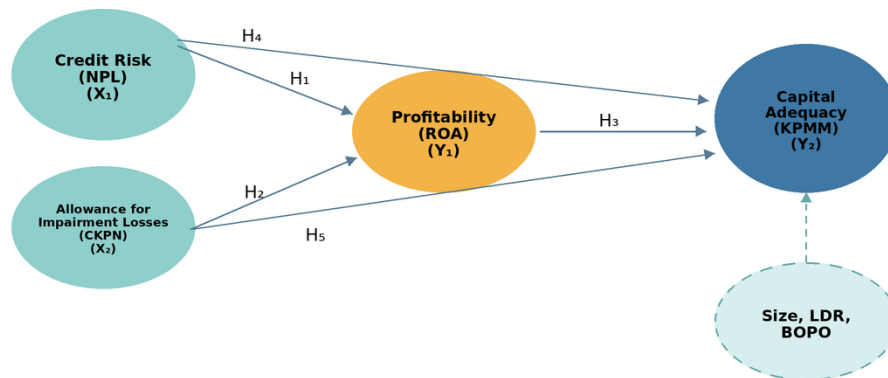


Figure 1. Research Model

Source: Developed for the study (2026)

METHOD

Types of Research and Approaches

This study employed a quantitative research method with a causal research approach to examine the relationships among variables through empirical hypothesis testing. The causal approach was used to analyze the effects of credit risk (NPL) and Allowance for Impairment Losses (CKPN) on capital adequacy (KPM), both directly and indirectly through profitability (ROA) as a mediating variable. This study also applied a verificative approach to test the proposed hypotheses based on empirical data obtained from BPR financial statements and used a descriptive approach to describe the conditions of the research variables during the 2023–2025 observation period.

Population and Research Sample

The population of this study comprised all conventional Rural Banks (BPRs) actively operating in Central Java and officially registered with the Financial Services Authority (OJK) during the 2023–2025 observation period. The sample was selected using a non-probability sampling method with a purposive sampling technique based on the following criteria:

- BPRs headquartered in Central Java Province with total assets of at least IDR 100 billion.
- BPRs that published complete financial statements and did not incur losses during the observation period.
- The financial statements provided complete data for all main variables (NPL, CKPN, ROA, and KPM) and control variables (Size, LDR, and BOPO).

Conceptual and Operational Definitions and Variable Measurement

The conceptual and operational definitions and measurement of all variables used in this study are presented in Table 1.

Table 1. Conceptual and Operational Definitions and Variable Measurement

Variables	Concept Definition	Operational Definition and Measurement	References
Credit Risk (NPL)	Credit risk is the risk arising from the failure of a debtor and/or another party to meet its obligations to the bank.	Measured using the gross Non-Performing Loan (NPL) ratio. $= \frac{\text{Total NPL}}{\text{Total Loans}}$	SEOJK Number 1 of 2019; Achmad and Kristijadi (2021).
CKPN	CKPN is an allowance established for the impairment of financial instruments in accordance with financial accounting standards.	Measured using the ratio of CKPN to total earning assets. $= \frac{\text{CKPN}}{\text{Total Earning Assets}}$	SEOJK Number 29 of 2025; Achmad and Kristijadi (2021).
Profitability	Profitability is the bank's ability to generate profit.	Measured using the Return on Assets (ROA) profitability ratio. $= \frac{\text{Profit before Tax}}{\text{Average Total Assets}}$	SEOJK Number 11 of 2022; Safitri and Mukharomah (2023); Widiatmoko & Indarti (2024).
Capital Adequacy (KPMM)	Capital adequacy is a bank's ability to meet the minimum capital requirement established by the regulator and to maintain sufficient capital to protect the bank from potential losses.	Measured using the Minimum Capital Adequacy Requirement (KPMM) ratio. $= \frac{\text{Capital}}{\text{RWA}}$	SEOJK Number 11 of 2022; Achmad and Kristijadi (2021).
Size	A scale indicating the size of a bank, measured by total assets. Banks with larger assets are considered to have greater operational capacity and profitability.	Size is measured using a ratio. $= \frac{\text{Total Assets}}{1 \text{ Billion}}$	Prastyanti et al. (2024); Pratiwi et al. (2024).
LDR	This ratio is used to assess a bank's liquidity and its ability to meet financial obligations.	Measured using the Loan to Deposit Ratio (LDR). $= \frac{\text{Total Loans}}{\text{Non – Bank Deposits}}$	SEOJK Number 1 of 2019; Safitri and Mukharomah (2023).
BOPO	A ratio measuring a bank's efficiency in controlling operating expenses relative to operating income.	Measured using the ratio of Operating Expenses to Operating Income. $= \frac{\text{Operating Expenses}}{\text{Operating Income}}$	SEOJK Number 11 of 2022; Achmad and Kristijadi (2021); Safitri and Mukharomah (2023).
Pre- and Post-CKPN	CKPN has been effective since January 1, 2025; previously, BPRs used PPKA as their provisioning mechanism.	A dummy variable (D) is added to determine whether the periods before and after CKPN implementation show different relationships with capital adequacy.	

