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Analyzing the impact of risk profile on financial performance in banks: Moderating effect of good corporate governance

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ABSTRACT

The restrictions on economic activity during the COVID-19 pandemic harmed banking stability in Indonesia. This is reflected in the decline in banks' financial performance in 2020 due to high losses on various risk profiles. These risks do not only occur under certain conditions, such as a pandemic, but are also inherent in the bank's business activities. Therefore, this study analyzes the impact of credit risk, operational risk, and liquidity risk on bank financial performance in 2019-2024, involving GCG as a moderating variable. The purpose of this analysis is to provide an overview of the quality of risk management in commercial banks in Indonesia. The object of this research is commercial banks listed on the IDX. The research sample consisted of 15 banks, selected through purposive sampling. The data were analyzed using panel data models and moderated regression (MRA). The results showed that credit risk and operational risk had a negative effect, while liquidity risk did not affect bank financial performance. GCG weakens the negative relationship between operational risk and financial performance, but does not moderate the relationship between credit risk and liquidity risk. The findings suggest that the risk management of commercial banks in Indonesia is suboptimal, particularly in terms of credit risk and operational risk. Tighter supervision by GCG is also necessary to mitigate the adverse effects of risk.

1. Introduction

Banking is defined as a financial institution that functions as a financial intermediary between those who have excess funds and those who need funds (Otoritas Jasa Keuangan, 2019). The banking sector plays a crucial role in the stability of the financial system and the economic growth of a country through its function. However, financial institutions are also subject to a variety of risks that have the potential to adversely impact their financial performance, thereby disrupting their role in the nation's economic landscape. The aforementioned phenomenon is exemplified by the decline in bank financial performance in 2020, which can be attributed to the economic repercussions of the Coronavirus pandemic, which resulted in a significant diminution in economic activity. Consequently, banking risks, including credit risk, operational risk, and liquidity risk, are amplified. Ikatan Bankir Indonesia (2018) asserts that these risks do not only arise in specific circumstances, such as the ongoing global pandemic, but also due to the inherent complexity of banking business activities. Consequently, financial institutions are expected to demonstrate proficiency in the effective management of their risk profile, thereby ensuring the stability of their performance. Widodo & Kurniawan (2018) states the performance of the financial sector has a significant impact on domestic macroeconomic conditions.

The importance of risk management in banking institutions has garnered increasing attention globally, especially after several high-profile failures due to weak internal controls and governance.

The Basel Committee on Banking Supervision has long emphasized the need for robust risk oversight to safeguard financial stability. In the study on the banking sector from Sunecher & Dookhy (2025) found that ineffective operational risk management and corporate governance significantly contribute to internal fraud, which ultimately threatens institutional performance and sustainability. These findings underscore the urgent need for banks, particularly in emerging economies, to change their internal oversight mechanism to ensure compliance and sound financial performance. Harini et al (2024) states internal banking plays an important role in maintaining the performance of financial institutions.

Indonesia financial sectors, the urgency of strengthening risk management is formalized through POJK Number 18/POJK.03/2016, which mandates banks to identify, measure, monitor, and control a variety of potential hazards, thereby minimizing the likelihood of financial loss (Otoritas Jasa Keuangan, 2016a). Similarly, POJK Nomor 17 Tahun 2023 requires banks to implement Good Corporate Governance (GCG) based on the principles of transparency, accountability, responsibility, independence, and fairness. Although these frameworks are in place, their effectiveness in influencing performance outcomes remains a subject of inquiry. Therefore, investigating the dynamic interaction between risk profile and financial performance, particularly under the moderating influence of GCG, is both timely and relevant.

Despite existing research, there is still a limited understanding of how governance mechanisms interact with different dimensions of bank risk profile in shaping financial performance, particularly in the post-pandemic context. Most prior studies either analyze the direct effect of individual risk factors or assess GCG as a separate determinant without exploring its interaction as a moderating variable. Thus, this study attempts to fill this gap by explicitly modeling the interaction between GCG and risk profiles using recent panel data. Previous studies have shown that specific risk factors, such as credit risk, operational inefficiencies, and liquidity imbalances, can negatively impact bank performance (Ahmed et al., 2021; Fadun & Oye, 2020; Mashamba, 2018). However, studies exploring the moderating effect of GCG on these risk-performance relationships are limited, particularly in Indonesia. Furthermore, previous research has rarely captured the post-pandemic financial landscape or utilized recent longitudinal datasets.

