



THE EFFECT OF CASH HOLDING AND LEVERAGE ON FINANCIAL PERFORMANCE WITH GOOD CORPORATE GOVERNANCE AS A MODERATOR: A STUDY OF BPR IN CENTRAL JAVA PROVINCE FOR THE 2021-2024 PERIOD

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Received: 14 March 2026

Accepted: April 30 2026

DOI: 10.5281/zenodo.19908709

ABSTRACT

This study examines the effect of cash holding and leverage on financial performance, with Good Corporate Governance (GCG) as a moderating variable in Rural Banks (BPR) in Central Java during the 2021–2024 period. A quantitative approach was applied using panel data regression and Moderated Regression Analysis (MRA) with the Random Effect Model. The sample consists of 64 BPRs with 256 observations, selected through purposive sampling, using secondary data from financial and GCG reports. The results show that cash holding and leverage have a negative and significant effect on financial performance. GCG weakens the relationship between cash holding and financial performance but does not moderate the relationship between leverage and financial performance. These findings highlight the importance of efficient liquidity and debt management, as well as the role of governance in improving bank performance.

Keywords: Cash Holding, Leverage, Good Corporate Governance, Financial Performance, Rural Banks.

1. INTRODUCTION

The banking sector plays a strategic role in supporting economic growth by functioning as a financial intermediary that transfers funds from surplus units to deficit units for productive activities (Aulia et al., 2025). Through this role, banks contribute to the efficient allocation of financial resources and facilitate investment activities that drive economic expansion. In Indonesia, in addition to commercial banks, Rural Banks (BPR) play a significant role in strengthening regional economic structures, particularly by providing financial access to micro and small enterprises that often face limitations in accessing formal financial institutions. BPRs operate with a more limited scope compared to commercial banks, as they are not involved in payment traffic services such as demand deposits or foreign exchange transactions, yet they remain essential in promoting financial inclusion and supporting local economic development.

In Central Java, BPRs have shown consistent growth in total assets

during the 2021–2024 period, indicating an expansion in their financial intermediation activities. However, this growth is not always accompanied by stable financial performance. Based on OJK Portal Dataset, empirical evidence shows that the Return on Assets (ROA) of several BPRs fluctuated and even declined during the same period. For instance, PT BPR Citra Darian in Kendal recorded ROA levels of 4.46% in 2021 and sharply dropping to 1.08% in 2024. Similarly, PT BPR Gunung Simping Artha in Banyumas experienced a continuous decrease from 3.58% in 2021 to 2.22% in 2024. PT BPR Mitra Banaran Mandiri in Sragen initially showed an improvement from 2.92% in 2021 to 3.85% in 2022, but subsequently declined to 2.75% in 2023 and significantly dropped to 0.97% in 2024. PT BPR Buana Artha Lestari in Surakarta experienced a steady decline from 2.90% in 2021 to 1.76% in 2024. A similar pattern is also observed in other BPRs in Central Java. These conditions indicate that although asset growth continues to increase, the ability of BPRs to generate profit from their assets remains unstable, suggesting inefficiencies in financial management and resource utilization.

One of the internal factors that potentially influences financial performance is cash holding, which reflects the proportion of cash and cash equivalents maintained by a firm relative to its total assets (Mariana & Ibrahim, 2021). Cash holding ensuring liquidity, supporting operational activities, and providing flexibility to respond to unexpected financial needs. However, maintaining an excessively high level of cash holding may reduce financial efficiency because idle funds are not utilized productively, while a low level of cash holding may increase liquidity risk due to the firm's inability to meet short-term obligations (Jason & Viriany, 2020). Therefore, achieving an optimal balance between liquidity and profitability becomes essential in determining financial performance.

In addition, leverage is another important factor that reflects the extent to which a firm relies on external financing to support its operations (Reksono et al., 2021). The use of leverage allows firms to expand their operational capacity and potentially increase returns when managed effectively. However, excessive leverage increases financial risk due to higher interest obligations, which can reduce net income and negatively impact profitability (Muttiarni et al., 2023). In the banking sector, leverage is also closely regulated to maintain financial stability, requiring banks to carefully manage their capital structure to avoid excessive risk exposure.