Data Analysis Techniques

Data were analyzed through several stages of descriptive and inferential statistics. Descriptive statistics were used to present an overview, mean, minimum, maximum, and standard deviation of the collected data. Classical assumption tests were conducted to ensure that the regression models were valid and unbiased, including a normality test using Skewness and Kurtosis, a

multicollinearity test, a heteroskedasticity test using the Glejser test, and an autocorrelation test using the Durbin-Watson method. Model and hypothesis testing involved the Goodness of Fit Test, the coefficient of determination test, and the t-test. The Sobel Test was used to assess the strength of the indirect effects of the independent variables on the dependent variable through the mediating variable. This study employed Path Analysis based on panel-data regression, divided into two separate linear equation models.

Equation Model 1 (Testing the effects on the mediating variable ROA):

$$ROA_{it} = \alpha + \beta_1 NPL_{it} + \beta_2 CKPN_{it} + \beta_3 Size_{it} + \beta_4 LDR_{it} + \beta_5 BOPO_{it} + \beta_6 Dummy_{it} + e_{1it}$$

Equation Model 2 (Testing the effects on the dependent variable KPMM):

$$KPMM_{it} = \alpha + \beta_1 NPL_{it} + \beta_2 CKPN_{it} + \beta_3 ROA_{it} + \beta_4 Size_{it} + \beta_5 LDR_{it} + \beta_6 BOPO_{it} + \beta_7 Dummy_{it} + e_{2it}$$

Notes:

ROA	: Return on Assets
NPL	: Non-Performing Loan
CKPN	: Allowance for Impairment Losses
KPMM	: Minimum Capital Adequacy Requirement
Size	: Firm Size
LDR	: Loan to Deposit Ratio
BOPO	: Operating Expenses to Operating Income
α	: Constant
β	: Beta Coefficient
e	: error term

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistical analysis was used to provide a general overview of the research data, including the sample size, minimum value, maximum value, mean, and standard deviation of each variable. Before analysis, the initial dataset consisted of 293 observations. The initial normality test showed that the data were not normally distributed because of outliers. To address this issue, outliers were removed using the Z-score method with a threshold of ± 1.96 . This procedure identified 95 observations as outliers, which were subsequently excluded from the model. Accordingly, the final valid sample, free of outliers, consisted of 198 observations and was shown to satisfy the normality assumption. A summary of the descriptive statistics for the final dataset is presented in Table 2.

Table 2. Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
NPL	1,41	36,14	13,8475	8,47452
CKPN	0,08	56,27	2,9291	4,21582
ROA	0,03	7,69	2,1014	1,20902
KPMM	12,34	63,35	24,9283	6,47648
SIZE	100,69	1940,85	413,3910	339,46864
BOPO	51,99	100,45	84,8400	8,02450
LDR	48,88	171,87	91,3795	20,96036
PREPOST CKPN	0	1	0,30	0,461

Source: Secondary data, processed (2026)

Normality Test

This study used the Skewness and Kurtosis test, with the decision criterion that the data are normally distributed when the Z-score lies between -1.96 and +1.96 at the 5% significance level. Based on the data presented in Table 3, the ZSkewness values for both Models 1 and 2 fall within the range of -1.96 to +1.96; therefore, both models are concluded to be normally distributed.

Table 3. Normality Test

Variables	(N)	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
Unstandardized Residual (Model 1)	198	0,135	0,173	-0,573	0,344
Unstandardized Residual (Model 2)	198	0,175	0,173	-0,706	0,344
Valid N (listwise)	198				

Source: Secondary data, processed (2026)

Multicollinearity Test

The multicollinearity test in this study used the Variance Inflation Factor (VIF) and Tolerance values to detect correlations among the independent variables. The decision criterion was that no multicollinearity exists when $VIF < 10$ and $Tolerance > 0.10$. Based on Tables 4 and 5, the multicollinearity test results for the ROA and KPMM dependent-variable models confirm that the independent variables do not have excessively strong linear relationships with one another. All variables in the tables have VIF values far below 10 and tolerance values above 0.10. Thus, the regression models in this study passed the multicollinearity test.

Table 4. Multicollinearity Test for Model 1

Model	Variables	Unstand arized Coeffici ents B	Unstand arized Coefficients Std. Error	Stand ar dized Coeffici ents Beta	t	Sig.	Collinear ity Statistics Toleranc e	Collinear ity Statistics VIF
1	(Constant)	13,798	,270		51,115	<,001		
	NPL	-,003	,003	-,023	-,980	,328	,608	1,646
	CKPN	,048	,006	,167	8,621	<,001	,866	1,155
	SIZE	,000	,000	-,092	-4,912	<,001	,927	1,078
	BOPO	-,143	,003	-,949	-42,925	<,001	,665	1,504
	LDR	,004	,001	,072	3,659	<,001	,840	1,191
	PREPOST	,311	,049	,118	6,403	<,001	,950	1,053
	CKPN							

a. Dependent Variable: ROA

Source: Secondary data, processed (2026)

