

# The Impact of Risk Management Practices on Bank Performance: A Systematic Literature Review

*Risk Management  
Practice on Bank  
Performance*

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## **ABSTRACT**

*The banking sector plays a crucial role in driving economic growth and maintaining financial stability by directing funds to productive sectors while managing risks that affect profitability and resilience. This study uses a Systematic Literature Review (SLR) guided by PRISMA principles to explore how risk management practices, especially Non-Performing Loan (NPL) management, influence bank performance. Lending, as the core banking activity, is key to profitability and financial intermediation, yet high NPL levels can undermine income and stability, particularly in developing countries like Indonesia. By reviewing 16 recent empirical studies, the findings show that effective risk management including strong credit governance, adherence to Basel III standards, technology-supported lending systems, and an empowered Chief Risk Officer helps reduce NPLs and improve financial performance as reflected in ROA, ROE, NIM, and other risk-adjusted indicators. Furthermore, a comprehensive approach that combines regulatory compliance, risk diversification, and sustainability strengthens long-term resilience. These insights provide practical guidance for regulators, bank managers, and researchers in designing flexible, transparent, and sustainable risk management strategies. The study emphasizes that managing NPLs is not just a technical or operational task but a central strategy for ensuring banks remain profitable, stable, and resilient over the long term.*

**Keywords:** *Banking Performance, Non-Performing Loans, PRISMA Review, Risk Management.*

## **ABSTRAK**

*Sektor perbankan memainkan peran penting dalam mendorong pertumbuhan ekonomi dan menjaga stabilitas keuangan dengan mengarahkan dana ke sektor produktif sekaligus mengelola risiko yang mempengaruhi profitabilitas dan ketahanan. Penelitian ini menggunakan Systematic Literature Review (SLR) yang dipandu oleh prinsip-prinsip PRISMA untuk mengeksplorasi bagaimana praktik manajemen risiko, khususnya pengelolaan Non-Performing Loan (NPL), mempengaruhi kinerja bank. Lending sebagai aktivitas inti perbankan adalah kunci profitabilitas dan intermediasi keuangan, namun tingkat NPL yang tinggi dapat merusak pendapatan dan stabilitas, terutama di negara berkembang seperti Indonesia. Dengan meninjau 16 studi empiris terbaru, temuan menunjukkan bahwa manajemen risiko yang efektif termasuk tata kelola kredit yang kuat, kepatuhan terhadap standar Basel III, sistem pinjaman yang didukung teknologi, dan*

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*Chief Risk Officer yang diberdayakan membantu mengurangi NPL dan meningkatkan kinerja keuangan seperti yang tercermin dalam ROA, ROE, NIM, dan indikator yang disesuaikan dengan risiko lainnya. Selain itu, pendekatan komprehensif yang menggabungkan kepatuhan terhadap peraturan, diversifikasi risiko, dan keberlanjutan memperkuat ketahanan jangka panjang. Wawasan ini memberikan panduan praktis bagi regulator, manajer bank, dan peneliti dalam merancang strategi manajemen risiko yang fleksibel, transparan, dan berkelanjutan. Studi ini menekankan bahwa mengelola NPL bukan hanya tugas teknis atau operasional tetapi strategi sentral untuk memastikan bank tetap menguntungkan, stabil, dan tangguh dalam jangka panjang.*

**Kata kunci:** Kinerja Perbankan, Kredit Bermasalah, Tinjauan PRISMA, Manajemen Risiko.

## INTRODUCTION

The banking industry plays a central role in maintaining financial system stability and promoting economic growth, especially in developing countries such as Indonesia. The intermediary function performed by banks not only facilitates efficient capital allocation but also plays a role in monetary policy transmission and risk balancing in the financial system (Kishan & Opiela, 2006; Sharipova & Asadova, 2023). Empirical studies by Levine (2005) show that strengthening the banking sector has a positive correlation with long-term economic growth, particularly through increased investment efficiency and total factor productivity. Meanwhile, Beck et al. (2007) emphasize that the development of the financial system, particularly banking, significantly reduces financial barriers for small and medium-sized enterprises, which are the main drivers of economic growth in developing countries.