Beyond financial factors, Good Corporate Governance (GCG) also ensuring that financial policies are implemented effectively and responsibly. GCG refers to a system of rules, processes, and mechanisms used to direct and control corporate activities in order to ensure accountability, transparency, responsibility, independence, and fairness (Nuridah et al., 2023). The implementation of GCG is expected to strengthen monitoring mechanisms and improve decision-making quality, thereby influencing how financial policies such as cash holding and leverage affect financial performance.

Based on the phenomenon described, a research gap emerges regarding the instability of financial performance in BPRs despite continuous asset growth, indicating that financial policies may not be optimally managed. In addition, studies that simultaneously examine cash holding, leverage, and the moderating role of Good Corporate Governance in the context of Rural Banks are still limited. Therefore, this study aims to analyze the effect of cash holding and leverage on financial performance, with Good Corporate Governance as a moderating variable, using evidence from Rural Banks in Central Java during the 2021–2024 period.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Pecking Order Theory

Pecking Order Theory explains how firms prioritize their sources of financing based on a hierarchical order influenced by information asymmetry between management and investors (Sumail & Akob, 2022). According to this theory, companies prefer to use internal funds such as retained earnings before relying on external financing. If internal funds are insufficient, firms will choose debt financing rather than issuing equity, as

external financing may increase information costs and risk perceptions (Monica & Pramesti, 2017). Firms with higher internal funds tend to rely less on debt, which can reduce financial risk and improve operational efficiency. This theory is closely related to cash holding decisions, as firms with higher cash reserves are less dependent on external financing. Therefore, the management of internal liquidity becomes an important determinant in achieving optimal financial performance.

2.2 Trade Off Theory

Trade-off Theory states that firms aim to achieve an optimal capital structure by balancing the benefits and costs of debt (Wikartika & Fitriyah, 2018). The main benefit of using debt is the tax shield effect, while the costs include financial distress, bankruptcy risk, and interest obligations (Oktavina et al., 2018). According to this theory, companies will adjust their level of leverage to reach an optimal point where the marginal benefits of debt equal its marginal costs. If leverage exceeds the optimal level, financial risk increases and may negatively affect firm performance (Simatupang et al., 2019). Thus, leverage plays a crucial role in determining financial performance, especially in the banking sector where risk management is essential.

2.3 Agency Theory

Agency Theory explains the relationship between principals (shareholders) and agents (management), where conflicts of interest may arise due to differing objectives (Khandelwal et al., 2023). Managers may prioritize personal interests over shareholders' wealth maximization, leading to agency problems. To minimize these conflicts, firms implement monitoring mechanisms such as Good Corporate Governance (GCG). GCG ensures that management decisions are aligned with stakeholders' interests through principles such as transparency, accountability, responsibility, independence, and fairness (Hamdani, 2016). In this context, GCG is expected to influence how financial policies are implemented and how they affect financial performance.

2.4 Financial Performance

Financial performance reflects a firm's ability to manage its resources effectively in generating profit and sustaining operations (Putri et al., 2024). It is commonly measured using profitability ratios, which indicate the efficiency of resource utilization. One of the most widely used indicators is Return on Assets (ROA), which measures a firm's ability to generate profit from its total assets. A higher ROA indicates better financial performance, as it shows that the company is able to utilize its assets efficiently to produce income (Kasmir, 2019). In this study, ROA is used as the main proxy for financial performance because it provides a comprehensive measure of operational efficiency.

2.5 Cash Holding

Cash holding refers to the amount of cash and cash equivalents held by a firm to support its operational and financial needs (Sutrisno, 2017). It serves several purposes, including transaction needs, precautionary motives, and speculative opportunities (Sutrisno & Gumanti, 2016). Adequate cash holding allows firms to maintain liquidity and respond to unexpected financial demands. However, excessive cash holding may reduce efficiency

because idle funds are not invested productively, while insufficient cash may increase liquidity risk (Jason & Viriany, 2020). Therefore, the level of cash holding must be managed carefully to balance liquidity and profitability.

2.6 Leverage

Leverage represents the extent to which a firm uses debt financing to support its operations and investment activities (Cheryta et al., 2018). It reflects the proportion of external funding relative to total assets or equity. The use of leverage can enhance financial performance when the returns generated exceed the cost of debt. However, high leverage also increases financial risk due to interest obligations and the potential for financial distress (Hidayat & Galib, 2019). Therefore, firms must manage leverage carefully to ensure that it contributes positively to financial performance.