Table 5. Multicollinearity Test for Model 2

Mod el	Variables	Unstand ar dized Coefficient s Beta	Unstand ar dized Coefficients Std. Error	Stand ar dized Coefficients Beta	t	Sig.	Collinear ity Statistics Tolerance	Collin earity Statisti cs VIF
1	(Constant)	33,642	4,491		7,491	<,001		
	NPL	-,040	,056	-,052	-,709	,479	,611	1,638
	CKPN	,731	,100	,477	7,284	<,001	,771	1,297
	ROA	,917	,382	,171	2,400	,017	,653	1,532
	SIZE	,001	,001	,055	,933	,352	,957	1,045

Model	Variables	Unstandardized Coefficients Beta	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
	BOPO	-,055	,047	-,068	-1,168	,244	,974	1,027
	LDR	-,085	,019	-,275	-4,462	<,001	,870	1,150
	PREPOST CKPN	-,669	,831	-,048	-,804	,422	,941	1,063

a. Dependent Variable: KPMM

Source: Secondary data, processed (2026)

Heteroskedasticity Test

A sound regression model requires the absence of heteroskedasticity. The Glejser test was used to examine whether heteroskedasticity was present in the models. Based on the test results in Tables 6 and 7, the significance values (Sig.) of all independent variables exceed 0.05; therefore, the regression models are concluded to be free from heteroskedasticity.

Table 6. Heteroskedasticity Test for Model 1

Model	Variables	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,439	,151		2,917	,004
	NPL	-,003	,002	-,149	-1,679	,095
	CKPN	-,003	,003	-,065	-,879	,381
	SIZE	4,857E-5	,000	,094	1,305	,193
	BOPO	-,003	,002	-,124	-1,466	,144
	LDR	,001	,001	,066	,875	,382
	PREPOST CKPN	,051	,027	,134	1,891	,060

a. Dependent Variable: ABS_RES1

Source: Secondary data, processed (2026)

Table 7. Heteroskedasticity Test for Model 2

Model	Variables	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4,077	2,463		1,655	,100
	NPL	-,018	,031	-,050	-,576	,565
	CKPN	-,048	,058	-,068	-,840	,402
	ROA	,130	,217	,052	,598	,551
	SIZE	,000	,001	-,045	-,615	,539
	BOPO	-,008	,027	-,022	-,303	,762
	LDR	,013	,010	,091	1,254	,211
	PREPOST CKPN	,559	,478	,086	1,170	,244

a. Dependent Variable: ABS_RES2

Source: Secondary data, processed (2026)

Autocorrelation Test

Based on the autocorrelation test for Model 1, the Durbin-Watson (DW) value generated by the regression model was 2.030. From the DW table at a significance level of 0.05, with n = 198 and k = 6, the dU value was 1.8301, making 4-dU equal to 2.1699. Because the DW

value (2.030) lies between dU and 4-dU ($dU < DW < 4-dU$), the regression model is concluded to exhibit no autocorrelation. For Model 2, the Durbin-Watson (DW) value generated by the regression model was 2.096. From the DW table at a significance level of 0.05, with $n = 198$ and $k = 7$, the dU value was 1.8409, making 4-dU equal to 2.1591. Because the DW value (2.096) lies between dU and 4-dU ($dU < DW < 4-dU$), Model 2 is also concluded to exhibit no autocorrelation.

F-Test

Based on the multiple linear regression results in the ANOVA table, Model 1 produced an F-statistic of 480.955 with a significance value (Sig.) of < 0.001 , while Model 2 produced an F-statistic of 12.191 with a significance value (Sig.) of < 0.001 . Because these significance values are far below the specified significance level of 0.05, H_0 is rejected and H_a is accepted. In other words, the regression models meet the goodness-of-fit criteria and are appropriate for predicting fluctuations in the dependent variables based on the respective independent variables.

Coefficient of Determination Test

The R Square value of Model 1 was 0.938 (or 93.8%), indicating that the combined contribution or effect of the independent variables explained 93.8% of the variation in ROA. The remaining 6.2% was explained by other variables or external factors outside the regression model that were not included in this study. Meanwhile, the R Square value of Model 2 was 0.311 (or 31.1%), indicating that the combination of all independent variables explained 31.1% of the variation in the dependent variable. The relatively large remaining proportion of 68.9% was explained by other variables outside the regression model or by external factors not examined in this study.

Hypothesis Testing (t-Test)

The t-test indicates the extent to which each independent variable and the control variables (Size, LDR, and BOPO) individually explain variation in the dependent variable. The decision criterion is that a hypothesis is accepted when $\text{Sig.} < 0.05$ and rejected otherwise. The t-test results of this study are presented in Tables 8 and 9.