The novelty of this research lies in the integration of GCG as a moderating variable across multiple risk profiles, such as credit, operational, and liquidity, within a panel data framework covering the years 2019-2024. This provides a more comprehensive understanding of how governance strengthens or weakens the impact of risk on financial outcomes. The panel regression combined with moderated regression analysis (MRA) allows the model to capture conditional effects that were largely overlooked in past studies. The aim of the study to examine how risk profiles affect bank financial performance and whether GCG moderates these relationships using recent panel data. The research addresses two questions: a). how do credit risk, operational risk, and liquidity risk affect the financial performance of banks? And b). does GCG moderate the relationship between each type of risk and the financial performance of banks?. This study contributes to the literature by providing empirical evidence on the conditional role of GCG in risk management, particularly in emerging markets like Indonesia. The findings are expected to inform policymakers, regulators, and bank management about the importance of strong governance in improving financial resilience through effective risk control.

1. Literature Review

2.1. Agency Theory

Agency theory, originally introduced by Jensen & Meckling (1976) provides a foundational framework for understanding the contractual relationship between principals and agents in the corporate setting. According to this theory, when ownership and control are separated, agents (e.g., managers) may not act in the best interest of principals (e.g., shareholders). This can lead to agency costs caused by conflict of interest and information asymmetry. This theory is particularly relevant to the current study, as it emphasizes the importance of transparency and accountability in how bank managers report financial performance and manage risk on behalf of shareholders. Agency theory continues to be widely applied in recent governance research. For example, Nguyen et al (2020) used agency theory to examine how ownership concentration, board size, and CEO duality affect bank performance in Vietnam. Their findings support the continued relevance of the theory, showing that effective governance structure can reduce agency problems and improve financial outcomes,

especially in the context of banking institutions. This theoretical framework helps explain the research question in this study by illustrating how risk management failures may arise from misaligned interests between management and shareholders. In banking institutions, agency conflicts can manifest in excessive risk-taking or poor monitoring of loan quality, operational inefficiencies, or mismanagement of liquidity. Good Corporate Governance (GCG) can mitigate these agency problems by ensuring that managerial decisions are aligned with the interests of stakeholders, thereby supporting better financial performance.

2.2. Bank Financial Performance

Financial performance refers to a company's ability to effectively manage and utilize its financial resources over a specific period. In the banking context, financial performance reflects how well a bank generates profits through efficient use of its assets. This study uses Return On Asset (ROA) as the main indicator, as it demonstrates the bank's ability to convert assets into earnings within a fiscal year (Dendawijaya, 2005). ROA is widely employed in recent banking research as a standard measure of profitability. Rahman et al (2020) emphasized ROA's role in capturing a bank's operational efficiency and financial soundness, while Gazi et al (2024) confirmed ROA as a reliable metric for assessing bank profitability in panel data studies of Islamic banks. These studies support the appropriateness of ROA as a performance indicator in evaluating banking institutions across varying regulatory and economic environments.

2.3. Bank Profil Risk

Credit risk is the risk arising from the failure of the counterparty to fulfill its obligations (Otoritas Jasa Keuangan, 2016c). Credit risk can cause losses in the form of loss of the bank's opportunities to receive profits from loan interest (Ismail, 2018). Thus, it can be seen that the activities of channeling funds by banks cannot escape credit risk, which may reduce the overall financial performance of the bank. In this study, credit risk is measured using Non-Performing Loans (NPL) as an indicator. Based on the results of previous studies by Ahmed et al (2021); Bhattarai (2019); and Ekinci & Poyraz (2019) was found that credit risk measured using NPL has an impact on reducing the financial performance of banks.

Operational risk is the risk that arises from inadequate internal processes, human error, system failure, or external events (Otoritas Jasa Keuangan, 2016b). The occurrence of operational risk can cause financial losses due to the high operational costs incurred by the bank. Thus, it can be seen that the bank's operational management activities cannot escape the potential operational risks that can reduce the bank's financial performance. In this study, operational risk is measured using the Cost to Income Ratio (CIR), which indicates the bank's efficiency in controlling operational expenses relative to income. Supporting this approach, Al-Sharkas & Al-Sharkas (2022) demonstrated that CIR has a significant negative impact on both ROA and ROE in banks across emerging markets, confirming its validity as an operational risk indicator. Similarly, Ayinuola & Gumel (2023) found that CIR negatively and significantly affects bank profitability in Nigeria, affirming that inefficiencies in operational cost management remain a key determinant of underperformance in commercial banking.