2.7 Good Corporate Governance (GCG)

Good Corporate Governance (GCG) refers to a system of rules, practices, and processes used to direct and control corporate activities (Nuridah et al., 2023). It aims to ensure accountability, transparency, and fairness in corporate decision-making. The implementation of GCG strengthens monitoring mechanisms and reduces agency conflicts, thereby improving the quality of financial decisions. As a moderating variable, GCG is expected to influence the relationship between financial policies (such as cash holding and leverage) and financial performance by ensuring that these policies are implemented effectively and responsibly.

2.8 Relationship Among Variables and Hypothesis Development

2.8.1 Cash Holding and Financial Performance

Cash holding reflects the proportion of liquid assets maintained by a firm to support operational and financial needs (Mariana & Ibrahim, 2021). From the perspective of Pecking Order Theory, firms tend to prioritize internal financing, making cash reserves an important source of funding (Sumail & Akob, 2022). Adequate cash holding enables firms to maintain liquidity, meet short-term obligations, and take advantage of investment opportunities without relying heavily on external financing. This financial flexibility can improve operational efficiency and enhance the firm's ability to generate profits from its assets. In addition, sufficient cash reserves reduce financial constraints and transaction costs, which can positively impact financial performance, particularly when measured using Return on Assets (ROA) (Kasmir, 2019). Empirical studies also support this argument, indicating that optimal levels of cash holding contribute positively to financial performance (Yilmaz & Samour, 2024; Dimitropoulos et al., 2020). Based on this reasoning, the following hypothesis is proposed:

H1: Cash holding has a positive effect on financial performance.

2.8.2 Leverage and Financial Performance

Leverage represents the extent to which firms rely on external financing, particularly debt, to support their operations (Reksono et al., 2021). According to Trade-off Theory, although debt provides benefits such as tax advantages, excessive leverage

increases financial risk due to higher interest obligations and the potential for financial distress (Wikartika & Fitriyah, 2018). High leverage may reduce net income because a significant portion of earnings must be allocated to debt servicing, thereby lowering profitability. In the banking sector, excessive leverage can also threaten financial stability if not properly managed. As a result, an increase in leverage beyond its optimal level may negatively affect financial performance, particularly in terms of asset efficiency. Empirical evidence supports this view, showing that higher leverage tends to reduce financial performance (Arhinful & Radmehr, 2023; García-Gómez et al., 2021). Based on this reasoning, the following hypothesis is proposed:

H2: Leverage has a negative effect on financial performance.

2.8.3 Good Corporate Governance Moderating the Effect of Cash Holding on Financial Performance

Good Corporate Governance (GCG) refers to a system of rules and processes that ensure corporate activities are conducted transparently, accountably, and responsibly (Nuridah et al., 2023). In the context of cash holding, GCG plays an important role in enhancing the effectiveness of cash management by ensuring that financial resources are allocated efficiently and used for value-creating activities. Strong governance mechanisms reduce agency problems by limiting managerial discretion in holding excessive cash and encouraging optimal utilization of internal funds. As a result, firms with better governance are more likely to convert cash reserves into productive investments that improve profitability. Empirical studies indicate that GCG strengthens the positive relationship between cash holding and financial performance by improving financial decision-making and resource allocation (Yun et al., 2021; Jabbouri & Almस्ताfa, 2021). Based on this reasoning, the following hypothesis is proposed:

H3: Good Corporate Governance positively moderates the relationship between cash holding and financial performance.

2.8.4 Good Corporate Governance Moderating the Effect of Leverage on Financial Performance

Good Corporate Governance (GCG) also plays a crucial role in managing leverage by ensuring that debt is used efficiently and within an optimal level. Through mechanisms such as monitoring, transparency, and accountability, GCG helps firms control financial risks associated with debt and ensures that borrowing decisions are aligned with long-term performance objectives (Nuridah et al., 2023). In line with Agency Theory, governance structures reduce opportunistic behavior by management and promote prudent financial policies (Khandelwal et al., 2023). As a result, firms with strong governance are better able to utilize leverage in a way that supports operational efficiency and enhances financial performance. Empirical findings suggest that GCG strengthens the relationship between leverage and financial performance by improving debt management practices (Pham & Nguyen, 2019; Bawuah, 2024). Based on this reasoning, the following hypothesis is proposed:

H4: Good Corporate Governance positively moderates the relationship between leverage and financial performance.

