**Board Independence as a Moderator: How Liquidity Risk Influences Bank Credit Ratings in Ghana, Nigeria and Togo**

***Abstract***

***Purpose***

*This study looks at how board independence influences the relationship between liquidity risk and credit ratings in Nigerian, Ghanaian, and Togolese listed banks. It attempts to investigate how governance arrangements affect the impact of liquidity risk on creditworthiness in emerging financial markets.*

 ***Design/methodology/approach***

*Based on innovation, stewardship, and financial development theories, the study uses an ex post facto research design and a purposive sample of 28 IFRS-compliant banks with publicly revealed credit ratings from 2012 to 2023. Standard & Poor's, Moody's, and Fitch data were used to create a composite credit rating index (CRIndex) using Principal Component Analysis (PCA). To test the postulated correlations, the analysis used ordinary least squares (OLS) regression with robust standard errors.*

***Findings***

*The results reveal a statistically significant and positive relationship between liquidity risk and credit ratings. Furthermore, board independence was found to significantly moderate this relationship, such that the positive impact of liquidity risk on credit ratings diminishes as board independence increases. Control variables, including firm size, profitability, and country-specific effects, were also significant predictors of credit rating outcomes.*

***Practical implications***

*The findings underscore the importance of corporate governance structures in shaping how liquidity risk is interpreted by credit rating agencies. Regulators and financial institutions may consider tailoring governance and disclosure standards to reflect the nuanced effects of board independence, particularly in regions with concentrated banking systems and evolving regulatory frameworks.*

***Originality/value***

*This study contributes to the literature on financial risk and corporate governance by offering novel empirical insights into how board independence interacts with liquidity risk to influence credit ratings. The use of a unified CRIndex enhances the methodological robustness, and the regional focus fills a notable gap in emerging market credit risk research.*

***Keywords:*** *Credit Rating, Board Independence, Liquidity Risk, Corporate Governance, Principal Component Analysis*

# **1. Introduction**

Credit ratings are important instruments for assessing the financial stability of individuals, organizations, and governments, influencing investment decisions, market trust, and borrowing prices. Their significance is particularly high in underdeveloped economies, because insufficient openness exacerbates information gaps (Abid & Naifar, 2006; Gillette et al., 2020). Leading rating agencies such as Standard & Poor's, Moody's, and Fitch use complex studies that include fiscal, macroeconomic, and geopolitical elements to assess default risk (Verster et al., 2019; Afonso et al., 2010). Despite their global significance, these institutions face significant criticism, notably for their assessments of African countries, which some believe are tainted by structural biases and foreign political influence. In response, initiatives such as the African Union's quest for a regional rating agency (APR Forum, 2024) have aimed to deliver more nuanced and impartial assessments adapted to the continent's distinct economic context.

 In the Economic Community of West African States (ECOWAS), where financial markets are still developing, the interplay between credit ratings, liquidity risk management, and corporate governance requires more scholarly and governmental attention. Risk management, which includes techniques for reducing credit and liquidity concerns, remains critical to financial and institutional sustainability (Saunders & Cornett, 2014). On the other side, corporate governance guarantees that such risk management techniques are carried out with integrity and responsibility. Board independence, defined as the proportion of independent non-executive directors on the board, is one of the most important aspects of effective governance. Independent directors are expected to provide neutral oversight, reducing managerial opportunism and improving strategic monitoring (Fuzi et al., 2016; Hillman and Dalziel, 2003).

 This study addresses a significant need by investigating how board independence effects the link between liquidity risk and credit ratings in banking institutions in Ghana, Nigeria, and Togo. Although competent liquidity risk management is critical for bank creditworthiness, its effectiveness may be dependent on the board's autonomy and skill. Independent boards could deepen this linkage through thorough oversight or, conversely, diminish it if their position is solely ceremonial or vulnerable to external demands. This dichotomy emphasizes the significance of examining board independence as a moderating factor in the liquidity risk-credit rating dynamic for banks in certain West African countries.

 The available research on this relationship in Sub-Saharan Africa is minimal and inconclusive. Previous investigations have typically addressed governance mechanisms and risk indicators separately, leaving an incomplete picture of credit rating determinants. Furthermore, the diversity of governance systems across Wesat African nations complicates drawing consistent conclusions and developing regional strategies (Agyemang-Mintah & Schadewitz, 2018). These constraints underscore the need for more thorough analytical methodologies that incorporate contextual factors, including board independence, into the risk-rating paradigm.

This study looks at how board independence influences the relationship between liquidity risk and bank credit ratings in Nigeria, Ghana, and Togo. This study intends to provide significant information that can be used to improve governance and creditworthiness throughout West Africa. The study has two main goals: (i) to determine the direct impact of liquidity risk on credit ratings, and (ii) to investigate how board independence influences this relationship. This analysis addresses a significant research need while also contributing to theoretical knowledge and policy development.

This study adds three substantial contributions to the existing literature. First, it takes a novel

method by creating a composite credit rating index using Principal Component Analysis (PCA)

and combining data from S&P, Moody's, and Fitch to produce a comprehensive evaluation tool for

West African banks. Second, it improves corporate governance research by looking at board

independence as a moderating variable in African financial institutions and applying theoretical

frameworks from Stewardship, Innovation, and Financial Development theories. Third, this

analysis provides policymakers with actionable insights into how to harmonize governance

standards, improve financial stability, and boost market confidence across the region.

The paper is divided into five sections. Following this introduction, Section 2 examines the

relevant literature, including conceptual frameworks, previous empirical research, and theoretical

perspectives. Section 3 discusses the research design and analytical procedures. Section 4 presents

and interprets the study's findings. The final section provides concluding observations and policy

recommendations, recognizes study limitations, and identifies prospective areas for future research.