Liquidity risk is the risk that arises from the bank's inability to fulfill its maturing obligations (Otoritas Jasa Keuangan, 2016a). According to the Ikatan Bankir Indonesia (2018), the lack of liquidity in a bank not only disrupts the business continuity of the bank in question but also the entire banking system. Thus, it can be seen that the level of liquidity in the bank is not immune to operational risks that have the potential to reduce the financial performance of the bank. In this study, liquidity risk is measured using the Liquidity Coverage Ratio (LCR), which assesses the bank's ability to withstand a 30-day liquidity stress scenario. Yeasin (2023) found that LCR significantly influences bank profitability in the context of Bangladesh banks, indicating its effectiveness as a risk management tool. Similarly, Sidhu et al (2022) demonstrated that while LCR compliance enhances financial stability, it may constrain bank profitability by compressing interest margins, thereby underscoring the trade-off between liquidity and performance in emerging economies.

2.4. Good Corporate Governance (GCG)

Corporate Governance (CG) is conceptualized as a set of mechanisms through which a company's stakeholders exert control over insiders and management, thereby safeguarding their interests (Gyimah & Owusu-Afriyie, 2025). Good Corporate Governance (GCG) has principles that include transparency, accountability, responsibility, independence, and fairness. In the context of risk

management, the efficiency of GCG in applying its principles can support the effectiveness of risk management in the company, so as to reduce losses resulting from risks. Sunecher & Dookhy (2025) emphasize that weaknesses in internal corporate governance are major contributors to systemic vulnerabilities in the banking sector. They further assert that corporate governance and risk management are interdependent and collectively essential for the stability and performance of banks. Thus, GCG can play a role in weakening or even strengthening the impact of each profile. This study measures GCG through the Risk Monitoring Committee, specifically by the number of meetings in one year.

2. Method

This study adopts a quantitative approach to empirically assess the influence of risk profile on bank financial performance, while also examining the moderating role of Good Corporate Governance (GCG). The objective of this research is to examine Commercial Banks listed on the Indonesia Stock Exchange (IDX) during the 2019-2024 period. The type of data utilized is secondary data derived from the annual reports of commercial banks listed on the Indonesia Stock Exchange during the 2019–2024 period. Data is collected through documentation techniques, namely by accessing annual reports on the official website of each bank and the IDX website. The population under consideration in this study encompasses all banking subsector companies that are listed on the IDX, with a total of 47 banks included in the sample. The sampling method employed was purposive, with the selection criteria determined as follows: The following criteria must be met for inclusion in the IDX: (1) Listing during the 2019-2024 period; (2) Publication of complete annual reports during the study period; (3) Availability of complete financial reports and governance reports during the study period. In accordance with the established criteria, a total of 15 commercial banks were identified as research samples that met the specified criteria.

The independent variable in this study is a risk profile that includes credit risk, operational risk, and liquidity risk. Credit risk is defined as the potential for loss incurred by a financial institution due to the borrower's inability to adhere to its financial obligations. The metric employed to gauge this risk is the Non-Performing Loan (NPL), which measures the level of bad loans at the bank. This metric is widely employed in studies assessing credit exposure, such as studies by Ahmed et al (2021) and Al-Sharkas & Al-Sharkas (2022). Based on SEOJK Nomor 9/SEOJK.03/2020, the NPL calculation formula is as follows:

$$NPL = \frac{Non\ Performing\ Loans}{Total\ Loans} \quad (1)$$

Operational risk is defined as the risk arising from system failure, human error, and external events. The indicator used to measure this risk is the Cost to Income Ratio (CIR), which measures the operating expenses incurred at the bank. This indicator captures operational efficiency and is supported by empirical studies such as Al-Sharkas & Al-Sharkas (2022) and Ayinuola & Gumel (2023). Based on SEOJK Nomor 9/SEOJK.03/2020, the CIR calculation formula is as follows:

$$CIR = \frac{Total\ Operating\ Expenses}{Total\ Operating\ Incomtoe} \quad (2)$$