Through their intermediary function, banks channel funds from surplus parties to productive sectors, which in turn support capital formation and job creation. Among all banking activities, lending is the most important, as it contributes the most to bank revenue, both in the form of interest and provisions. Even under normal economic conditions, the proportion of credit can reach 70% to 90% of a bank's total assets (Firdaus & Ariyanti, 2011). However, credit disbursement does not always proceed smoothly. In practice, banking credit is often overshadowed by Non-Performing Loans (NPLs). According to Berger and Bouwman (2013), NPLs are loans that are not paid by borrowers according to the agreed schedule. According to the International Monetary Fund (2005) and the European Central Bank (2017), a loan is classified as an NPL if payments are more than 90 days overdue or are deemed unlikely to be fully recovered without realizing collateral. Berger and Bouwman (2013) emphasize that non-performing loans not only burden the bank's balance sheet but also have a negative impact on intermediation and profitability because banks are required to set aside provisions for loan losses. Therefore, effective NPL management through credit compliance strategies and technology-based loan management systems is a strategic necessity in maintaining stability and improving bank performance, especially in developing countries such as Indonesia.

High NPL ratios force banks to set aside substantial loan loss provisions, reducing productive capital and profitability (Balgova et al. 2016). In October 2024, Indonesia's banking NPL ratio reached 2.20% of total credit disbursements, highlighting ongoing credit risk challenges (Financial Services Authority, 2024). This underscores the need for effective credit management through loan compliance strategies and technology-based Loan Management Systems (LMS), which together can mitigate risk, enhance decision-making, and improve efficiency and profitability. Persistent NPLs indicate that structural issues in credit processes remain unresolved, threatening financial stability and intermediation.

The stability and sustainability of banking performance depend heavily on effective risk management, which has become a strategic pillar amid complex economic and regulatory challenges. Standards such as Basel II/III and the Capital, Assets, Management, Earnings, Liquidity, dan Sensitivity to Market Risk (CAMELS) rating system emphasize managing credit, market, and operational risks as key determinants of

capital adequacy and profitability (Sangmi & Nazir, 2010). Empirical studies indicate that the risk–performance relationship is dynamic and context-specific. In Indonesia, credit risk measured by Non-Performing Loans (NPL) negatively affects bank performance, while liquidity ratios show variable effects depending on institutional strategies (Azmi & Takarini, 2019; Putri & Syafruddin, 2023). Globally, Nguyen (2023) found NPLs reduced return on asset and return on equity in Vietnam, while Hossain and Ahamed (2021) highlighted the moderating role of external factors such as gross domestic product growth and non-interest income. The variation in findings across contexts and periods underscores the need for a systematic literature synthesis.

To address this gap, a Systematic Literature Review (SLR) approach based on PRISMA is highly relevant. This approach not only enables transparent and replicable literature compilation and selection but also helps identify consistent patterns of relationships and inconsistencies in findings across studies. Therefore, this article aims to systematically review the empirical evidence of how the relationship between variables and the influence of risk management practices affect bank performance, with reference to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework as a methodological guideline. The results of this review are expected to enrich the academic literature and provide an evidence-based basis for decision-making for bank management and financial regulators.

## **LITERATURE REVIEW**

### **Banking Performance Concepts and Indicators**

Bank performance represents the efficiency and effectiveness of financial institutions in utilizing resources, managing risks, and implementing strategies to achieve profitability, solvency, and long-term stability. Common financial indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) are widely used to assess profitability and operational efficiency (Yuhasril, 2019; Astuti & Husna, 2020). A comprehensive evaluation framework frequently applied is the CAMELS model comprising Capital, Asset quality, Management, Earnings, Liquidity, and Sensitivity to market risk which integrates managerial competence with financial soundness (Sangmi & Nazir, 2010; Ledhem & Mekidiche, 2020). Each element interacts dynamically, with capital adequacy safeguarding solvency, asset quality reducing default exposure, and liquidity ensuring stability in fulfilling obligations.