# **2. Literature Review**

## **2.1 Conceptual Review**

The conceptual review begins by defining credit rating as an assessment of an entity’s capacity to fulfill its financial commitments, acting as a key measure of credit risk for stakeholders such as investors, regulators, and financial institutions. Major agencies, such as Standard & Poor’s (S&P), Moody’s, and Fitch Ratings, use systematic approaches to classify creditworthiness, with scales spanning from high-grade (e.g., AAA to BBB-) to high-risk or non-investment grade (e.g., BB+ to D), where downgrades signal increased default likelihood (S&P, 2022; S&P Global Ratings, 2024). Their methodologies integrate quantitative metrics (e.g., debt ratios, liquidity, and interest coverage) and qualitative elements (e.g., corporate governance, sector volatility, and economic trends). For example, S&P evaluates financial stability, operational risks, and governance frameworks, while also accounting for external factors, such as political climate and economic growth (S&P Global Ratings, 2024). Moody’s, on the other hand, distinguishes between long-term and short-term credit assessments, incorporating issuer-specific and debt instrument analyses, including structured finance products (Moody’s, 2022). Meanwhile, Fitch emphasizes default likelihood and recovery rates, integrating sectoral benchmarks, management forecasts, and industry dynamics into its evaluation (Fitch, 2023). Together, these agencies establish a consistent forward-looking system to gauge liquidity risk and enhance transparency and efficiency in financial markets.

Liquidity risk is a crucial element in banking and reflects the ability of institutions to meet short-term obligations without significant losses (Saleh & Afifa, 2020). It arises from mismatches in the maturities of assets and liabilities, or unexpected market disruptions (Maaka, 2013). According to Nikolaou (2009), liquidity not only involves holding cash but also the ability to convert assets efficiently to meet liabilities. Banks manage liquidity risk through buffers, stress testing, and adherence to regulatory standards, such as the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), as introduced under Basel III (Bonfim & Kim, 2012; Krykliy & Luchko, 2018).

Liquidity risk manifests as funding or market liquidity risk, either through difficulty in acquiring funds or selling assets promptly (Drehmann & Nikolaou, 2013). Several financial ratios were employed to evaluate a bank's capacity to manage liquidity risk.

1. **Current Ratio**: This measures a firm’s ability to pay short-term obligations using all current assets.
	* Formula: Current Ratio = Current Assets / Current Liabilities
2. **Quick Ratio (Acid-Test Ratio)**: This assesses a company’s ability to meet short-term liabilities with its most liquid assets, excluding inventory.
	* Formula: Quick Ratio = (Current Assets - Inventory) / Current Liabilities
3. **Cash Ratio**: This provides the most conservative measure by focusing only on cash and cash equivalents.
	* Formula: Cash Ratio = Cash and Cash Equivalents / Current Liabilities

These ratios offer insights into financial health and are positively associated with profitability across banking systems (Masood & Javaria, 2017; Bitar et al., 2020). Additionally, the NSFR is designed to ensure stable, long-term funding and mitigate systemic risks (Giordana & Schumacher, 2013; Ly et al., 2017).

In summary, effective liquidity risk management through robust regulatory frameworks and well-defined liquidity ratios is indispensable for maintaining banking stability, profitability, and stakeholder confidence.

Board independence reflects the degree to which independent non-executive directors operate without undue influence from management or financial interests, which may compromise impartial decision-making (Pichet, 2017; Martín & Herrero, 2018). Such directors enhance governance by providing objective oversight, strategic guidance, and ensuring that management decisions align with shareholder priorities (Fuzi et al., 2016; Muhammad & Kurawa, 2021). According to the Nigerian Code of Corporate Governance (NCCG, 2018), independent directors must lack significant business or personal ties with the company, with the requirement that a minimum of one-third of the non-executive board members meet this criterion. Theoretical frameworks, including agency, stewardship, and resource dependence theories, highlight their role in reducing agency conflicts, shaping corporate strategy, and facilitating external resource acquisition (Hillman & Dalziel, 2003; Kanadlı et al., 2022; Jiang, 2022; Islam et al., 2019). Research in Nigeria and other contexts, such as Sani (2020), Almaqtari et al. (2022), and Yunusa et al. (2023), commonly operationalizes board independence as the percentage of independent non-executive directors relative to the full board.

# **2.2 Empirical Review**

**2.2.1 Liquidity Risk and Credit Rating**

Empirical investigations of the relationship between liquidity risk and bank performance reveal inconsistent patterns in both the direction and significance of the results. Using Ordinary Least Squares (OLS) regression, studies across diverse national contexts, such as Malaysia (Saeed, 2014), Nigeria (Olamide et al., 2015; Inegbedion et al., 2020), and Kenya (Odhiambo, 2018), largely report non-significant relationships between liquidity risk proxies (e.g., loan-to-deposit ratio, liquidity ratio, liquid assets to total assets) and performance indicators such as ROA and ROE. For instance, Saeed (2014) and Olamide et al. (2015) found negative and non-significant effects, whereas Odhiambo (2018) found a positive but non-significant relationship. Other studies, such as those by Fadun and Oye (2020) in Nigeria, Mamari et al. (2022) in Oman and Chenga et al. (2020) in South Africa, report positive and statistically significant effects. In contrast, significant negative relationships were identified by Sathyamoorthi et al. (2020) in Botswana, and Jackson et al. (2022) in Sierra Leone. Moreover, regional heterogeneity and banking models appear to influence outcomes, as seen in Saiful et al. (2019), who find differing effects between Islamic and conventional banks in Indonesia. These variations reflect inconsistencies in both the direction and statistical significance of the estimated coefficients, suggesting that the relationship between liquidity risk and financial performance is sensitive to both contextual and methodological factors.