Table 8. t-Test for Model 1

Model	Variables	Unstandardized Coefficients		Standardized Coefficients (Beta)	t	Sig.
		(B)	Std. Error			
1	(Constant)	13,798	,270		51,115	<,001
	NPL	-,003	,003	-,023	-,980	,328
	CKPN	,048	,006	,167	8,621	<,001
	SIZE	,000	,000	-,092	-4,912	<,001
	BOPO	-,143	,003	-,949	-42,925	<,001
	LDR	,004	,001	,072	3,659	<,001
	PREPOST CKPN	,311	,049	,118	6,403	<,001

a. Dependent Variable: ROA

Source: Secondary data, processed (2026)

Table 9. t-Test for Model 2

Model	Variables	Unstandardized Coefficients		Standardized Coefficients (Beta)	t	Sig.
		(B)	Std. Error			
1	(Constant)	24,847	4,483		5,542	<,001
	NPL	,041	,056	,054	,739	,461
	CKPN	,683	,105	,446	6,520	<,001
	ROA	1,218	,396	,227	3,079	,002
	SIZE	,002	,001	,086	1,411	,160
	BOPO	-,072	,050	-,089	-1,450	,149
	LDR	,008	,019	,027	,451	,653
	PREPOST CKPN	-1,103	,870	-,079	-1,268	,206

a. Dependent Variable: KPMM

Source: Secondary data, processed (2026)

1. The Effect of Credit Risk (NPL) on Profitability (ROA) of BPRs in Central Java
Based on the t-test results in Table 8, the NPL variable has a regression coefficient of -0.003 and a significance value (Sig.) of 0.328. This indicates that credit risk (NPL) has no effect on profitability (ROA). Hypothesis H1, which states that 'Credit Risk (NPL) has a negative effect on Profitability (ROA) of BPRs in Central Java,' is rejected.
2. The Effect of CKPN on Profitability (ROA) of BPRs in Central Java
Based on the t-test results in Table 8, the CKPN variable has a regression coefficient of 0.048 and a significance value (Sig.) of < 0.001. This indicates that CKPN has a positive effect on profitability (ROA). Hypothesis H2, which states that 'CKPN has a negative effect on Profitability (ROA) of BPRs in Central Java,' is rejected.
3. The Effect of Profitability (ROA) on Capital Adequacy (KPMM) of BPRs in Central Java
Based on the t-test results in Table 9, the ROA variable has a regression coefficient of 1.218 and a significance value (Sig.) of 0.002. This indicates that profitability (ROA) has a positive effect on capital adequacy (KPMM). Hypothesis H3, which states that 'Profitability (ROA) has a positive effect on Capital Adequacy (KPMM) of BPRs in Central Java,' is accepted.
4. The Effect of Credit Risk (NPL) on Capital Adequacy (KPMM) of BPRs in Central Java
Based on the t-test results in Table 9, the credit risk (NPL) variable has a regression coefficient of 0.041 and a significance value (Sig.) of 0.461. This indicates that credit risk (NPL) has no effect on capital adequacy (KPMM). Hypothesis H4, which states that 'Credit Risk (NPL) has a negative effect on Capital Adequacy (KPMM) of BPRs in Central Java,' is rejected.
5. The Effect of CKPN on Capital Adequacy (KPMM) of BPRs in Central Java
Based on the t-test results in Table 9, the CKPN variable has a regression coefficient of 0.683 and a significance value (Sig.) of < 0.001. This indicates that CKPN has a positive effect on capital adequacy (KPMM). Hypothesis H5, which states that 'CKPN has a negative effect on Capital Adequacy (KPMM) of BPRs in Central Java,' is rejected.

Discussion

The Effect of Credit Risk (NPL) on Profitability (ROA)

The statistical results show that credit risk, proxied by Non-Performing Loans (NPL), has no significant effect in reducing the profitability (ROA) of Rural Banks (BPRs) in Central Java. This phenomenon indicates a structural characteristic in which a surge in problem loans does not automatically constrain a bank's ability to generate profit. When viewed through Agency Theory, the working relationship between shareholders as principals and BPR management as agents in managing risk appears to operate through an effective interest-alignment mechanism.

Within the agency-theory framework, shareholders delegate full operational authority to management while requiring an optimal return on investment. At the same time, banking governance faces information asymmetry and differences in risk preferences: agents tend to avoid extreme risks that may threaten their positions, while principals seek high profitability. The findings demonstrate that BPR management in Central Java acts as an accountable agent by implementing a highly reliable risk-mitigation system. The strengthening of management's role and accountability as an agent is consistent with agency theory, under which optimal governance and effective managerial oversight reduce conflicts of interest and maintain the stability of corporate operating performance (Prastyanti et al., 2024). Although OJK's descriptive data show a substantial annual increase in NPL, from 13.86% in 2023 to 15.90% in 2024 and 18.79% in 2025, management fulfilled its agency contract with the principals through consistent ROA growth, from 0.78% in 2023 to 1.44% in 2024 and 1.76% in 2025.

Management's ability to continue increasing profitability amid high NPL risk was driven by a strategy of optimizing non-interest operating income. BPRs compensated for credit risk by strengthening fee-based income and optimizing recoveries from loans that had been written off. These strategic actions directly supported current profit, enabling potential losses from non-performing loans to be contained before they disrupted the profitability targets expected by the owners of capital as principals.

Furthermore, the successful alignment of interests in the agency governance of BPRs in Central Java reinforces the empirical consistency of the findings with the previous study by Ardiantini and Susila (2025). In BPRs in Gianyar Regency, they likewise found that Non-Performing Loans had no significant effect on Return on Assets. This consistent pattern confirms that, in the BPR industry, agents' competence in generating alternative income and managing provisions is central to reconciling shareholders' interests while reducing agency costs arising from fluctuations in market credit risk.