According to the Bank for International Settlements (2011), the consistent application of these indicators enhances banks' ability to anticipate risk fluctuations. High Non-Performing Loan (NPL) ratios directly reduce ROA and ROE through increased provisions, while efficient liquidity management improves intermediation but may limit profitability when reserves are excessive (Nguyen, 2023; Eltweri et al., 2024). Bank size also influences outcomes: smaller banks often show higher operational efficiency due to flexibility, whereas larger banks benefit from economies of scale but face governance complexities (Colesnic et al., 2020). Furthermore, macroeconomic variables such as inflation, interest rate, and GDP growth significantly moderate performance relationships (Hossain & Ahamed, 2021). Therefore, performance measurement should integrate both internal efficiency and external dynamics to capture the holistic financial health of banks in diverse economic settings.

### **Risk Management and Banking Stability**

Risk management is fundamental to maintaining financial stability, serving as both a regulatory requirement and a strategic necessity. Effective frameworks emphasize the proactive identification, assessment, and mitigation of major risks: credit, liquidity, market, and operational that collectively determine profitability and resilience (Bank for International Settlements, 2011). Empirical studies consistently highlight the negative effect of credit and liquidity risks on financial outcomes. High NPL ratios burden bank capital and restrict new lending, while poor liquidity control weakens profitability (Karamoy & Tulung, 2020; Azmi & Takarini, 2019). However, adequate capitalization

through the Capital Adequacy Ratio (CAR) or Tier-1 capital strengthens resilience and mitigates risk-related losses, enhancing long-term returns (Yamin et al., 2025; Mala & Jumono, 2025).

Beyond quantitative indicators, governance structures significantly determine risk management success. The role of the Chief Risk Officer (CRO), independence of the risk committee, and transparency in disclosure practices are proven to enhance decision-making and oversight quality (Hassan et al., 2024; Abid et al., 2021). Integrating risk management into corporate governance fosters accountability and reduces the likelihood of crisis escalation. Moreover, external conditions such as market regulation, economic cycles, and ownership patterns shape how risks manifest within institutions (Oyewo, 2022). Vovchenko (2021) further emphasizes that risk management systems must adapt to emerging risks, such as digital, environmental, and geopolitical challenges, through integrated structures and a strong internal control culture. Thus, effective risk management represents not only compliance with Basel III principles but also a continuous strategic process supporting sustainable banking performance (Maulana et al., 2024).

### **Empirical Evidence and Research Gaps**

Empirical studies provide robust evidence that risk management practices have a significant yet context-dependent impact on bank performance. Tamakloe et al. (2023) found that operational risk exerts the strongest influence on profitability compared to credit and market risks, suggesting that internal efficiency plays a decisive role in financial outcomes. Similarly, Buzaubayeva et al. (2024) confirmed that regulatory compliance indirectly enhances performance through improved risk management efficacy, reinforcing the mediating role of governance. Studies on sustainability, such as Weber and Chowdury (2020), also reveal that integrating environmental risk management improves long-term profitability, while Malahim (2023) reported that voluntary disclosure increases investor trust and firm value. Despite these findings, some research indicates that risk management does not always yield significant performance improvements, reflecting the moderating role of regulation and ownership structure (Sunaryo, 2022; Putri & Syafruddin, 2023).

The variation in results across contexts points to a persistent research gap in understanding how institutional and external factors interact to shape the risk-performance nexus. Most studies remain limited by geographic scope and variable selection, restricting cross-country comparability. Consequently, the use of a Systematic Literature Review (SLR) guided by the PRISMA framework offers methodological rigor in synthesizing diverse findings (Page et al., 2021). This approach enables a clearer identification of consistent patterns, contradictions, and emerging research priorities. In particular, future research should focus on how digital transformation, sustainability integration, and governance diversity influence risk management effectiveness. Addressing these dimensions will advance theoretical understanding and support more adaptive, data-driven risk management models that align with the evolving dynamics of global banking performance.

### **RESEARCH METHODS**

This study uses a Systematic Literature Review (SLR) approach based on the latest version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021). This approach was chosen because it provides a comprehensive, transparent, and standardized framework for systematically and objectively identifying, screening, evaluating, and synthesizing the results of previous studies. By following the PRISMA protocol, the literature review process becomes more replicable and avoids selection bias, thereby increasing the validity and reliability of the study results.

The main data source in this study was obtained from Scopus, one of the largest and most credible international scientific databases, which covers Q1 to Q4 indexed journals in various disciplines, including management, finance, and banking. The selection of

Scopus as the primary database was based on the completeness of metadata, multidisciplinary coverage, and standardization of publication quality, which enables in-depth bibliometric and thematic analysis based on big data literature.