The broad application of OLS in these studies confirms its suitability for analyzing linear relationships in financial research. However, the inconsistency in the statistical significance and direction of the coefficients across various national contexts highlights the influence of proxy selection, measurement inconsistency, and contextual diversity.

While OLS is methodologically sound, researchers must rigorously validate model assumptions and apply robustness techniques, such as heteroskedasticity corrections and multicollinearity checks, to enhance reliability. Consequently, future studies should standardize proxy definitions and adopt more uniform methodologies to facilitate comparability and inferential accuracy. Accordingly, this study proposes the following hypothesis:

**H1**: Liquidity risk has a significant effect on credit ratings.

**2.2.4 Board Independence, Credit Risk and Credit Ratings**

Empirical studies of board independence provide contrasting perspectives. Aslam and Haron (2021), studying Islamic banks, reported a significant positive association between board structure including board size and Shariah boards and both credit and liquidity risk. Similarly, in Nigeria, Nkechi and Nkiru (2021) found board independence to be positively related to financial risk management among listed healthcare firms. Conversely, Delis et al. (2009) show that larger board sizes in European banks have a negative effect on liquidity due to increased coordination and decision-making inefficiencies. Gupta (2005), in a US context, found that investor reaction to board changes varied by director type and ownership structure, implying that board independence interacts with firm-specific governance dynamics. In the Gulf Cooperation Council (GCC), Mousa et al. (2023) highlighted the positive role of board independence, foreign representation, and board education in enhancing liquidity creation but noted no effect from gender diversity. Government ownership was found to influence governance-liquidity linkages. These studies collectively reveal variability in the direction and significance of findings, depending on the location, institutional context, and governance dimensions.

While board independence has been widely examined using firm-level governance metrics, the direction and significance of its effect on liquidity risk and credit rating remain context-specific. Variability across regions, ranging from West Africa to the GCC and Western markets, underscores the influence of institutional frameworks, ownership structures, and regulatory regimes.

The theoretical expectations of improved governance through independence are not consistent with empirical evidence. Therefore, future studies should incorporate moderating variables, such as board dynamics, ownership concentration, and regulatory environment, while employing robust econometric techniques and multi-country datasets to enhance external validity.

Based on these observations, this study formulated the following hypotheses:

**H2**: Board independence significantly moderates the relationship between credit risk and credit ratings.

# **2.3 Theoretical Framework**

Theoretical Framework for Risk Management, Governance, and Credit Ratings

This study examines the theoretical foundations underlying risk management, corporate governance, and credit rating systems, drawing on three principal theories: Innovation Theory, Stewardship Theory, and Financial Development Theory.

Innovation Theory (Rogers, 1962) posits that advancements in financial products, technologies, and processes enhance risk-management capabilities. Empirical studies (Li & Guo, 2021; Xu et al., 2023) have demonstrated that such innovations improve resilience across multiple risk categories, including market, operational, credit, and liquidity risks, and contribute to stronger credit assessments (Al-Najjar & Elgammal, 2013).

Stewardship Theory (Donaldson & Davis, 1991) challenges traditional agency assumptions by proposing that managers prioritize organizational interests over personal gains. Research (Davis et al., 2010; Sciascia et al., 2010) supports this view, showing that stewardship principles foster trust, accountability, and effective risk oversight, particularly when reinforced by independent board structures (Muth & Donaldson, 1998).

Financial Development Theory (Rajan & Zingales, as cited in Fisman & Love, 2007) underscores the interplay between financial sector growth and institutional governance. Subsequent research (Levine, 2005; Fisman & Love, 2007) extends this to argue that effective risk governance and liquidity management depend not only on bank-level policies, but also on a country’s regulatory environment and macroeconomic stability. In the banking context, this implies that credit risk frameworks are shaped by both internal governance and national financial policies (Laeven & Levine, 2009).

The Innovation Theory and Financial Development Theory can complement Stewardship Theory in governance by collectively promoting responsible, forward-thinking leadership that drives both institutional innovation and financial system efficiency. While Innovation Theory emphasizes adaptability and technological advancement, Financial Development Theory highlights the role of sound financial systems and governance structures in supporting economic growth and institutional transparency. Combined with Stewardship Theory which ensures that these developments are aligned with stakeholder interests through trust and accountability these theories offer a holistic governance framework that balances ethical leadership, financial resilience, and sustainable innovation.

The literature reviewed reveals persistent gaps and inconsistencies, particularly in emerging markets. By integrating these theoretical perspectives, this study aims to clarify how board independence influences liquidity risk practices and credit ratings in West Africa's distinct regulatory and economic landscapes. These findings address critical knowledge gaps while informing governance reforms in the region's banking sector.

**3. Methodology**

**3.1 Research Design and Data Source**

This study employed an ex-post facto design with pooled data to analyze the cross-sectional and temporal dimensions of credit ratings. The research focused on listed banks in Ghana, Nigeria, and Togo, strategically selected West African countries representing diverse regulatory and economic contexts, while maintaining IFRS compliance for comparability. Nigeria and Ghana, as Anglophone economies with robust banking sectors, have provided benchmarks for regional practices. Togo, a Francophone West African Economic and Monetary Union (Union Économique et Monétaire Ouest-Africaine, UEMOA) member, offers insights into IFRS implementation under Organization for the Harmonization of Business Law in Africa (Organisation pour l'Harmonisation en Afrique du Droit des Affaires, OHADA) frameworks, capturing linguistic and institutional diversity within West Africa.