The Effect of CKPN on Profitability (ROA)

The results demonstrate that CKPN has a positive effect on the profitability (ROA) of BPRs in Central Java. This finding indicates a positive anomaly because CKPN, which is generally treated as a cost component that reduces profit, instead moves in line with increased bank profitability. This condition suggests that the establishment of CKPN is not perceived as an unproductive burden but as a form of asset protection. Strong provisioning ultimately promotes improvements in the quality of earning assets, which in turn strengthens profitability. Widiatmoko et al. (2023) emphasize that transparent management of provisioning accounts amid profit fluctuations does not reduce bank credibility; instead, it serves as a crucial indicator

that improves information quality and the accuracy of financial reporting in the eyes of stakeholders.

From the perspective of Financial Intermediation Theory, this positive effect demonstrates that the intermediation function of BPRs in Central Java operates effectively and with high quality. As regulated intermediary institutions, BPRs are required to establish provisions as their businesses expand. The increase in ROA amid the accumulation of CKPN was driven by substantial growth in lending, which increased interest income. Through optimal risk mitigation in their business processes, the increase in interest income was sufficient to cover CKPN provisioning costs.

This empirical finding supports the previous study by Purba et al. (2025) on banks listed on the Indonesia Stock Exchange during 2020-2023, which also found a positive and significant effect of CKPN on ROA. The consistency of these findings confirms that an increase in CKPN enhances profitability by helping banks manage credit risk prudently. Appropriate mitigation of potential defaults protects banks from unexpected loss shocks, thereby maintaining stable profitability performance. Therefore, prudent management of the Allowance for Impairment Losses (CKPN) is essential for BPRs to maintain the stability of their operating profit performance. The importance of stable earnings is consistent with the characteristics of the banking industry, in which stable profitability (ROA) has empirically been shown to reduce information asymmetry and minimize the potential for opportunistic managerial behavior in earnings-management practices (Wicaksono et al., 2024).

The Effect of Profitability (ROA) on Capital Adequacy (KPM)

The statistical results demonstrate that profitability (ROA) has a positive effect on the capital adequacy (KPM) of BPRs in Central Java. Theoretically, this finding is consistent with capital structure theory, in which profitability reflects a BPR's effectiveness in generating profit from asset management; the profit can then be allocated through an appropriate earnings-retention policy to strengthen core capital. Increased profitability directly expands bank equity without requiring new external capital injections. The bank's ability to generate optimal net profit not only strengthens its internal capital cushion but also reflects sound and credible financial performance in the eyes of stakeholders, because entities with high profitability (ROA) have been shown to possess a stronger capacity to maintain the quality of their financial reporting (Prastyanti et al., 2024).

More specifically, the findings confirm the relevance of Capital Buffer Theory to the operations of BPRs in Central Java. Under this theory, highly profitable banks tend to use net earnings to build and accumulate a capital buffer above the regulatory minimum. This phenomenon is supported by descriptive data showing that the average KPM ratio of BPRs was 24.93%, far exceeding OJK's minimum regulatory threshold of 12%. This optimal accumulation of retained earnings creates a strong financial cushion; therefore, when the banking industry faces economic shocks, BPRs have high resilience and avoid a crisis in meeting the minimum capital requirement. Building a capital buffer from retained operating surpluses is crucial because entities with superior earnings management and profitability (ROA) tend to pursue long-term sustainability in order to optimize returns for investors (Widiatmoko et al., 2023).

These findings are also consistent with previous studies by Zaki and Sudrajat (2023) on conventional commercial banks and Safitri and Mukharomah (2023) on Islamic commercial

banks. The consistency confirms that, in both commercial banks and BPRs, high profitability serves as the principal source of internal financing and effectively strengthens the capital buffer. Thus, the ability to generate high profit is a crucial determinant of a stronger capital structure that can absorb future loss risks while supporting sustainable banking business expansion. Optimizing net earnings also provides a positive signal of prudent governance and financial performance, offering stakeholders greater assurance of optimal returns (Widiatmoko et al., 2023).

The Effect of Credit Risk (NPL) on Capital Adequacy (KPMM)

The statistical results show that credit risk (NPL) has no effect on capital adequacy (KPMM). This finding indicates that fluctuations in NPL faced by BPRs do not have a meaningful impact on their capital adequacy. The insignificant effect of NPL on KPMM is attributable, among other factors, to the banks' very strong capital position. The descriptive statistics show an average KPMM of 24.93%, far above the regulatory minimum of 12%.

When linked to Capital Buffer Theory, this finding emphasizes the importance of maintaining a substantial capital buffer as an instrument of risk-absorbing capacity. Under this theory, banks deliberately accumulate capital above the regulatory minimum to anticipate unexpected potential losses arising from deteriorating earning-asset quality. The strong capital buffer of BPRs in Central Java effectively protects core capital from pressure caused by non-performing loans, so increases in NPL do not disrupt or erode bank solvency. The banks' ability to mitigate the adverse effects of NPL also reflects mature synergy between provisioning policies and internal capital governance. This internal protection mechanism is consistent with financial risk-management principles, under which stable earnings capacity and effective capital management minimize information asymmetry and reduce the level of risk faced by external fund providers (Widiatmoko & Indarti, 2024).