3. RESEARCH METHODOLOGY

This study employs a quantitative research approach to examine the effect of cash holding and leverage on financial performance, with Good Corporate Governance (GCG) as a moderating variable. The research design uses panel data analysis to capture both cross-sectional and time-series variations across Rural Banks (BPRs) in Central Java during the 2021–2024 period. The population of this study consists of all Rural Banks operating in Central Java. The sample was selected using a purposive sampling technique based on specific criteria, resulting in 64 BPRs with a total of 256 observations over four years. The data used in this study are secondary data obtained from annual financial reports and Good Corporate Governance reports published by each bank. The dependent variable in this study is financial performance, which is proxied by Return on Assets (ROA), reflecting the firm's ability to generate profit from its total assets (Kasmir, 2019). The independent variables consist of cash holding and leverage. Cash holding is measured as the proportion of cash and cash equivalents to total assets, representing the firm's liquidity level (Sutrisno, 2017). Leverage is measured using the Debt to Asset Ratio (DAR), which indicates the proportion of total assets financed by debt (Kasmir, 2019). The moderating variable is Good Corporate Governance (GCG) measured based on the composite self-assessment score reported by each bank.

The data analysis technique used in this study includes descriptive statistical analysis, classical assumption tests, panel data regression, and Moderated Regression Analysis (MRA). The panel data regression model is used to analyze the direct effect of cash holding and leverage on financial performance. The selection of the appropriate regression model is conducted through Chow test, Hausman test, and Lagrange Multiplier test, resulting in the use of the Random Effect Model as the most suitable model for this study. Furthermore, Moderated Regression Analysis (MRA) is applied to examine the moderating role of Good Corporate Governance in the relationship between independent variables and financial performance. Hypothesis testing is conducted using t-tests to evaluate the partial effect of each independent variable, with a significance level of 5%. The coefficient of determination is also used to measure the explanatory power of the model. To ensure the robustness of the results, this study performs a robustness test by replacing the proxy of financial performance from Return on Assets (ROA) to Return on Equity (ROE). This step is conducted to verify the consistency and reliability of the findings across different profitability measures.

4. RESULTS AND DISCUSSION

4.1 Data Description

This study uses secondary data obtained from the annual financial statements and Good Corporate Governance (GCG) reports of Rural Banks (BPR) in Central Java during the 2021–2024 period. The data were collected from the official website of the Financial Services Authority (OJK) as well as the respective official websites of each bank. The sample selection was conducted using purposive sampling based on predetermined criteria. The initial screening resulted in 66 BPRs that met the research criteria, with a total of 264 firm-year observations. These data were subsequently processed and adjusted through data screening procedures to ensure their suitability for further analysis.

4.2 Outlier Identification

Prior to conducting the regression analysis, an outlier detection procedure was conducted to ensure that extreme values did not bias the regression results. This study employed two methods, namely the Boxplot method and the Z-score approach. The Boxplot method was used as an initial step to visually identify extreme observations by examining the distribution of the data, including median and quartile ranges. Subsequently, the Z-score method was applied to statistically confirm the presence of outliers. Observations with extreme values were carefully evaluated and excluded from the dataset to improve the accuracy and reliability of the analysis. As a result of this process, several data points were removed, and the final dataset used in this study consists of 64 BPRs with a total of 256 firm-year observations.

4.3 Descriptive Statistical Analysis

The descriptive statistics in Table 1 show that the average value of Return on Assets (ROA) is 2.6225, indicating that BPRs generally generate a positive level of profitability during the observation period. However, the minimum value of -1.3500 suggests that some banks experienced financial losses, while the maximum value of 6.9200 reflects relatively high profitability among certain BPRs. Cash Holding (CH) has an average value of 0.2429, indicating that, on average, banks hold around 24% of their total assets in cash. Meanwhile, Leverage as measured by the Debt to Asset Ratio (DAR) shows a relatively high mean value of 0.8426, indicating that most bank assets are financed by liabilities. The variation in the data, as reflected by the standard deviation values, indicates that the variables are sufficiently distributed and suitable for further regression analysis.