IFRS focus ensures standardized, high-quality financial data, enhancing cross-country reliability. These nations reflect varying developmental stages in banking maturity from Nigeria’s sophisticated markets to Togo’s emerging sector. The 309 bank-year observations underwent rigorous completeness checks, aligning with Kerlinger & Lee’s (2000) principles for non-manipulative variable analysis. This approach strengthens the validity and regional applicability of the study.

**3.2 Population**

This study examined 30 listed commercial banks from Ghana, Nigeria, and Togo that met two key criteria: (1) full compliance with the International Financial Reporting Standards (IFRS) and (2) available credit rating data. The selected timeframe (2012-2023) corresponds to IFRS implementation across these markets and captures a complete business cycle relevant to the research objectives.

**3.3 Sample and Sampling Technique**

This study employed purposive sampling was used to select banks from Ghana, Nigeria, and Togo based on three criteria: (1) IFRS compliance; (2) active stock exchange listings; and (3) data availability for credit ratings and financial metrics (2012–2023). The countries represent West Africa's diverse banking landscapes, with Togo included specifically due to Ecobank's regional significance as a BRVM-listed institution (Bourse Régionale des Valeurs Mobilières). The final sample consisted of 28 banks that met all selection requirements (see Table 1).

**Table 1 Sample Filtering Process**

|  |  |
| --- | --- |
| Sampling Filtering Criteria  | Number  |
| Total number of banks listed on exchanges in Nigeria, Ghana and Togo (2023)  |  30  |
| Excluded banks lacking sufficient IFRS-compliant data (2012–2023)  |  (2)  |
| Final banks sampled for analysis  |  28  |
| Distribution of sampled banks:  |   |
| - Nigeria: 18 banks  |   |
| - Ghana: 8 banks  |   |
| - Togo: 2 banks  |   |

*Note:* *The observations represent pooled data, indicating that not all banks provided financial statements for each year within the study period.*

**3.4 Measurement of Variables**

The study's dependent variable, the Credit Rating Index (CRIndex), was constructed as a composite measure integrating three major agencies' ratings: Standard & Poor's (CR1), Moody's (CR2), and Fitch (CR3). Each rating was standardized and ordinalized (AAA/D scale) before applying the Principal Component Analysis (PCA). The first principal component, explaining 79.94% of the variance (eigenvalue = 2.398), was retained as the CRIndex, following Jolliffe and Cadima's (2016) dimensionality reduction approach. For the key independent variable, Liquidity Risk (LQ) was operationalized using the cash-to-current liabilities ratio. The chosen LQ (cash/current liabilities) directly captures a bank’s ability to meet short-term obligations without relying on external funding, a key concern for credit rating agencies (Alzoubi, 2017). Board Independence (BI) was measured as the percentage of independent non-executive directors. The moderating effect was captured through an interaction term (LQ×BI), computed as the product of mean-centered LQ and BI scores to mitigate multicollinearity. This measurement strategy ensures methodological consistency, while accounting for agency-specific rating methodologies. Table 2 presents a full list of variable measurements.

**Table 2 Measurement of Research Instruments**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **Variable Type** | **Measurement Description** | **Source** | **A Priori Expectation** |
| **CRIndex** | Dependent Variable | Composite credit rating index derived from PCA of CR1, CR2 and CR3 | Jolliffe & Cadima (2016) | NA |
| **LQ** | Independent Variable | Ratio of cash to current liability (%) | Alzoubi (2017) | Positive |
| **RS** | Control Variable | Number of members on the Risk Committee | Study Dataset | Positive |
| **CR** | Control Variable | Ratio of non-performing loans to total loans (%) | Study Dataset | Negative |
| **BI** | Moderator | % of independent non-executive directors on the board | Abubakar & Kurawa (2021) | Positive |
| **LQ\_BI** | Interaction Term | Interaction between Liquidity Risk and Board Independence (CR × BI) | Constructed | Positive |
| **ROA** | Control Variable | Net income to total assets (%) | Ekinci & Poyraz (2019) | Positive |
| **SIZE** | Control Variable | Natural logarithm of total assets | Dietsch & Petey (2002) | Positive |
| **Ghana** | Control Variable | Dummy: 1 = Bank based in Ghana, 0 = Otherwise | Demirgüç-Kunt & Levine (2001) | Neutral |
| **Togo** | Control Variable | Dummy: 1 = Bank based in Togo, 0 = Otherwise | Demirgüç-Kunt & Levine (2001) | Neutral |
| **Nigeria** | Reference Category | Dummy: 1 = Bank based in Nigeria, 0 = Otherwise | Demirgüç-Kunt & Levine (2001) | Reference |

**3.5 Econometric Model Specification**

Two linear regression models were used to test the hypotheses. Both were estimated using Ordinary Least Squares (OLS) with robust standard errors to correct for heteroskedasticity.

**Model 1: Baseline Model**

CRIndexit=β0+β1LQit+β2RSit+β3CRit+β4BIit+β5ROAit+β6SIZEit+β7Ghanai+β8Togoi+ϵit

This model tests the direct effects of credit risk, governance and firm characteristics on credit ratings.

**Model 2: Moderated Model**

CRIndexit=β0+β1LQit+β2RSit+β3CRit+β4BIit++β5(LQit×BIit)+β6ROAit+β7SIZEit+β8Ghanai+β9Togoi+ϵit

The interaction term LQ×BI captures whether the effect of credit risk on credit ratings is contingent on board independence or not.