Viewed through Financial Intermediation Theory, these results indicate that the intermediation function of BPRs in Central Java has been implemented with an emphasis on prudential principles. BPR management is able to perform the intermediation function without threatening the pillar of capital stability, supported by mature risk mitigation, adequate provisions, and a substantial capital-buffer structure. This empirical finding also supports the previous study by Hala (2020) on banking companies listed on the Indonesia Stock Exchange during 2012-2019, which demonstrated that non-performing loans (NPL) had a negative but insignificant effect, and thus no effect, on capital adequacy.

The Effect of CKPN on Capital Adequacy (KPMM)

The statistical results show that CKPN has a positive effect on the capital adequacy (KPMM) of BPRs in Central Java. This empirical phenomenon also explains the earlier finding that Non-Performing Loans (NPL) have no effect on KPMM. The condition arises because BPRs do not allow credit risk to directly affect core capital; instead, they optimize the establishment of CKPN as the primary risk absorber before losses reach the core-capital component.

When linked to Capital Buffer Theory, this finding reflects the long-term orientation of BPR management in Central Java in building and accumulating a capital buffer above the regulatory minimum. Under this theory, the strengthening of the capital structure amid increased provisioning is supported by two main fundamental factors. First, provisions established for earning assets classified as current are recognized as a component of supplementary capital, up to a maximum of 1.25% of RWA. Second, shareholders are

committed to increasing capital through fresh capital contributions to strengthen the financial cushion.

The owners' capital support is confirmed by descriptive data on the development of BPR capital in Central Java. According to OJK data, authorized capital grew consistently from IDR 9,960 billion in 2023 to IDR 10,154 billion in 2024 and IDR 10,229 billion in 2025. In parallel, the unpaid-capital component was gradually reduced from IDR 6,161 billion in 2023 to IDR 6,115 billion in 2024 and IDR 6,047 billion in 2025. This improvement drove a linear increase in BPR paid-in capital, from IDR 3,799 billion in 2023 to IDR 4,039 billion in 2024, reaching IDR 4,182 billion in 2025.

This strategic increase in paid-in capital represents compliance with regulatory obligations under POJK Number 5/POJK.03/2015, as refined by POJK Number 7 of 2026, which requires each BPR to maintain minimum core capital of IDR 6 billion by the deadline of December 31, 2024. In addition to fresh capital injections from owners, the accelerated growth of the capital buffer was driven by corporate consolidation actions, including mergers among BPR entities, in direct response to the mandate of Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector (P2SK Law). Beyond these external factors, the sharp increase in the KPMM ratio was significantly influenced by changes in the technical calculation rules under SEOJK Number 2/SEOJK.03/2025. The latest formula requires asset accounts to be reduced first by the accumulated CKPN already established before being multiplied by their risk weights. This reduction decreases the aggregate nominal value of RWA and therefore mathematically increases the capital ratio (KPMM).

This empirical finding is supported by the previous study of Khairunnisa and Simamora (2024), which showed a positive relationship between capital management and the establishment of loss provisions, with capital adequacy and provisioning strength moving in tandem as a means of complying with stringent regulations. Another study by Shah and Shahid (2025) on commercial banks in Pakistan also showed that Loan Loss Provisions positively affect financial stability. This demonstrates that higher provisions contribute to an increased CAR (Capital Adequacy Ratio) and lower vulnerability to shocks. The consistency with various empirical studies and the capital buffer theory framework confirms that the policy of BPRs in Central Java to strengthen CKPN is a proactive risk-management strategy that simultaneously reinforces the banks' solvency foundations in the face of macroeconomic volatility.

Analysis of the Effects of Control and Dummy Variables

In Model 1, the control variables Size and BOPO have negative effects on profitability (ROA). This indicates that an excessively large asset scale, when not accompanied by management efficiency, may reduce bank profitability. Consistent with this finding, the higher the bank's operating expenses relative to its operating income, the greater the reduction in net profit (ROA). LDR has a positive effect on ROA, indicating that optimizing and increasing bank lending effectively raises interest income and profitability. The implementation of CKPN among BPRs produces a significant difference in ROA. Average bank profitability (ROA) after the regulation was implemented is significantly higher than in the period before its implementation. In Model 2, the control variables Size, LDR, and BOPO have no effect on capital adequacy (KPMM). The asset size of BPRs, operational efficiency, and liquidity level do not determine the level of the capital adequacy ratio. The implementation of CKPN also does not produce a significant difference in the capital adequacy of BPRs in Central Java.

Sobel Test

The Sobel Test results in Table 10 show that the Sobel test statistic is < 1.96 and the two-tailed probability (p-value) is > 0.05 . These results confirm that profitability (ROA) does not mediate the effects of either NPL or CKPN on KPMM. Changes in the NPL level do not produce a subsequent effect on KPMM through the profitability pathway. Management policies for meeting capital adequacy requirements are driven more strongly by internal factors and regulatory compliance. Capital adequacy (KPMM) is more directly dominated and influenced by other factors, such as owners' capital contributions, rather than by the indirect pathway from CKPN through ROA. This bypass of profit mediation indicates that, amid the urgency of tighter regulation, management tends to prioritize direct capital restructuring to provide an immediate positive signal capable of reducing perceived investment risk among fund providers (Widiatmoko & Indarti, 2024).