Table 1. Descriptive Statistical Analysis

	ROA	ROE	CH	DAR
Mean	2.622461	0.138760	0.242891	0.842617
Median	2.480000	0.135000	0.220000	0.860000
Maximum	6.920000	0.330000	0.550000	0.940000
Minimum	-1.350000	-0.070000	0.070000	0.620000
Std. Dev	1.370275	0.071453	0.098073	0.063738
N	256	256	256	256

Source: Processed Data (2026)

4.4 Classical Assumption Test

Several classical assumption tests are conducted to ensure the model provides efficient and unbiased estimates (Ghozali, 2021). In this study, the normality test is omitted because the sample size is sufficiently large ($n > 30$). According to the Central Limit Theorem, a large sample size ensures that the sampling distribution of the mean approaches normality, thereby minimizing potential issues with non-normal data distribution (Saputri & Giovanni, 2021). Consequently, the analysis focuses on other critical diagnostic checks, specifically multicollinearity and heteroscedasticity tests, to confirm the model's reliability.

Multicollinearity Test

The multicollinearity test serves to ensure that the independent variables do not exhibit excessive linear correlation, as this correlation hinders consistent coefficient estimates. According to Ghozali (2021), a regression model qualifies as free from multicollinearity if the Variance Inflation Factor (VIF) < 10 . The results in Table 2 demonstrate that all independent variables display centered VIF values well below this threshold. These findings confirm the absence of serious multicollinearity issues, which ensures the reliability of the estimation parameters in assessing the financial performance of Rural Banks (BPR).

Table 2. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.264751	199.7328	NA
CH	3.174435	34.37848	4.802954
DAR	1.628413	183.6276	1.040654
CH*GCG	0.644603	27.84839	4.750916
DAR*GCG	0.001262	1.816122	1.039004

Source: Processed Data (2026)

Heteroscedasticity Test

The heteroscedasticity test verifies whether the residual variance remains constant across all observations, which is a condition essential for valid regression analysis (Ghozali, 2021). The White test examines the uniformity of these residual variances. The results in Table 3 indicate that the probability value of Obs*R-

squared reaches 0.1114, which exceeds the 0.05 significance level. Consequently, the null hypothesis of homoscedasticity holds, as the model remains free from heteroscedasticity issues. This ensures that the estimated standard errors remain efficient and unbiased, which further supports the validity of the hypothesis testing in this study.

Table 3. Heteroscedasticity Test

Heteroskedasticity Test: White			
Null hypothesis: Homoskedasticity			
F-statistic	1.509119	Prob. F (14,241)	0.1082
Obs*R-squared	20.63377	Prob. Chi-Square (14)	0.1114
Scaled explained SS	23.83324	Prob. Chi Square (14)	0.0480

Source: Processed Data (2026)

4.5 Panel Data Model Selection

To determine the most appropriate estimation model among the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), this study performs three diagnostic tests: the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test. First, the Chow test is conducted to choose between CEM and FEM. The results show a probability value of 0.0000, which is lower than the 0.05 significance level, leading to the rejection of the null hypothesis and indicating that the Fixed Effect Model is more suitable than the Common Effect Model. Second, the Hausman test is performed to compare FEM

and REM. The test yields a probability value of 0.6965, which is greater than 0.05. This result suggests that the null hypothesis is accepted, meaning the Random Effect Model provides a better fit than the Fixed Effect Model. Lastly, the Lagrange Multiplier test is employed to verify whether the Random Effect Model is superior to the Common Effect Model. The LM test produces a probability value of 0.0000, which is below the 0.05 threshold, confirming that the Random Effect Model is indeed the most appropriate model for this analysis. Consequently, this study utilizes the Random Effect Model (REM) to examine the impact of cash holding and leverage on financial performance.

Table 4. Panel Data Model

Regression Panel Data	Prob.	Selected Model
Chow Test	0.0000	FEM
Hausman Test	0.6965	REM
Lagrange Multiplier Test	0.0000	REM

Source: Processed Data (2026)

4.6 Panel Data Regression Analysis

The results of the panel data regression analysis in Table 5 indicate that the constant value for the model is 9.4628 with a p-value of 0.0000. Regarding the hypothesis testing conducted at a 10% significance level, Cash Holding (CH) exhibits a significant negative effect on ROA, with a coefficient of -3.3626 and a p-value of 0.0004. Similarly, Leverage (DAR) exerts a significant negative influence on ROA, with a coefficient of -7.1487 and a p-value of 0.0002. These findings suggest that higher levels of cash holdings and increased reliance on leverage are inversely associated with the financial performance of the Rural Banks (BPR) observed in this study. The model yields an Adjusted R-

squared of 0.0915, indicating that the independent variables explain 9.15% of the variation in financial performance (ROA), while the remaining 90.85% is attributable to external factors not captured in this model. This relatively low coefficient is consistent with previous literature in the banking sector, where financial performance is often driven by exogenous macroeconomic conditions, monetary policies, and regulatory frameworks (Goh et al., 2022; Rahayu et al., 2026). Consequently, these external determinants significantly limit the explanatory power of internal corporate financial indicators, confirming that internal policies alone do not fully capture the complex dynamics of BPR profitability.