Liquidity risk is defined as the risk that arises from a bank's inability to meet its short-term obligations. The Liquidity Coverage Ratio (LCR) is the indicator used to measure liquidity risk, which measures the liquidity adequacy of the bank. This measure is based on the Basel III framework, which defines liquidity risk measurement using the LCR. The study by Sidhu et al (2022) and Yeasin (2023) also uses this indicator. Based on POJK Nomor 42/POJK.03/2015 the LCR calculation is as follows:

$$LCR = \frac{HQLA\ Stock}{Total\ Net\ Cash\ Outflow\ in\ the\ next\ 30\ days} \quad (3)$$

The dependent variable in this study is the bank's financial performance, defined as a company's ability to manage its finances during a specified period. The indicator employed to measure financial performance is return on assets (ROA), which measures the efficiency of a company utilizing its assets to earn income. This ratio is used in international research to measure bank profitability, such as studies by Gazi et al (2024) and Rahman et al (2020). Based on SEOJK Nomor 9/SEOJK.03/2020, the ROA calculation is as follows:

$$ROA = \frac{Earnings\ before\ tax}{Average\ of\ total\ asset} \quad (4)$$

The moderating variable in this study is Good Corporate Governance (GCG), which refers to a corporate governance system aimed at protecting stakeholders and enhancing risk oversight. The inclusion of GCG as a moderating variable is based on the findings of Sunecher & Dookhy (2025) who emphasize that governance and risk management are interrelated and together contribute to reducing risk exposure and improving bank performance. GCG in this research is measured using the number of meetings held by the Risk Monitoring Committee within a year. The equation as follows:

$$Risk\ Monitoring\ Committee = Number\ of\ Risk\ Monitoring\ Committee\ meetings \quad (5)$$

Methodological perspective, the moderating effect is tested by examining whether the interaction between GCG and risk variables leads to a significant change in the model's explanatory power (R^2). An increase in R^2 and a significant interaction term indicate that GCG effectively moderates the relationship between risk profile variables and financial performance. Data analysis in this study using several econometric techniques. First, descriptive statistics were used to understand the characteristics of the data. Then, a panel data regression model was selected using Chow, Hausman, and Lagrange Multiplier (LM) tests to determine the most appropriate base model: CEM, FEM, or REM. The equation for the panel data as follows:

$$ROA_{it} = \alpha_0 + \beta_1 NPL_{it} + \beta_2 CIR_{it} + \beta_3 LR_{it} + \varepsilon_{it} \quad (6)$$

Where ROA is the return on asset; NPL is the non-performing loan; CIR is the operational risk; LR is the liquidity risk; α_0 is the constanta; $\beta_1 - \beta_3$ is the coefficient of independent variables; ε is the disturbance error. Although classical panel data models do not explicitly define moderating variables, this study applied Moderated Regression Analysis (MRA) within the panel data framework by introducing interaction terms between independent and moderating variables into the selected panel model. This approach allows for testing the conditional effect of GCG on the relationship between risk exposure and financial performance. The use of MRA in panel settings is supported by Maghfiroh et al (2023) who applied a similar method to examine the moderating effect of corporate governance on financial distress within a regression framework. Meanwhile, the moderated regression model introduces interaction terms as follows:

$$ROA_{it} = \alpha_0 + \beta_1 NPL_{it} + \beta_2 CIR_{it} + \beta_3 LR_{it} + \beta_4 Z_{it} + \beta_5 (NPL_{it} * Z_{it}) + \beta_6 (CIR_{it} * Z_{it}) + \beta_7 (LR_{it} * Z_{it}) + \varepsilon_{it} \quad (7)$$

The coefficient of determination (R^2) was used to evaluate the explanatory power of the model, including testing the contribution of moderation through R^2 change and interaction significance.

3. Results and Discussion

Table 1 shows the financial performance (ROA) has a average of 1.685 and means ROA indicates that Indonesian commercial banks were able to manage assets efficiently. For the credit risk variable (NPL), the average shows 2.898. The NPL indicates that Indonesian commercial banks can manage credit risk. Operational risk (CIR) has a average value of 61.51 and means the CIR indicates that the operational efficiency of Indonesian commercial banks is not optimal. Meanwhile, liquidity risk (LCR) has a average value 295.0 indicates that Indonesian commercial banks can maintain liquidity reserves through high-quality assets. The GCG variable (number of KPR meetings) has a mean of 16.55, a median of 12.00, a maximum of 61.00, a minimum of 4,000, and a standard deviation of 12.94. The GCG mean indicates that Indonesian commercial banks are quite active in performing prudential functions.