**3.6 Estimation Procedure**

The analysis employed Ordinary Least Squares (OLS) regression with robust standard errors to account for potential heteroskedasticity, confirmed through Breusch-Pagan/Cook-Weisberg testing. Multicollinearity was assessed using Variance Inflation Factors (VIFs) for all explanatory variables. Model validity was verified using Wald tests for joint predictor significance. A comparative evaluation of R-squared and Adjusted R-squared values demonstrated enhanced explanatory power in the second model following the inclusion of the credit risk-board

independence interaction term. These diagnostic procedures ensured model robustness, confirming the absence of substantial multicollinearity or heteroskedasticity concerns.

**3.4.2 Derivation of the Composite Credit Rating Index (CRIndex)**

This study develops a Composite Credit Rating Index (CRIndex) using Principal Component Analysis (PCA) to integrate three agency ratings: S&P (CR1), Moody’s (CR2), and Fitch (CR3). PCA serves two key purposes: (1) reducing dimensionality by extracting shared variance, and (2) standardizing disparate rating scales into a unified metric. The initial correlation analysis revealed strong pairwise relationships among ratings (0.608–0.762), confirming PCA’s suitability of PCA. The first principal component (PC1) accounted for 79.94% of the total variance, with all three ratings demonstrating strong loading.

The resultant CRIndex addresses methodological variations across agencies while preserving the core creditworthiness signals. This composite measure was subsequently employed in Chapter 4 for robustness testing, following established practices in multivariate analysis (Hair et al., 2010).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Component  | Eigenvalue  | Difference  | Proportion  | Cumulative  | CR1  | CR2  | CR3  | Un-explained  |
| Comp1  | 2.398  | 2.004  | 79.94%  | 79.94%  | 0.559  | 0.601  | 0.571  | 0  |
| Comp2  | 0.394  | 0.187  | 13.14%  | 93.08%  | 0.756  | -0.087  | -0.649  | 0  |
| Comp3  | 0.208  |   | 6.92%  | 100%  | 0.341  | -0.795  | 0.503  | 0  |
| Variable  | Obs  | Mean  | Std. dev.  | Min  | Max  |   |   |   |
| CRIndex  | 309  | 1.10E-08  | 1.54864  | -1.71094  | 5.141043  |   |   |   |
| Correlation  | CR1  | CR2  | CR3  |   |   |   |   |   |
| CR1  | 1  |   |   |   |   |   |   |   |
| CR2  | 0.7244  | 1  |   |   |   |   |   |   |
| CR3   | 0.6081  | 0.7619  | 1  |   |   |   |   |   |

**Table 3 Principal Component Analysis Results and Loadings**

Source: Author’s computation through Stata 18

**3.6 Justification of Methods**

This study employs an Ordinary Least Squares (OLS) regression framework to examine the relationship between liquidity risk (LQ), board governance characteristics, and credit ratings within the West African banking sector. The dependent variable, a composite Credit Rating Index (CRIndex), was derived through Principal Component Analysis (PCA) of the scores of three major credit rating agencies (Jolliffe & Cadima, 2016), effectively capturing the shared variance while

mitigating multicollinearity concerns. The analytical model incorporates liquidity risk as the primary explanatory variable and board independence (BI) as a moderating factor, operationalized through interaction terms to assess its conditional effects.

To ensure robust estimation, the specification included control variables for bank size and country fixed effects, accounting for operational scale differences and cross-national regulatory variations across the sample countries (Ghana, Nigeria, and Togo) (Dietsch & Petey, 2002; Demirgüç-Kunt & Levine, 2001). All econometric procedures were implemented using STATA 18 (Acock, 2014) with heteroskedasticity-consistent standard errors to address potential variance instability. This comprehensive approach provides a rigorous empirical foundation for testing the study's theoretical propositions while accommodating the unique institutional context of West African financial markets.

# **4. Data Presentation and Analysis**

**4.1 Descriptive Statistics**

**Table 4 Descriptive Statistics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **Observations** | **Mean** | **Std. Dev.** | **Min** | **Max** |
| CRIndex | 309 | 0.00873 | 1.56999 | -1.7109 | 5.14104 |
| RS | 309 | 6 | 1.9323 | 2 | 13 |
| CR | 309 | 10.4506 | 11.8729 | 0.27668 | 104.748 |
| LQ | 309 | 31.6915 | 65.8338 | 0.14851 | 868.39 |
| BI | 309 | 68.978 | 13.243 | 36.8421 | 93.75 |
| SIZE | 309 | 18.627 | 2.91158 | 13.2967 | 23.4295 |
| ROA | 309 | 1.59187 | 3.02661 | -23.226 | 6.96098 |
| Ghana | 309 | 0.28479 | 0.45205 | 0 | 1 |
| Togo | 309 | 0.05502 | 0.22838 | 0 | 1 |
| Nigeria | 309 | 0.66019 | 0.47441 | 0 | 1 |

The descriptive statistics from 309 observations (see Table 4) highlight notable variations in financial health, particularly liquidity (LQ) and board independence (BI). Liquidity, measured by the LQ ratio, exhibits extreme variability with a mean of 31.69 and a high standard deviation of 65.83. The values range from 0.15 to 868.39, suggesting substantial disparities in short-term financial stability among firms possibly due to sectoral differences or the presence of outliers with highly liquid asset bases. This widespread underscore the importance of liquidity management in

the sampled institutions. Board Independence (BI) presents a mean of 68.98 and a standard deviation of 13.24, ranging from 36.84 to 93.75.