Table 5. Panel Data Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	9.462792	1.601052	5.910361	0.0000***
CH	-3.362571	0.940081	-3.576896	0.0004***
DAR	-7.148672	1.875828	-3.810943	0.0002***
Observation	256			
Number of Firm	64			
Adj. R-Squared	0.091494			

Notes: *p < 0,10; **p < 0,05; ***p < 0,01.

Source: Processed Data (2026)

4.7 Moderated Regression Analysis

The moderated regression analysis examines whether Good Corporate Governance (GCG) influences the relationship between liquidity, leverage, and financial performance. The results indicate that CH*GCG yields a negative coefficient of -1.9995 with a significant p-value of 0.0024 (< 0.10). This finding provides empirical evidence that GCG significantly moderates the relationship between Cash Holding and financial performance, specifically by weakening its negative impact. Conversely, the

interaction between Leverage and GCG (DAR*GCG) shows a coefficient of -0.0006 with a non-significant p-value of 0.9805 (> 0.10). This suggests that GCG does not serve as a significant moderator for the influence of leverage on the financial performance of BPRs under study. Regarding model explanatory power, the interaction model yields an Adjusted R-squared of 0.1177, indicating that the variables collectively explain 11.77% of the variation in financial performance, while the remainder is influenced by exogenous factors.

Table 6. Moderated Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	9.389201	1.590623	5.902846	0.0000***
CH	0.847694	1.656114	0.511857	0.6092
DAR	-7.143008	1.865524	-3.828955	0.0002***
CH*GCG	-1.999540	0.653169	-3.061292	0.0024***
DAR*GCG	-0.000690	0.028223	-0.024434	0.9805
Observation	256			
Number of Firm	64			
Adj. R-Squared	0.117732			

Notes: *p < 0,10; **p < 0,05; ***p < 0,01.

Source: Processed Data (2026)

4.8 Robustness Test

Panel Data Regression Analysis

To ensure the stability and consistency of the primary findings, a robustness test is conducted by replacing Return on Assets (ROA) with Return on Equity (ROE) as an alternative proxy for financial performance. The use of alternative measures serves to verify whether the observed relationships remain constant across different financial indicators (Ghozali, 2021). The results of the robustness check, as presented in Table 7, indicate that the constant value for the model is -0.0533. The model yields an Adjusted R-squared of 0.0691, suggesting that the independent variables explain 6.91% of the variation in ROE, while the

remaining 93.09% is influenced by factors outside the scope of this study. Regarding the hypothesis testing within this robustness framework, the results remain consistent with the primary model. Cash Holding (CH) exhibits a significant negative effect on ROE, with a coefficient of -0.1700 and a p-value of 0.0004 (< 0.10). Similarly, Leverage (DAR) demonstrates a significant negative influence on ROE, reporting a coefficient of -0.2770 and a p-value of 0.0041 (< 0.10). These findings reinforce the initial results, confirming that both excessive liquidity and high debt levels consistently diminish the financial performance of Rural Banks (BPR), regardless of the performance proxy utilized.

Table 7. Panel Data Regression Analysis (Robustness)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Konstanta	-0.053323	0.081421	-0.654907	0.5131
CH	-0.169998	0.047334	-3.591416	0.0004***
DAR	-0.276963	0.095510	-2.899843	0.0041***
Observation	256			
Number of Firm	64			
Adj. R-Squared	0.069107			

Notes: *p < 0,10; **p < 0,05; ***p < 0,01.