The literature review was conducted through a systematic four-stage process. The first stage, identification, involved searching the Scopus database, which yielded 1,006 articles that were then imported into a reference management platform for further processing. During the screening stage, exclusion criteria were applied, removing publications prior to 2016, conference papers, book chapters, incomplete studies, non-English articles, and non-open-access literature. This reduced the pool by 789 articles, leaving 217 for further evaluation. In the eligibility stage, the titles and abstracts of these 217 articles were assessed for relevance to the research topic on the influence of risk management on bank performance, resulting in the exclusion of 202 irrelevant articles. Finally, in the inclusion stage, 16 articles meeting all criteria were selected, covering studies published between 2016 and 2025 that focused specifically on the impact of risk management on bank performance.

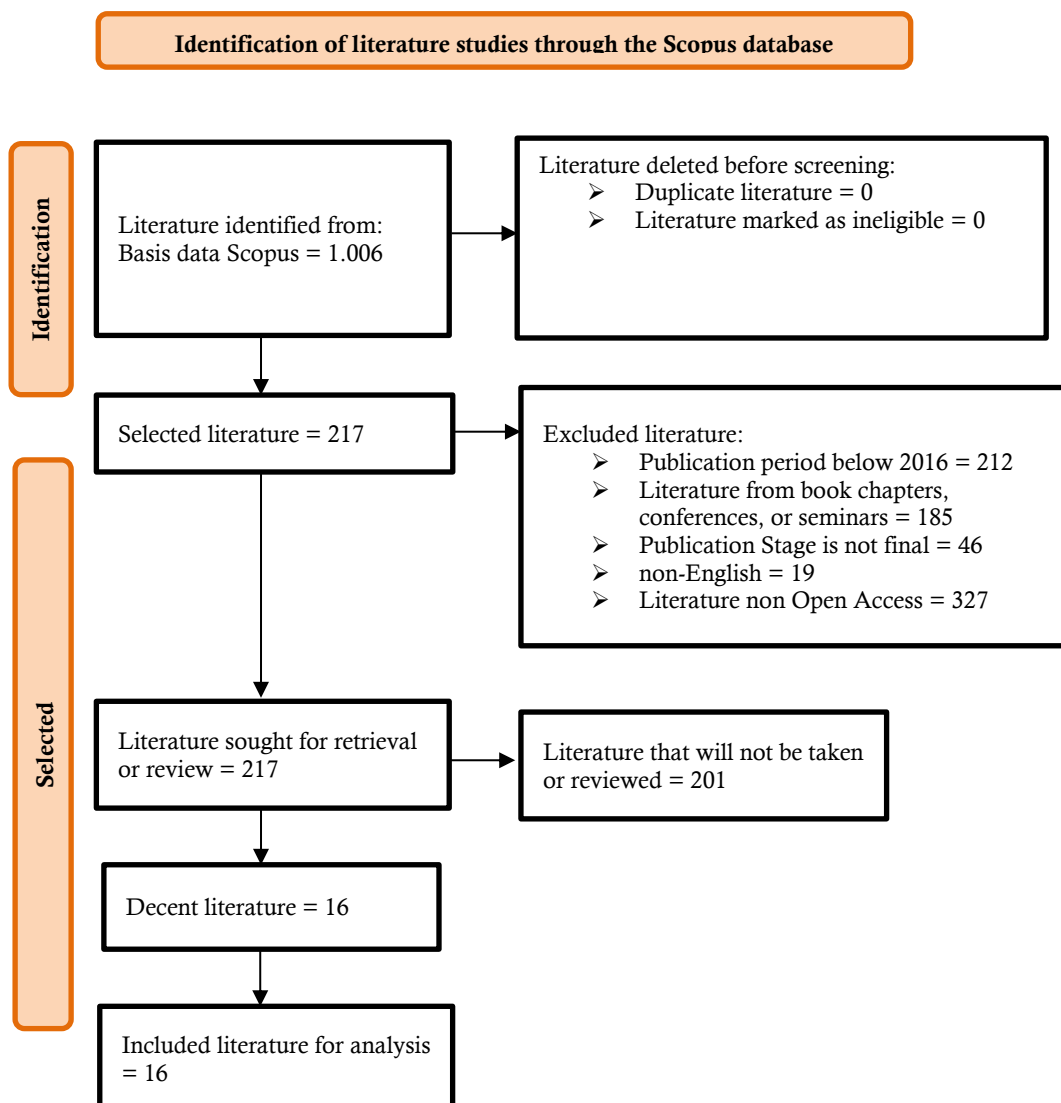


Figure 1. Steps for Retrieving Articles

Figure 1 shows that the Systematic Literature Review (SLR) method, in conjunction with the PRISMA stages, yielded data that underwent further analysis. The material was categorized into multiple sections, specifically the primary themes of risk management

and bank performance, in order to carry out the analysis procedure. A thorough summary of the connection between risk management and bank performance was then produced by methodically organizing the outcomes of the processing and analysis phases.

## RESULTS

### Liquidity and Credit Risk Effects on Profitability

The results of this systematic literature review provide comprehensive insights into how various dimensions of risk management affect bank performance across different contexts, methods, and regulatory frameworks. A total of sixteen empirical studies published between 2017 and 2025 were analyzed following the PRISMA selection stages. These studies collectively highlight that effective risk management practices, encompassing liquidity, credit, market, operational, and governance-related risks play a decisive role in determining profitability, stability, and efficiency in the banking sector. The findings are summarized in Table 1, which presents the relationship between the variables, research designs, and key findings of each study.

Table 1. Results of Literature Review Analysis

Researcher (Year)	Key Variables	Method	Main Findings