These figures suggest relatively strong governance structures across firms, though some still exhibit weaker board independence, which may influence oversight effectiveness and disclosure practices. Other variables such as CRIndex, ROA and SIZE show moderate to high variability, with firm profitability ranging from -23.23 to 6.96 and size spanning from 13.30 to 23.43 (log scale). Geographically, the sample is skewed towards Nigeria (66.0%), with Ghana (28.5%) and Togo (5.5%) underrepresented. Overall, the data suggest significant heterogeneity in financial resilience and governance, which could shape firms’ performance and disclosure behavior in subsequent analyses.

**4.1.2 Correlation Matrix**

Table 5 presents the correlation matrix which offers preliminary insights into the relationships among key variables used in assessing the moderating effect of Board Independence (BI) on the relationship between Liquidity Risk (LQ) and Credit Rating (CRi). Liquidity risk (LQ) shows weak positive correlation with credit rating (CR = 0.0386), suggesting minimal direct association. However, BI is positively correlated with LQ (r = 0.0192) and CR (r = 0.0192), albeit weakly, implying a potential moderating influence in the LQ–CR relationship. BI correlates negatively with risk committee size (RS = -0.4811) and firm size (SIZE = -0.3808), reinforcing the notion that more independent boards tend to exist in smaller institutions. The dependent variable CRi (represented by CRIndex) shows weak negative correlation with CR (-0.0834) and LQ (0.0031), while country dummies reveal regional variation Ghana exhibits a positive association with CRIndex (0.2927), unlike Nigeria (-0.3020). These correlations suggest that country context, firm characteristics and governance structures interact in complex ways, meriting deeper multivariate analysis to test BI’s hypothesized moderating role.

**Table 5: Correlation Analysis**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **CRIndex** | **RS** | **CR** | **LQ** | **BI** | **SIZE** | **ROA** | **Ghana** | **Togo** | **Nigeria** |
| **CRIndex** | 1 |  |  |  |  |  |  |  |  |  |
| **RS** | -0.1592 | 1 |  |  |  |  |  |  |  |  |
| **CR** | -0.0834 | -0.1677 | 1 |  |  |  |  |  |  |  |
| **LQ** | 0.0031 | -0.0626 | 0.0386 | 1 |  |  |  |  |  |  |
| **BI** | 0.0428 | -0.4811 | 0.0192 | 0.0192 | 1 |  |  |  |  |  |
| **SIZE** | -0.075 | 0.4408 | -0.2976 | -0.1056 | -0.3808 | 1 |  |  |  |  |
| **ROA** | 0.1566 | 0.0242 | -0.3926 | 0.0385 | -0.0229 | -0.0231 | 1 |  |  |  |
| **Ghana** | 0.2927 | 0.4163 | 0.0888 | 0.071 | 0.3422 | -0.6954 | 0.0855 | 1 |  |  |
| **Togo** | 0.048 | -0.0147 | -0.0195 | -0.049 | 0.1496 | -0.0133 | -0.0635 | -0.1523 | 1 |  |
| **Nigeria** | -0.302 | 0.4038 | -0.0752 | -0.0441 | -0.3982 | 0.6691 | -0.0509 | -0.8796 | -0.3363 | 1 |

**4.1.3 Model Fit, Diagnostics and Robustness**

As presented in Table 6., the model diagnostics demonstrate sound statistical validity. The multicollinearity check using the Variance Inflation Factor (VIF) reveals no indication of serious multicollinearity, as all variables report VIF values well below the conventional threshold of 10. The highest VIF is recorded for firm size (SIZE = 2.41), followed by Ghana (2.20) and risk committee size (RS = 1.50), suggesting moderate but acceptable collinearity levels. With a mean VIF of 1.54, the model is considered stable and free from multicollinearity concerns. Furthermore, the Breusch-Pagan/Cook-Weisberg test confirms the presence of heteroskedasticity, yielding a Chi-square statistic of 66.16 with a p-value less than 0.0000. This leads to the rejection of the null hypothesis of constant variance, thus justifying the use of robust standard errors in subsequent estimations to ensure valid statistical inference. The post-estimation joint significance F-test further validates the model, showing that the explanatory variables liquidity risk (LQ), board independence (BI), their interaction term (LQ\_BI) and the control variables are jointly significant (F = 8.40; p < 0.0000). These results provide empirical support for the model’s specification and affirm the importance of evaluating the moderating effect of board independence on the liquidity risk–credit rating relationship.

**Table 6 Model Fit and Diagnostics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable / Test** | **VIF** | **1/VIF** | **Chi2 / F-stat** | **p-value** | **Remarks** |
| SIZE | 2.41 | 0.41521 |  |  | Acceptable |
| Ghana | 2.2 | 0.4542 |  |  | Acceptable |
| RS | 1.5 | 0.66608 |  |  | Acceptable |
| BI | 1.44 | 0.69306 |  |  | Acceptable |
| CR | 1.4 | 0.71193 |  |  | Acceptable |
| ROA | 1.24 | 0.80963 |  |  | Acceptable |
| Togo | 1.1 | 0.90728 |  |  | Acceptable |
| LQ | 1.02 | 0.98378 |  |  | Acceptable |
| Mean VIF | 1.54 |  |  |  | No multicollinearity |
| Heteroskedasticity (Chi2) |  |  | 66.16 | 0 | Reject H0: Heteroskedasticity present |
| Heteroskedasticity (p-value) |  |  |  |  |
| Post-Estimation F |  |  | 8.4 | 0 | Joint significance confirmed |
| Post-Estimation (p-value) |  |  |  |  |  |

**4.2 Regression Analysis**

**4.2.1 Model 1 - Baseline Estimation of Credit Rating Determinants**

Model 1, as presented in table 7, investigates the direct effects of liquidity risk, credit risk, governance and firm-specific characteristics on the credit ratings of banks, with CRIndex as the dependent variable. The results indicate that liquidity risk (LQ) and credit risk (CR) have negligible and statistically insignificant effects on credit ratings, suggesting that these risk measures alone may not significantly influence perceptions of creditworthiness across the sampled banks. Board independence (BI) also exhibits a negative but statistically insignificant coefficient (β = -0.011; p > 0.1), implying that board independence alone may not exert a strong direct effect on credit ratings in this baseline model. However, risk committee size (RS) shows a significant negative effect (β = -0.101; p < 0.05), indicating that larger risk committees may be associated with lower credit ratings, potentially due to inefficiencies in oversight or decision-making.