Source: Processed Data (2026)

Moderated Regression Analysis

The results of the robustness check for the interaction model are presented in Table 8. The interaction between Cash Holding and GCG (CH*GCG) yields a negative coefficient of -0.0999 with a significant p-value of 0.0025 (< 0.10). This result is consistent with the primary model, reinforcing the evidence that GCG significantly moderates the relationship between Cash Holding and financial performance by weakening the impact of cash retention on ROE. In contrast, the interaction term between

Leverage and GCG (DAR*GCG) reports a coefficient of 0.0003 with a p-value of 0.8398 (> 0.10). Similar to the main analysis, this indicates that GCG does not serve as a significant moderator in the relationship between leverage and financial performance. Overall, the consistency of these results across different performance metrics underscores the robustness of the findings regarding the moderating capacity of corporate governance within the studied Rural Banks (BPR).

Table 8. Moderated Regression Analysis (Robustness)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Konstanta	-0.057466	0.080373	-0.714997	0.4753
CH	0.040189	0.083020	0.484095	0.6287
DAR	0.277124	0.094325	2.937976	0.0036***
CH*GCG	-0.099950	0.032670	-3.059415	0.0025***
DAR*GCG	0.000286	0.001411	0.202405	0.8398
Observation	256			
Number of Firm	64			
Adj. R-Squared	0.095362			

Notes: *p < 0,10; **p < 0,05; ***p < 0,01.

Source: Processed Data (2026)

4.9 Discussion

4.9.1 Cash Holding and Financial Performance

The regression results demonstrate that Cash Holding (CH) has a significant negative effect on ROA, leading to the rejection of the first hypothesis (H1). This finding indicates that higher cash reserves are inversely associated with the profitability of Rural Banks (BPR), a result consistent with previous empirical evidence (Andrean, 2024; Annika, 2022; Hilmi & Aini, 2022). This negative relationship suggests that excessive cash retention often manifests as idle funds that are not utilized for productive activities, thereby reducing asset returns and overall financial performance (Cindy & Keristin, 2025).

From a theoretical perspective, although Pecking Order Theory suggests a preference for internal funding, the accumulation of cash without strategic investment leads to operational inefficiencies and diminished profitability (Lim & Jeong, 2025). While maintaining liquidity mitigates risks, excessive caution causes banks to forego growth opportunities through profitable investments (Angelika et al., 2023). Consequently, the failure to allocate available cash into projects with positive net present value limits the banks' growth potential and ultimately lowers their financial performance.

4.9.2 Leverage and Financial Performance

The regression analysis results presented in Table 5 indicate that Leverage (DAR) has a significant negative impact on financial performance (ROA), thereby supporting the second hypothesis (H2). This finding implies that higher debt levels are associated with a decline in the profitability of Rural Banks (BPR), consistent with previous empirical studies (Arhinful & Radmehr, 2023; García-Gómez et al., 2021; Khoza, 2025). The negative correlation suggests that increasing debt obligations, particularly interest and principal payments, consume a substantial portion of the bank's income, which in turn reduces net profit and overall performance (Rompis et al., 2025). Furthermore, high leverage elevates financial risks, such as default risk, which can destabilize operational stability (Muttiarni et al., 2023).

Viewed through the Trade-off Theory, these results suggest that the banks in the sample may have surpassed their optimal debt levels. At this stage, the costs associated with debt outweigh the tax-shield benefits, leading to diminished returns. Additionally, excessive leverage restricts financial flexibility, making banks more cautious about pursuing profitable investment opportunities or expansions due to their debt-servicing constraints (Abubakar & Anyonje, 2025). Consequently, the limited ability to capitalize on

growth opportunities further exacerbates the decline in financial performance, reinforcing the conclusion that over-leverage is detrimental to BPR profitability.

4.9.3 Good Corporate Governance Moderating the Effect of Cash Holding on Financial Performance

The moderated regression results in Table 6 reveals that the interaction between Cash Holding and Good Corporate Governance (CH*GCG) has a significant negative effect on financial performance. Consequently, the third hypothesis (H3), which proposed a positive moderating effect of GCG, is rejected. This finding suggests that GCG weakens the impact of cash holding on the financial performance of Rural Banks (BPR). This negative moderation is consistent with the findings of Ahmed & Tahir (2024), who observed that robust governance mechanisms can limit the direct influence of cash ownership on firm performance. This indicates that in the presence of strong governance, the link between cash reserves and profitability becomes less pronounced as the focus shifts toward risk control and institutional stability.