Table 10. Sobel Test Results

Influence	Coefficients	Std. Error	Prob.	Sobel Test Statistic
NPL → ROA	-0,023	0,003	0,5676	-0,5716
CKPN → ROA	0,167	0,006	0,5666	0,5731
ROA → KPMM	0,227	0,396		

Source: Secondary data, processed (2026)

CONCLUSION

Based on the data analysis and discussion, this study concluded that the implementation of the latest provisioning regulations had produced an unexpected but positive effect on the banking sector. In Model 1, credit risk (NPL) had no significant effect on profitability (ROA), whereas CKPN had a positive and significant effect on ROA. In Model 2, both CKPN and ROA had positive and significant effects on capital adequacy (KPMM), while NPL had no significant effect. The Sobel test confirmed that profitability (ROA) did not mediate the effects of either NPL or CKPN on KPMM. These findings indicated that the new provisioning allocation policy directly strengthened capital resilience and improved BPR profitability without operating through a profitability-mediated pathway.

The implications of this study confirmed that the implementation of SAK EP accounting standards and POJK Number 1 of 2024 supported more prudent asset management and enhanced capital stability, particularly among BPRs with larger asset scales. The CKPN policy did not represent a burden that reduced profitability; instead, it functioned as an effective prudential instrument.

Nevertheless, this study was limited by its focus on Central Java Province and the restriction of the sample to BPRs with assets of at least IDR 100 billion that did not experience losses. Considering these limitations, future research should expand the geographical scope to the national level to improve generalizability. Future studies are also recommended to include BPRs with assets below IDR 100 billion to examine regulatory compliance dynamics among smaller banks. Researchers are further encouraged to investigate additional variables, such as fee-based income and Net Interest Margin (NIM), which may be more closely related to

profitability, and to incorporate external factors, such as macroeconomic indicators including inflation and interest rates, to develop a more comprehensive analytical model.

REFERENCES

- Achmad, A., & Kristijadi, E. (2021). Pengaruh risiko kredit terhadap permodalan dengan efisiensi sebagai variabel intervening. *Journal of Business and Banking*, 213-231.
- Adhim, C., & Mulyati. (2024). The Influence of Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), Loan to Deposit Ratio (LDR), and Operational Costs to Operating Income (BOPO) on Return on Asset (ROA) in Banks Listed on the Indonesia Stock Exchange. *International Journal of Science, Technology & Management*.
- Alam, N., & Tui, S. (2023). Pengaruh Cadangan Kerugian Penurunan Nilai dan Net Interest Margin terhadap Profitabilitas pada Bank BUMN yang terdaftar di Bursa Efek Indonesia. *YUME : Journal of Management*, 220-232.
- Alhadab, M., & Alsahawneh, S. (2016). Loan Loss Provision and the Profitability of Commercial Banks: Evidence from Jordan. *International Journal of Business and Management*, 242-248.
- Ardiantini, L., & Susila, G. P. (2025). Pengaruh Capital Adequacy Ratio, Non-Performing Loan dan Loan to Deposit Ratio Terhadap Return On Asset Pada Bank Perkreditan Rakyat di Kabupaten Gianyar. *Prospek: Jurnal Manajemen dan Bisnis*, 520-529.
- Birn, M., Bandt, O. d., Firestone, S., Girault, M. G., Hancock, D., Krogh, T., . . . Warusawitharana, M. (2020). The costs and benefits of bank capital – a review of the literature. Bank for International Settlements (atau Basel Committee on Banking Supervision).
- Diamond, D. W. (1984). Financial Intermediation and Delegated Monitoring. *The Review of Economic Studies*, 393–414.
- Gustika, R., Firta, W., Mantauf, C. S., Fahrozi, M., & Sandi, D. K. (2021). Pengaruh Non-Performing Loan (NPL) dan Net Interest Margin (NIM) Terhadap Capital Adequacy Ratio (CAR). *Journal of Social and Economics Research*, 123-138.
- Hala, Y. (2020). Effect of Earning Asset Quality and Non-Performing Loans on Capital Adequacy Level. *ATESTASI: Jurnal Ilmiah Akuntansi*, 156-162.
- Hassoon, F. S., & Smaoui, S. (2024). The Impact of Impairment of Asset Values on The Financial Performance of Companies Listed on The Iraq Stock Exchange. *World Economics & Finance Bulletin (WEFB)*, 128-133.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 305-360.
- Marcus, A. J. (1984). Deregulation and bank financial policy. *Journal of Banking & Finance*, 557-565.
- OJK. (2019). SEOJK Nomor 1/SEOJK.03/2019 Tentang Penerapan Manajemen Risiko Bagi Bank Perkreditan Rakyat.
- OJK. (2022). SEOJK Nomor 11/SEOJK.03/2022 Tentang Penilaian Tingkat Kesehatan BPR dan BPRS.
- OJK. (2024). SEOJK Nomor 21/SEOJK.03/2024 Tentang Panduan Akuntansi Perbankan Bagi Bank Perekonomian Rakyat.
- OJK. (2025). SEOJK Nomor 29/SEOJK.03/2025 Tentang Transparansi dan Publikasi Laporan Bank Umum Konvensional.
- OJK. (2026). POJK Nomor 7 Tahun 2026 tentang Kewajiban Penyediaan Modal Minimum dan Pemenuhan Modal Inti Minimum Bank Perekonomian Rakyat.
- Prastyanti, T. R., Indarti, M. K., & Widiatmoko, J. (2024). Meningkatkan Kualitas Laba Melalui Corporate Governance. *Jurnal Ilmiah Universitas Batanghari Jambi*, 1565-1572.