Table 1. Descriptive Statistics

Variable	Mean	Median	Max	Min	Std. Dev.	Observation
NPL	2.899	2.805	9.080	0.800	1.435	90
CIR	61.511	47.180	397.450	31.500	57.887	90
LR	294.017	216.595	3387.400	116.760	380.487	90
ROA	1.685	1.715	4.030	-3.360	1.259	90
GCG	16.556	12.000	61.000	4.000	12.941	90

Source: data processed

Basuki & Prawoto (2019) stated that the selection of the panel data regression model uses three tests, namely the Chow, Hausman. And the Lagrange Multiplier Test. Table 2 shows the results of

the Chow, Hausman, and Lagrange Multiplier tests conducted earlier, the Fixed Effect Model (FEM) was selected as the most appropriate estimation method. The FEM is suitable for this research because it controls for time-invariant unobserved heterogeneity across banks, ensuring that the estimation captures the unique characteristics of each institution. This model allows for a more accurate analysis of how credit, operational, and liquidity risks affect bank financial performance over time. The following are the results of the FEM estimation.

Table 2. Panel Data Regression Model Selection Result

Test	Result	Summarize
Chow test	Prob. 0.0000 < 0.05	Fixed Effect Model
Hausman test	Prob. 0.0178 < 0.05	Fixed Effect Model
Lagrange Multiplier	Prob. 0.0000 < 0.05	Random Effect Model
The Best Model for Panel Data		Fixed Effect Model

Source: data processed

After determining the Fixed Effect Model (FEM) as the most appropriate model based on panel selection tests, panel data regression analysis was conducted to examine the effect of credit risk, operational risk, and liquidity risk on bank financial performance. This analysis aims to empirically test the core research problem: whether variations in risk profile influence the financial outcomes of banks. The FEM is considered suitable for this purpose as it captures the unique, unobserved characteristics of each bank over time, ensuring that the model reflects both cross-sectional and temporal differences in risk exposure and performance.

Table 3. Fixed Effect Model of Panel Data

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.274	0.203	16.090	0.0000
NPL	-0.426	0.071	-6.015	0.0000
CIR	-0.007	0.002	-4.338	0.0000
LR	-0.0002	0.0002	1.074	0.2866

Source: data processed

Table 3 shows the panel data regression equation is as follows:

$$ROA_{it} = 3.274 - 0.426NPL_{it} - 0.007CIR_{it} - 0.0002LR_{it}$$

The constant value is 3.2740, which represents the value of financial performance (Y) when all independent variables are zero. The coefficient of credit risk (X1) is -0.4258, which means that if credit risk increases by 1%, financial performance will decrease by 0.4258%. Operational risk (X2) also has a coefficient of -0.0068, where a 1% increase in operational risk reduces financial performance by 0.0068%. Meanwhile, liquidity risk (X3) has a regression coefficient of -0.0002, meaning that financial performance will decrease by 0.0002% when operational risk increases by 1%. Moderated regression analysis was conducted to see the effect of moderating variables in strengthening or weakening the relationship between the independent variable and the dependent variable.

Table 4. Regression with The Moderation Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.114	0.216	14.396	0.0000
NPL	-0.411	0.081	-5.093	0.0000
CIR	-0.003	0.002	-1.515	0.1343
LR	0.0003	0.0003	-0.745	0.4588
NPL*Z	0.002	0.005	0.378	0.7068
CIR*Z	-0.0004	0.0001	-2.889	0.0052
LR*Z	8.93E-05	5.36E-05	1.667631	0.0999

Source: data processed

Table 3 shows the credit risk has a significant negative impact on bank financial performance. This means that the higher the credit risk in the bank, the lower the bank's financial performance. This reflects that bad credit quality can be an obstacle to achieving optimal financial performance. This finding aligns with Ogundele & Nzama (2025) confirmed that higher NPL ratios harm profitability and impair banks' role in effective financial intermediation. This finding is also consistent with the studies of Ahmed et al (2021); Al-Sharkas & Al-Sharkas (2022); Bhattarai (2019)

and Ekinci & Poyraz (2019) who found that credit risk, measured by NPL, harms the banks' financial performance. From the perspective of agency theory, this suggests a conflict of interest among bank management (agents), who tend to make non-optimal loan financing decisions in the absence of oversight by shareholders (principals).