Eltweri et al. (2024)	LDR, LCR, NPL, CDR → ROA, ROE, NIM	Quantitative, Panel Regression	Liquidity and NPLs reduce profitability; LCR increases stability but lowers ROA; macro factors (inflation, rates) moderate effects.
Cobbinah et al. (2024)	Credit Risk, Liquidity Risk → ROE, ROA	Panel Regression	Credit risk can increase ROE when managed well; liquidity risk reduces profitability; market risk can enhance returns.
Yamin et al. (2025)	CRAR, Tier-1, Tier-2, Bank Size, Provisions → ROA, NPL	Fixed-Effect Regression	Higher capital ratios raise ROA and reduce NPL; larger banks have higher risk; provisions lower profitability.
Hassan et al. (2024)	Risk & Board Governance, CRO Role → NIM	Panel Data (109 banks, 8 countries)	Risk governance (CRO experience, diversity, board link) raises NIM; excessive independence reduces effectiveness.
Olowofela et al. (2025)	Board Structure, Gender Diversity, Risk Committee	Dynamic Panel (GMM)	Non-executive & diverse boards improve performance; large/overly independent boards reduce efficiency.
Buzaubayeva et al. (2024)	Regulatory Compliance (RC), Risk Management Efficacy (RME) → Financial Performance	SEM	RC and RME positively affect FP; RME mediates effect; model explains 24.8% variance.
Anantadjaya et al. (2024)	Sustainability, CAMEL Indicators → SP, EPS, PE	SEM (SPSS & AMOS)	Sustainability boosts performance; CAMEL inversely related to profit (stability > returns).
Tamakloe et al. (2023)	Credit, Operational, Liquidity, Market Risk → ROA	Panel Regression	Operational risk dominates ( $R^2 = 99.24\%$ ); total risk management most effective overall.
Colesnic et al. (2020)	Inputs & Outputs incl. NPLs	DEA (DDF Framework)	Small banks more efficient; NPLs as "bad outputs" reduce efficiency; oil shocks harm large banks.
Malahim (2023)	Total Risk Disclosure (TRD), RM Committee	OLS Regression	TRD increases firm value; independence and expertise improve value; excessive formality ineffective.
Weber & Chowdury (2020)	Sustainability Score (SS) → Financial Performance	Panel Regression	Sustainability improves next-year FP; larger banks perform better; actions mostly regulatory-driven.
Abid et al. (2021)	Risk Governance (RC, CRO, Meetings) → Tobin's Q	GLS & GMM	Risk governance lowers risk; CRO independence key; stronger effect in private vs. state banks.
Vovchenko (2021)	Risk Management Practices → Stability	Comparative Analysis	Integrated risk culture reduces crisis probability (68%→46%); emphasizes "three lines of defense."