**Table 7: Regression Result**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variables** | **Model 1 Coefficient** | **Model 1 Std. Error** | **Model 2 Coefficient** | **Model 2 Std. Error** | **Significance (Model 1)** | **Significance (Model 2)** |
| LQ | 0 | 0.001 | 0.005 | 0.003 |  | \* |
| BI | -0.011 | 0.009 | -0.008 | 0.009 |  |  |
| CR | -0.001 | 0.006 | -0.001 | 0.006 |  |  |
| RS | -0.101 | 0.042 | -0.101 | 0.042 | \*\* | \*\* |
| ROA | 0.063 | 0.035 | 0.063 | 0.035 | \* | \* |
| SIZE | 0.151 | 0.034 | 0.157 | 0.034 | \*\*\*\* | \*\*\*\* |
| Ghana | 1.666 | 0.26 | 1.708 | 0.262 | \*\*\*\* | \*\*\*\* |
| Togo | 0.991 | 0.428 | 1.02 | 0.424 | \*\* | \*\* |
| LQ\_BI |  |  | 0 | 0 |  | \*\* |
| Intercept | -2.041 | 1.12 | -2.364 | 1.11 |  | \*\* |
|  |  |  |  |  |  |  |
| Note: |  |  |  |  |  |  |
| \*\*\*\* = p < 0.01 (Highly significant) |  |  |  |
| \*\* = p < 0.05 (Statistically significant) |  |  |  |
| \* = p < 0.10 (Marginally significant) |  |  |  |
| No asterisk = Not statistically significant (p ≥ 0.10) |  |  |

Standard errors in parentheses

\* *p* < 0.05, \*\* *p* < 0.01, \*\*\* *p* < 0.001

Among the control variables, return on assets (ROA) has a positive and significant impact (β = 0.063; p < 0.1), suggesting that more profitable firms are rated more favorably. Firm size (SIZE) exhibits a strong positive relationship with credit ratings (β = 0.151; p < 0.01), affirming the perception that larger banks are more creditworthy. Regional effects are also evident, with Ghana (β = 1.666; p < 0.01) and Togo (β = 0.991; p < 0.05) both showing significant positive coefficients, indicating higher credit ratings relative to Nigerian banks (the reference category). Overall, Model 1 supports the role of profitability, firm size and regional affiliation as significant predictors of credit ratings, while direct effects from liquidity, credit risk and board independence remain statistically weak in isolation.

**4.2.2 Model 2: Moderating Role of Board Independence in the Liquidity Risk–Credit Rating Relationship**

Model 2, as presented in Table 7, builds on the baseline specification by incorporating an interaction term (LQ\_BI) to assess the moderating effect of board independence (BI) on the relationship between liquidity risk (LQ) and credit ratings (CRIndex). The coefficient of the interaction term is negative and statistically significant (β = -0.000; *p* < 0.05), indicating that the influence of liquidity risk on credit ratings is significantly dampened as board independence increases. This supports the hypothesis that strong governance structures specifically independent boards can alter the nature of how liquidity conditions impact external creditworthiness perceptions. Interestingly, while the direct effect of liquidity risk (LQ) becomes statistically significant in Model 2 (β = 0.005; *p* < 0.1), board independence (BI) remains negative but statistically insignificant (β = -0.008; *p* > 0.1). This suggests that although BI alone does not directly affect credit ratings, its interaction with liquidity risk plays a critical role in moderating outcomes.

The control variables maintain their expected directions and significance. Risk committee size (RS) retains a negative and significant effect (β = -0.101; *p* < 0.05), implying that larger risk committees may contribute to lower credit ratings, possibly due to inefficiencies or governance bottlenecks. Return on assets (ROA) shows a positive and weakly significant effect (β = 0.063; *p* < 0.1), confirming the relevance of profitability to perceived creditworthiness. Firm size (SIZE) remains a strong and consistent predictor (β = 0.157; *p* < 0.01), reaffirming that larger banks are generally rated more favorably. Regional fixed effects are also notable: Ghana (β = 1.708; *p* < 0.01) and Togo (β = 1.020; *p* < 0.05) are associated with significantly higher credit ratings relative to the reference category (Nigeria), suggesting country-specific institutional or macroeconomic advantages.

Overall, Model 2 provides empirical evidence for the theoretical proposition that board independence moderates the liquidity risk–credit rating nexus. The significance of the interaction term strengthens the argument for incorporating governance mechanisms into risk assessment frameworks in the West African banking sector.

**4.3 Discussion of Findings**

The findings from this study offer insights into the direct and interactive effects of liquidity risk and board independence on bank credit ratings within selected West African countries. These results are discussed in relation to the proposed hypotheses and the guiding theoretical and empirical frameworks.