Operational risk has a significant negative impact on bank financial performance. This means that an increase in operational risk tends to suppress the bank's financial performance. This suggests that operational inefficiencies such as high overhead costs or system errors adversely affect the bank's financial performance. Frame et al (2024) found that banks face greater difficulty recovering from operational losses during times of economic stress, which amplifies the financial burden of internal failures. This reflects how unstable macroeconomic conditions can intensify the negative impact of operational risk when banks lack strong internal controls. This result is supported by previous findings by Al-Sharkas & Al-Sharkas (2022); Ayinuola & Gumel (2023); Fadun & Oye (2020) and Muriithi & Muigai (2017) who also found a negative effect of operational risk on banks' financial performance through the CIR proxy. From an agency theory perspective, this reflects a weakness in the supervisory mechanism over bank management as an agent, such that it makes mistakes that harm the principal.

Liquidity risk was found to have a negative but insignificant effect on bank financial performance. This suggests that the high liquidity of banks tends to reduce their financial performance, but the effect is not statistically strong enough. One possible explanation is that when banks hold excessive liquidity, the idle assets are not channeled into productive activities such as lending, thereby limiting income generation. Davydov et al (2021) emphasize that while liquidity creation is essential for financial stability, excess liquidity can reduce a bank's efficiency in performing its intermediation function, ultimately weakening its contribution to economic activity and firm-level performance. This finding is consistent with a previous study by Muriithi & Waweru (2017); Nath et al (2024); Obadire & Obadire (2023) and Sidhu et al (2022), which found that liquidity risk proxied by LCR harms banks' financial performance. From an agency theory perspective, it is assumed that there is an alignment of interests between bank management and shareholders, so that agency problems can be mitigated. This is certainly inseparable from the role of the OJK as a regulator that sets minimum liquidity requirements for banks.

After examining the direct effects of credit risk, operational risk, and liquidity risk on financial performance using panel regression, the study further applied Moderated Regression Analysis (MRA) by introducing interaction terms between each risk profile and Good Corporate Governance (GCG). The purpose was to assess whether GCG strengthens or weakens the impact of each risk profile on bank financial performance. The following are the results of the interaction effects. Table 4 shows the interaction between credit risk and GCG has a positive but insignificant effect on financial performance. This means that GCG can weaken the negative relationship between credit risk and financial performance, although its role is not significant. This finding shows that the role of GCG as a moderating variable can be said to be consistent in the context of this study. The interaction between operational risk and GCG shows a negative and significant effect on bank financial performance. This indicates that GCG actually strengthens the negative relationship between operational risk and financial performance. This condition may reflect that a strict internal control mechanism can make the effect of operational risk on financial performance more detectable and transparently measurable.

The interaction between operational risk and GCG shows a positive but insignificant effect on bank financial performance. This suggests that GCG tends to weaken the negative relationship between liquidity risk and financial performance, although its role is not significant. In other words, good GCG implementation has the potential to reduce the impact of liquidity risk and financial performance, but its role is not strong enough. From the perspective of agency theory, the role of GCG indicates that there is an information asymmetry between bank management and corporate governance, where bank management has direct information about the condition of the company. Therefore, the results of this study contradict those of previous studies by Gyimah & Owusu-Afriyie (2025) and Sunecher & Dookhy (2025) who claim GCG can resolve internal issues in banks. Therefore, the supervisory role of OJK in banks is crucial so that banks can effectively apply the principles of transparency and accountability. GCG as a moderating variable shows a significant role in financial performance in the banking sector in Indonesia. During Covid-19, GCG prevented the financial sector from collapsing through strict supervision to prevent further bad debts.

4. Conclusion

Based on the results of the analysis conducted, this study concludes that credit risk and operational risk have a significant negative effect on the financial performance of commercial banks in Indonesia in the period 2019-2024, while liquidity risk also shows a negative but insignificant effect. On the other hand, Good Corporate Governance (GCG) was found to play a role in moderating the relationship between risk profile and financial performance, although not all of them were significant. These results illustrate that the quality of risk management among commercial banks in Indonesia remains suboptimal, particularly in credit risk and operational risk. Therefore, this study is expected to be a reference in developing risk management strategies in the future.