Researcher (Year)	Key Variables	Method	Main Findings
Amoozegar et al. (2017)	RM Factor, CRO Role → Litigation Risk & Performance	Logistic Regression, 2SLS	Strong RM lowers litigation and boosts ROA; governance quality links RM to financial outcomes.

As shown in Table 1, the first group of studies focused on the influence of liquidity and credit risks on bank profitability indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). For instance, Eltweri et al. (2024) found that higher levels of Non-Performing Loans (NPL) and Loan to Deposit Ratio (LDR) negatively affect ROA and ROE, reflecting the inverse relationship between liquidity risk and profitability. Their results also indicated that while the Liquidity Coverage Ratio (LCR) enhances financial stability, it can reduce short-term profitability due to the holding of low-yield liquid assets. Similarly, macroeconomic variables such as inflation and interest rates moderate these effects, emphasizing the interaction between external and internal risk factors in shaping performance outcomes.

Cobbinah et al. (2024) supported these findings, revealing that although credit risk typically increases the likelihood of financial instability, effective credit risk management can generate higher ROE through optimized interest-based lending. However, they also reported that excessive liquidity risk has a negative impact on profitability because holding liquid assets limits earning potential. Their results underline the trade-off between maintaining liquidity and achieving profitability, especially in markets with high volatility. In contrast, market risk exposure, when managed strategically, was found to enhance bank earnings, suggesting that controlled engagement with interest rate and exchange rate fluctuations may offer competitive advantages.

The results of Yamin et al. (2025) further reinforced the critical role of capital adequacy in risk management. Their multivariate regression analysis showed that both Capital to Risk-Weighted Assets Ratio (CRAR) and Tier-1 Capital Ratio positively influence ROA and reduce NPL levels, confirming that higher capital buffers strengthen resilience and profitability. Interestingly, bank size was found to have a dual effect larger banks demonstrated lower profitability but higher credit risk, indicating that complexity and risk exposure grow with institutional expansion. Provisioning for loan losses, on the other hand, negatively affected ROA while positively correlating with NPLs, reflecting prudential behavior in response to deteriorating asset quality.

### **Corporate Governance Mechanisms and Bank Financial Performance**

A similar emphasis on governance emerged from Hassan et al. (2024), who found that corporate governance mechanisms significantly influence NIM across Asian emerging markets. Their findings revealed that risk governance factors, particularly the presence of an experienced Chief Risk Officer (CRO), gender diversity on the risk committee, and direct reporting to the board, positively affect profitability. However, the dominance of independent directors sometimes had a negative influence due to limited operational insight. These results highlight that governance structure must balance oversight independence with technical expertise to optimize performance.

Complementary findings were presented by Olowofela et al. (2025), who examined board characteristics and risk committee mechanisms. Using a dynamic panel regression model, they observed that while non-executive directors and gender diversity improved performance, excessively large or overly independent boards tended to hinder effectiveness. The study demonstrated that optimal governance structures promote objectivity without sacrificing coordination or practical knowledge. Risk committee size was also found to inversely correlate with performance, suggesting that efficiency declines when oversight bodies become too large and bureaucratic.

The role of regulatory compliance and internal control effectiveness was explored by Buzaubayeva et al. (2024). Using Structural Equation Modeling (SEM), they established that Regulatory Compliance (RC) and Risk Management Efficacy (RME) both have

significant positive effects on Financial Performance (FP). RC indirectly enhances profitability by strengthening RME, while direct effects on FP are smaller but still statistically significant. Their model explained 24.8% of performance variation, suggesting that while compliance contributes to performance, it must be complemented by proactive risk culture and managerial competence.

### **Impact of Sustainability Integration on Bank Performance**

Sustainability-oriented frameworks also emerged as key determinants of performance. Anantadjaya et al. (2024) integrated the CAMEL approach with sustainability indicators and found that sustainability positively affects bank performance by 49.8%. Environmental disclosure was the strongest explanatory factor, reflecting growing investor and regulatory attention to sustainable finance. However, CAMEL indicators showed a negative relationship with profitability, indicating that internal stability mechanisms often prioritize prudence over short-term returns. Similarly, Weber and Chowdury (2020) reported that sustainability scores improve financial performance in the subsequent year, especially among larger banks with stronger environmental commitments. Their findings suggest that sustainability integration is reactive in emerging economies, driven more by external compliance than strategic alignment.