- Pratiwi, D. R., Widiatmoko, J., & Indarti, M. G. (2024). The Effect of Good Corporate Governance and Tax Risk on The Cost of Debt (Study of Property and Real Estate Companies Listed on The Indonesia Stock Exchange for the. *COSTING:Journal of Economic, Business and Accounting*, 8448-8461.
- Purba, E. Y., Lores, L., & Habibie, M. (2025). Pengaruh Penerapan PSAK 71, BOPO, dan NPL Terhadap Profitabilitas. *Balance: Jurnal Akuntansi dan Manajemen*, 149-160.
- Rahadian, R., & Permana, D. (2021). The Impact of Non-Performing Loans, Return on Assets, Return on Equity, and Loan to Deposit Ratios on Minimum Capital Adequacy Requirement Based on Commercial Banks for Business Activities (BUKU) I 2015-2020. *European Journal of Business and Management Research*, 42-46.
- Rahmawati, A., Maulana, R., & Firmansyah, A. (2024). Dampak CKPN Terhadap Kinerja Operasional: Risiko dan Profitabilitas Bank Perkreditan Rakyat. *ULTIMA Accounting*, 188-198.
- Safitri, S. N., & Mukharomah, W. (2023). Analisis Pengaruh Profitabilitas, Likuiditas, Risiko Kredit, Ukuran Bank, Dan Efisiensi Operasional Terhadap Rasio Kecukupan Modal Perbankan Umum Syariah Di Indonesia. *Jurnal Bisnis dan Manajemen*, 487-503.
- Shah, M. N., & Shahid, D. M. (2025). Effect of Loan Loss Provisions on Financial Stability and Profitability of Banks. *Journal of Management, Innovation and Social Sciences (JMISS)*, 27-39.
- Shkodra, J., Anastasioub, D., & Kallandranisc, C. (2024). The Impact of Non-Performing Loans on Commercial Bank Profitability: Evidence From The Western Balkan. *Financial and Credit Activity: Problems of Theory and Practice*, 49-58.
- Siregar, P. A., Suginam, Harahap, N., & Olivia, H. (2023). Menganalisis Pengaruh Cadangan Kerugian Penurunan Nilai (CKPN), Dana Pihak Ketiga (DPK), dan Non-Performing Financing (NPF) Terhadap Profitabilitas Perbankan Syariah di Indonesia. *Ekonomi, Keuangan, Investasi dan Syariah (EKUITAS)*, 307-316.
- Surya, B. I., & Reina, C. M. (2025). The Effect of Capital Adequacy and Credit Risk on Profitability with Liquidity as A Mediation In Rural Banks In Badung Regency. *RJOAS: Russian Journal of Agricultural and Socio-Economic Sciences*, 163-174.
- Suryaningsih, N. P., & Sudirman, I. M. (2020). The Influence of Credit Risk, Liquidity Risk, and Operational Risk on Profitability in Rural Banks in Bali Province. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 258-265.
- Sutriani, T., & Fermayani, R. (2018). Analisis Pengaruh CKPN, LDR, Liquidity Gap Dan BOPO Terhadap Profitabilitas Perbankan di Indonesia. *Jurnal Profiet*, 96-103.
- Tua, R. B., & Arini, D. U. (2024). Pengaruh Kualitas Kredit, Biaya Operasional Pendapatan Operasional dan Profitabilitas terhadap Permodalan Bank Perekonomian Rakyat di Indonesia per Triwulan Tahun 2021 – 2022. *Jurnal Disrupsi Bisnis*, 533-539.
- Wicaksono, A. D., Indarti, M. G., & Widiatmoko, J. (2024). Corporate Governance Mechanisms on Earnings management in the Indonesian Banking Sector. *Accounting and Finance Studies*, 051-059.
- Widiatmoko, J., & Indarti, M. G. (2024). Corporate governance and cost of equity capital: the mediation role of accounting conservatism. *Journal of Accounting and Investment*, 874-894.
- Widiatmoko, J., Indarti, M. G., & Ifada, L. M. (2023). How Temporary Book Tax Differences Influence Earning Quality? An Integrated Analysis with Investment Opportunity Set and Human Capital. *JIA (Jurnal Ilmiah Akuntansi)*, 225-244.
- Zaki, F., & Sudrajat. (2023). The Analysis of the Effect Allowance for Impairment Losses and Profitability on Bank Capital After the Adoption of PSAK 71. *International Journal of Economics Development Research*, 1467-1479.