The novelty of this research lies in its use of GCG as a moderating variable. This study examines the relationship between multiple types of risk profiles (credit, operational, and liquidity) and bank performance within a panel data setting. The recent data used for this study is from 2019 to 2024. Previous studies have rarely examined the moderating effect of GCG in a structured interaction model across several risk types simultaneously. This study contributes to the literature by providing empirical insights to regulators, particularly the Financial Services Authority (OJK), and bank management to strengthen governance frameworks and improve monitoring mechanisms. From an academic perspective, the study contributes to the literature by combining agency theory, risk profile analysis, and GCG-based oversight, particularly in the context of emerging markets like Indonesia.

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References

Ahmed, Z., Shakoor, Z., Khan, M. A., & Ullah, W. (2021). The role of financial risk management in predicting financial performance: A case study of commercial banks in Pakistan. *Journal of Asian Finance, Economics and Business*, *8*(5), 639–648.

Al-Sharkas, A. A., & Al-Sharkas, T. A. (2022). The impact on bank profitability: Testing for capital adequacy ratio, cost-income ratio and non-performing loans in emerging markets. *Journal of Governance and Regulation*, *11*(1 special issue), 231–243. doi: 10.22495/jgrv11i1siart4

Ayinuola, T. F., & Gumel, B. I. (2023). The impact of cost-to-income ratio on bank performance in Nigeria. *Accounting Journal*, *5*(2), 643–652.

Basuki, A. T., & Prawoto, N. (2019). Analisis Regresi Dalam Penelitian Ekonomi & Bisnis. *PT Rajagrafindo Persada, Depok*, *18*, 1–52.

Bhattarai, B. P. (2019). Effect of credit risk management on financial performance of commercial banks in Nepal. *European Journal of Accounting, Auditing and Finance Research*, *7*(5), 87–103.

Davydov, D., Vähämaa, S., & Yasar, S. (2021). Bank liquidity creation and systemic risk. *Journal of Banking and Finance*, *123*. doi: 10.1016/j.jbankfin.2020.106031

Dendawijaya, L. (2005). *Manajemen Perbankan, Second edition*. Penerbit Ghalia Indonesia.

Ekinci, R., & Poyraz, G. (2019). The effect of credit risk on financial performance of deposit banks in Turkey. *Procedia Computer Science*, *158*, 979–987. doi: 10.1016/j.procs.2019.09.139

Fadun, O. S., & Oye, D. (2020). Analysis of impacts of operational risk management practices on

banks' financial performance: Study of selected commercial banks in Nigeria. *International Journal of Finance & Banking Studies (2147-4486)*, *9*(1), 22–35. doi: 10.20525/ijfbs.v9i1.634

Frame, W. S., Lazaryan, N., McLemore, P., & Mihov, A. (2024). Operational loss recoveries and the macroeconomic environment: Evidence from the U.S. banking sector. *Journal of Banking and Finance*, *165*(May), 107220. doi: 10.1016/j.jbankfin.2024.107220

Gazi, M. A. I., Karim, R., Senathirajah, A. R. bin S., Ullah, A. K. M. M., Afrin, K. H., & Nahiduzzaman, M. (2024). Bank-specific and macroeconomic determinants of profitability of Islamic shariah-based banks: Evidence from new economic horizon using panel data. *Economies*, *12*(3). doi: 10.3390/economies12030066

Gyimah, P., & Owusu-Afriyie, R. (2025). Bank sustainability: Do corporate governance and internal audit quality matter? *World Development Sustainability*, *6*(April), 100222. doi: 10.1016/j.wds.2025.100222

Harini, A. R., Kurniawan, M. L. A., & Putra, B. J. (2024). Do macroeconomic variables affect deposits in shariah banks? *Islamic Economics Journal*, *10*(1), 61–71. doi: 10.21111/iej.v10i1.11611

Ikatan Bankir Indonesia. (2018). *Manajemen Risiko 1* (4th ed.). PT Gramedia Pustaka Utama.