Tamakloe et al. (2023) emphasized that among all risk dimensions, operational risk exerts the strongest influence on bank performance. Using panel data regression, they discovered that operational risk explained over 99% of performance variation in Ghanaian banks, significantly more than credit, liquidity, or market risks. The study further confirmed that a holistic “Total Risk Management” approach, combining all four risk types yielded the most substantial performance benefits. These findings underscore that inefficiencies and process-related vulnerabilities can outweigh traditional financial risks, making operational discipline essential for sustained profitability.

Efficiency-based studies, such as those by Colesnic et al. (2020), offered additional insights into the technological and structural aspects of risk management. Employing the Directional Distance Function (DDF) in a Data Envelopment Analysis (DEA) framework, they found that smaller banks tend to be more technically efficient in managing risk than larger ones, especially during crises. The inclusion of NPLs as undesirable outputs demonstrated how poor asset quality directly reduces efficiency. Moreover, external shocks such as oil price fluctuations were shown to diminish efficiency in major banks, highlighting the importance of technology adoption and scale-sensitive risk practices.

Other studies, such as Malahim (2023), addressed the importance of transparency through voluntary risk disclosure. Based on agency and signaling theories, her results revealed that higher Total Risk Disclosure (TRD) significantly enhances firm value, as reflected in market-based indicators like the Market-to-Book Ratio (MTBR). Risk management committee characteristics including independence, expertise, and executive involvement positively influenced valuation, while excessive formal qualifications and meeting frequency had negligible or even negative effects. These outcomes suggest that the quality of disclosure and committee functionality is more critical than mere structural compliance.

Governance-linked risk management was also analyzed by Abid et al. (2021), who examined Asian banks from 2010 to 2017 using Generalized Least Squares (GLS) and Generalized Method of Moments (GMM) techniques. Their findings indicated that robust risk governance mechanisms particularly the independence of the CRO and the frequency of risk committee meetings significantly reduce credit, liquidity, and operational risks. However, the effect on Tobin's Q as a measure of market performance was mixed. Notably, privately owned banks benefitted more from governance improvements than state-owned ones, reflecting the influence of ownership structure on governance effectiveness.

In another related study, Amoozegar et al. (2017) explored the preventive role of risk management in reducing litigation risk. Using logistic regression and Principal

Component Analysis (PCA), they demonstrated that financial institutions with strong risk management frameworks face fewer legal actions and exhibit better financial performance in both the short and long term. Their findings highlight that risk management not only mitigates financial and operational risks but also protects institutional reputation and compliance integrity.

At the macro-structural level, Vovchenko (2021) emphasized that risk management systems must evolve to address new types of risks, such as those arising from pandemics and political instability. His analysis of Ukrainian banks showed a steady reduction in the probability of financial crises, from 67.99% in 2017 to 46.04% in 2021 following the adoption of integrated risk governance and the “three lines of defense” model. This evolution underscores the necessity of embedding risk management into all levels of organizational processes to enhance systemic stability.

Collectively, the evidence from these studies reveals that bank performance is not determined solely by financial ratios but by the quality of governance, regulatory compliance, operational efficiency, and sustainability integration. Effective risk management enables banks to balance profitability with stability, adapting to both macroeconomic conditions and institutional dynamics. Variations in findings across countries and periods further indicate that contextual factors, such as national regulation, governance culture, and market structure, mediate the risk–performance relationship.

## **DISCUSSION**

Recent studies highlight the complex relationship between risk management and bank performance. Effective risk management significantly affects financial metrics such as ROE, ROA, NIM, and risk-adjusted returns, addressing risks including credit, liquidity, market, operational, and environmental risks through Basel III, governance, and disclosure practices. Suboptimal liquidity management, such as high LDR or LCR, can reduce profitability, whereas responsive strategies improve ROA and ROE (Chong et al., 2019; Karamoy & Tulung, 2020; Eltweri et al., 2024). Likewise, high NPLs negatively affect profitability, underscoring the need for rigorous credit assessment and asset quality control (Cobbinah et al., 2024; Yamin et al., 2025).