From the perspective of Agency Theory, these results imply that effective GCG implementation successfully mitigates potential conflicts of interest between managers and shareholders regarding cash management. Strong governance mechanisms restrict opportunistic managerial behavior, such as hoarding excessive cash for personal gain or investing in unproductive projects (Shah et al., 2021). By enforcing stricter oversight, GCG encourages management to be more prudent and efficient in cash allocation, ensuring funds are directed toward productive uses rather than maintaining unnecessarily high balances (Chen et al., 2020). Therefore, as governance strengthens, the marginal benefit of high cash holdings for performance enhancement diminishes, as the emphasis shifts toward operational efficiency and the reduction of agency costs.

4.9.4 Good Corporate Governance Moderating the Effect of Leverage on Financial Performance

The moderated regression analysis in Table 6 reveals that the interaction between Leverage and Good Corporate Governance (DAR*GCG) has no significant effect on financial performance. Consequently, the fourth hypothesis (H4), which proposed that GCG would positively moderate the relationship between leverage and ROA, is rejected. This indicates that the quality of corporate governance does not alter the impact of leverage on a bank's profitability. Regardless of the governance standards applied, high levels of debt continue to impose significant financial burdens and interest obligations, which directly diminish profitability. These results are consistent with previous studies, which found that governance mechanisms such as CEO duality and ownership concentration fail to effectively moderate the link between funding policies and firm performance (Bhatia & Kumari, 2023; Ngatno et al., 2021).

From the perspective of Agency Theory, these findings suggest that while the composite GCG self-assessment ratings reflect established oversight mechanisms, such supervision is insufficient to influence the impact of leverage policies on financial outcomes. In the context of Rural Banks (BPR), management retains substantial authority over capital structure decisions based on

operational needs, while GCG mechanisms are often more focused on regulatory compliance and risk management rather than optimizing financial performance through debt (Wididana & Dewi, 2025). As a result, the internal governance framework acts as a regulatory safeguard rather than a strategic tool that can mitigate the negative effects of high leverage on financial performance.

4.9.5 Robustness Results

To validate the reliability of the primary findings, a robustness check was conducted by employing Return on Equity (ROE) as an alternative proxy for financial performance. The results of this analysis are highly consistent with the initial findings, confirming that the relationships identified in the primary model are stable and robust. Specifically, the negative and significant impact of both Cash Holding and Leverage on financial performance remains unchanged, reinforcing the conclusion that excessive liquidity and high debt levels consistently hinder the profitability of Rural Banks (BPR) across different performance metrics.

Furthermore, the robustness test confirms the consistency of the moderating effects of Good Corporate Governance (GCG). The interaction analysis demonstrates that GCG continues to significantly weaken the relationship between Cash Holding and performance, while failing to provide a significant moderating effect on the relationship between Leverage and performance. The alignment between the primary results and the robustness check underscores the empirical strength of this study, suggesting that the observed dynamics of corporate governance and financial structure are not sensitive to the choice of performance indicators.

5. CONCLUSION

5.1 Conclusion

This study provides empirical evidence regarding the determinants of financial performance in Rural Banks (BPR) across Central Java from 2021 to 2024. This study concludes that both Cash Holding and Leverage have a significant negative impact on the financial performance (ROA) of Rural Banks (BPR) in Central Java from 2021 to 2024. These findings suggest that excessive liquidity leads to idle funds, while high debt levels escalate interest burdens and financial risks, both of which ultimately diminish profitability.

Furthermore, Good Corporate Governance (GCG) serves as a significant moderator that weakens the negative impact of cash holding on performance, indicating that effective governance promotes more efficient liquidity management. Conversely, GCG fails to moderate the relationship between leverage and performance, suggesting that current governance frameworks are not yet effective in mitigating the risks associated with high debt levels in the BPR sector. These results highlight the critical need for BPR management to optimize their capital structure and liquidity policies alongside robust governance implementation.

5.2 Recommendation

Based on the empirical results, the following practical recommendations are proposed for key stakeholders. Owners and management of Rural Banks (BPR) should prioritize the

optimization of internal fund allocation to prevent the accumulation of idle cash and strictly control debt levels to minimize interest burdens. It is crucial for these institutions to strengthen the implementation of Good Corporate Governance (GCG) as a strategic tool to enhance liquidity efficiency and mitigate the financial risks associated with high leverage. Furthermore, regulators are encouraged to refine governance frameworks and provide specific guidelines for capital structure management, ensuring that banks maintain the financial stability necessary to sustain public and depositor trust.

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