Ismail. (2018). *Manajemen Perbankan: Dari Teori Menuju Aplikasi*, 5th ed. Prenadamedia Group.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency cost and ownership structure. *Journal of Financial Economics*, *3*, 305–360. doi: 10.1016/0304-405X(76)90026-X

Maghfiroh, R. D., Asandimitra, N., & Hartono, U. (2023). Moderation analysis of good corporate governance on the effect of financial ratio and market ratio on financial distress. *International Journal of Professional Business Review*, *8*(7). doi: 10.26668/businessreview/2023.v8i7.2933

Mashamba, T. (2018). The effects of Basel III liquidity regulations on banks' profitability. *Journal of Governance and Regulation*, *7*(2), 34–48. doi: 10.22495/jgr_v7_i2_p4

Muriithi, J. G., & Muigai, R. G. (2017). Quantitative analysis of operational risk and profitability of Kenyan commercial banks using cost income ratio. *IOSR Journal of Economics and Finance*, *8*(3), 76–83. doi: 10.9790/5933-0803047683

Muriithi, J. G., & Waweru, K. M. (2017). Liquidity risk and financial performance of commercial banks in Kenya. *International Journal of Economics and Finance*, *9*(3), 256–265. doi: 10.5539/ijef.v9n3p256

Nath, S. D., Biswas, M. R., Maleque, M. A., & Islam, M. . M. (2024). Effect of Basel III liquidity ratio LCR and NSFR on the profitability of commercial banks in Bangladesh. *International Journal of Economics and Business Administration*, *XII*(Issue 3), 12–28. doi: 10.35808/ijeba/851

Nguyen, T. D. C., Phan, H. N., Le, H. S., Nguyen, T. T. T., & Petrov, A. (2020). Corporate governance and bank performance: A case of Vietnam banking sector. *Journal of Security and Sustainability Issues*, *10*(2). doi: 10.9770/jssi.2020.10.2(6)

Obadire, A. M., & Obadire, K. (2023). The impact of bank regulation on bank performance: A novel analysis of the pre-Covid era with cross-country evidence. *American Journal of Industrial and Business Management*, *13*(03), 118–139. doi: 10.4236/ajibm.2023.133009

Ogundele, O. S., & Nzama, L. (2025). Risk management practices and financial performance: Analysing credit and liquidity risk management and disclosures by Nigerian banks. *Journal of Risk and Financial Management*, *18*(4). doi: 10.3390/jrfm18040198

Otoritas Jasa Keuangan. (2016a). Peraturan Otoritas Jasa Keuangan Nomor 18 /POJK.03/2016 Tentang Penerapan Manajemen Risiko Bagi Bank Umum. *Otoritas Jasa Keuangan*.

Otoritas Jasa Keuangan. (2016b). Surat Edaran Otoritas Jasa Keuangan Nomor 24/SEOJK.03/2016 Tentang Perhitungan Aset Tertimbang Menurut Risiko Untuk Risiko Operasional Dengan Menggunakan Pendekatan Indikator Dasar. *Otoritas Jasa Keuangan*.

Otoritas Jasa Keuangan. (2016c). Surat Edaran Otoritas Jasa Keuangan Nomor 42/SEOJK.03/2016 Tentang Pedoman Perhitungan Aset Tertimbang Menurut Risiko Untuk Risiko Kredit Dengan Menggunakan Pendekatan Standar. *Otoritas Jasa Keuangan*.

Otoritas Jasa Keuangan. (2019). *Buku 2 Perbankan*. sikapiuangmu.ojk.go.id.

Rahman, H., Yousaf, M. W., & Tabassum, N. (2020). Bank-specific and macroeconomic determinants of profitability: A revisit of Pakistani banking sector under dynamic panel data approach. *International Journal of Financial Studies*, *8*(3), 1–19. doi: 10.3390/ijfs8030042

Sidhu, A. V., Rastogi, S., Gupte, R., & Bhimavarapu, V. M. (2022). Impact of liquidity coverage ratio on performance of select Indian banks. *Journal of Risk and Financial Management*, *15*(5). doi: 10.3390/jrfm15050226

Sunecher, Y., & Dookhy, N. S. (2025). Risk management in the banking sector of Mauritius. *Journal of Central Banking Law and Institutions*, *4*(2), 387–402. doi: 10.21098/jcli.v4i2.311

Widodo, A., & Kurniawan, M. L. A. (2018). Comparing credit procyclicality in conventional and islamic rural bank: Evidence from Indonesia. *Al-Tijary: Jurnal Ekonomi Dan Bisnis Islam*, *3*(1), 87–105. doi: 10.21093/at.v3i1.808

Yeasin, H. M. (2023). Empirical study of the impact of liquidity risk on the financial performance: a study of selected commercial banks in Bangladesh. *Journal of Financial Markets and Governance*, *2*(1), 87–110. doi: 10.54728/JFMG-202209-00059