In terms of operational risk, Tamakloe et al. (2023) show that this risk contributes most significantly to variations in bank ROA, emphasizing the importance of operational efficiency and cost control. In fact, a total risk management approach that combines all types of risk simultaneously has proven to be more effective than a partial approach. Meanwhile, another study by Colesnic et al. (2019) shows that bank efficiency is greatly influenced by NPL management as a poor output, with small banks being more adaptive and efficient in responding to external risks.

On the other hand, a risk governance approach also plays an important role. Several studies, such as Abid et al. (2021), Hassan et al. (2024), and Olowofela et al. (2025) highlight the importance of risk committee structure, the role of the Chief Risk Officer (CRO), management independence, and diversity in enhancing oversight and risk decision-making efficiency. For example, the involvement of an experienced CRO, gender diversity in the risk committee, and direct reporting to the board of directors have been shown to increase a bank’s NIM and ROE. However, an overly large risk committee or the dominance of independent directors can reduce efficiency due to coordination conflicts and limitations in practical knowledge.

External factors such as sustainability and regulatory compliance also contribute to strengthening risk management practices and bank performance. Research by Buzaubayeva et al. (2024) shows that compliance with regulations can enhance the effectiveness of risk management, which in turn positively impacts bank profitability and financial resilience. Sustainability practices such as Environmental Risk Management (ERM) have also been proven to increase ROA and ROE especially when integrated into core business strategies rather than merely as symbolic compliance (Weber & Chowdury, 2020).

Voluntary risk disclosure and transparent risk governance, as explained by Malahim (2023), strengthen market perception and investor confidence, which in turn impacts the increase in company value. Risk communication aspects, the presence of executives on the risk management committee, and the integration of governance structures are determining factors in strengthening the stability and reputation of banks.

In the context of Basel III implementation, Yamin et al. (2025) show that capital adequacy (CRAR and Tier-1 Capital Ratio) significantly reduces credit risk and increases ROA, although the effectiveness of its implementation depends on the readiness of the national regulatory infrastructure. Meanwhile, the CAMEL approach, commonly used to assess bank health, actually shows a negative contribution to market performance, indicating that stability does not always go hand in hand with short-term profitability (Anantadjaya et al., 2024).

From a systemic perspective, structured risk management supported by trained staff, strong internal audits, and business model-based risk identification enhances bank stability and reduces crisis risk (Amoozegar et al., 2017; Vovchenko, 2021). Serving both defensive and strategic purposes, effective risk management depends on regulatory compliance, operational efficiency, governance, and long-term strategies integrating sustainability and transparency. Banks that manage risk holistically tend to perform better financially, resist external pressures, and gain greater trust from markets and regulators.

## CONCLUSION

This study concludes that effective risk management practices play a fundamental role in determining the financial performance and stability of banks. The synthesis of sixteen empirical studies demonstrates that credit, liquidity, market, and operational risks jointly influence profitability indicators such as ROA, ROE, and NIM. Sound capital adequacy, efficient liquidity control, and well-structured governance mechanisms particularly the role of risk committees and the Chief Risk Officer are shown to enhance resilience and operational efficiency. Furthermore, sustainability, transparency, and compliance with regulatory frameworks strengthen long-term performance by integrating financial prudence with strategic adaptability. Banks that implement comprehensive, proactive, and integrated risk management frameworks tend to achieve superior performance and greater institutional stability.

The findings of this review imply that risk management should be viewed not only as a regulatory necessity but as a strategic driver of competitiveness and sustainability. For practitioners, the integration of governance, technology, and sustainability principles is essential to strengthen decision-making and prevent systemic vulnerabilities. However, this study is limited by its reliance on secondary data and the scope of literature reviewed, which may not capture all contextual variations across countries and bank types. Future research should explore longitudinal analyses and cross-regional comparisons, incorporating emerging dimensions such as digital transformation, environmental risks, and cultural influences on governance effectiveness. Expanding these perspectives will deepen understanding of how risk management practices can evolve to meet the complex challenges of the modern banking industry.

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