**4.3.1 Hypothesis 1 (H1): Liquidity risk has a positive and significant impact on credit rating.**

The results from Model 1 (Table 7) show that liquidity risk (LQ) and credit risk (CR) have negligible and statistically insignificant effects on bank credit ratings (CRIndex), suggesting these risks do not substantially influence perceived creditworthiness. Governance variables yield mixed results: board independence (BI) shows an insignificant negative association (β = -0.011; p > 0.1), while risk committee size (RS) has a significant negative effect (β = -0.101; p < 0.05), suggesting inefficiencies in larger committees. Profitability (ROA) and firm size (SIZE) emerge as significant positive predictors of credit ratings (β = 0.063, p < 0.1; β = 0.151, p < 0.01), underscoring the importance of financial strength. Regionally, Ghanaian (β = 1.666, p < 0.01) and Togolese (β = 0.991, p < 0.05) banks receive higher ratings than Nigerian banks.

This study tested Hypothesis 1 (H1), which proposed that liquidity risk significantly affects credit ratings. However, the analysis reveals a statistically insignificant relationship, leading to the rejection of H1. Several factors may explain this outcome. First, the distinct financial environments across Ghana, Nigeria, and Togo, marked by regulatory differences, market depth, and depositor confidence, may lessen the perceived impact of liquidity risk. Second, rating agencies may emphasize profitability and asset quality over short-term liquidity in assessing long-term solvency. Third, implicit government support in the region may buffer banks from liquidity shocks, weakening the link between liquidity risk and creditworthiness.

Empirical evidence supports these findings. Studies from Malaysia (Saeed, 2014), Nigeria (Olamide et al., 2015; Inegbedion et al., 2020), and Kenya (Odhiambo, 2018) report non-significant links between liquidity risk and bank performance. Though mixed results exist in other regions, some reporting significant effects, the variation highlights how contextual and methodological factors shape outcomes. Thus, tailored frameworks for assessing liquidity risk in West African banking are essential.

Future research should explore whether these patterns hold during financial crises, when liquidity pressures may more strongly affect credit ratings.

**4.3.2 Hypothesis 2 (H2): Board independence significantly moderates the relationship between liquidity risk and credit ratings.**

This section discusses Hypothesis 2 (H2), which proposed that board independence moderates the relationship between liquidity risk and credit ratings. In Model 2 (Table 7) an interaction term (LQ\_BI) was introduced to test this relationship. The result shows that the interaction between liquidity risk and board independence is negative and statistically significant (β = , 0.000; p < 0.05), indicating that the effect of liquidity risk on credit ratings weakens when board independence increases. In other words, although liquidity risk on its own has a small positive influence on credit ratings (β = 0.005; p < 0.1), this positive effect is reduced in banks with more independent boards. This supports H2, suggesting that board independence alters how credit rating agencies perceive liquidity, related risks. Interestingly, board independence by itself remains statistically insignificant (β = , 0.008; p > 0.1), implying that it only becomes meaningful when interacting with other governance or risk factors. These findings support the argument that governance features like board independence do not operate in isolation but gain relevance when aligned with risk profiles. Independent directors may help ensure better communication and control of liquidity risks, which could improve credit rating assessments.

The empirical literature shows mixed results on this issue. For example, Aslam and Haron (2021) found that board structure had a positive relationship with both credit and liquidity risk in Islamic banks. Nkechi and Nkiru (2021) also reported a positive link between board independence and financial risk management in Nigeria. In contrast, Delis et al. (2009) found that larger boards in European banks negatively affected liquidity due to decision, making inefficiencies. Gupta (2005) highlighted that the impact of board changes varied by director type and ownership. Mousa et al. (2023) found that board independence and foreign representation helped improve liquidity creation in GCC banks, though government ownership also influenced these outcomes. These contrasting results reflect the influence of local governance contexts and economic conditions. In West Africa, regulatory differences, governance culture, and perceived government support may explain why board independence modifies the effect of liquidity risk without directly influencing credit ratings.

The model's control variables reinforce its robustness. Risk committee size (β = , 0.101; p < 0.05) negatively affects credit ratings, possibly due to coordination challenges. Return on assets (ROA) has a weakly positive effect (β = 0.063; p < 0.1), showing that profitable banks are viewed more favorably. Firm size remains a strong and consistent predictor (β = 0.157; p < 0.01), as larger banks often receive better ratings. Regionally, banks in Ghana (β = 1.708; p < 0.01) and Togo (β = 1.020; p < 0.05) enjoy higher ratings compared to Nigerian banks, suggesting differences in macroeconomic or institutional advantages.

Overall, the findings confirm H2. The moderating role of board independence emphasizes the importance of integrated governance and risk management in improving credit rating outcomes. While board independence may not directly boost ratings, it plays a vital role in shaping how risk variables are interpreted.

**4.4 Link to Theoretical Frameworks**

The findings collectively validate the integration of Innovation Theory, Stewardship Theory and Financial Development Theory in understanding credit rating dynamics. Innovation Theory underlines the role of strategic risk disclosures and transparency often governed by independent boards as essential to market perception and ratings. Stewardship Theory supports the role of board independence in aligning management with long, term institutional stability, while Financial Development Theory provides a foundation for understanding how liquidity and capital structures influence financial soundness assessments.

**5. Summary, Conclusion and Recommendations**

**5.1 Summary**

This study examined the moderating effect of board independence on the relationship between liquidity risk and credit ratings among listed banks in the West African sub, region, specifically in Nigeria, Ghana and Togo. Drawing on Innovation Theory, Stewardship Theory and Financial Development Theory, the research explored whether board independence amplifies or diminishes the impact of liquidity risk on creditworthiness. The study adopted an ex post facto research design using 309 bank, year observations from 2012 to 2023. A composite credit rating index (CRIndex) was developed using Principal Component Analysis (PCA) from S&P, Moody’s and Fitch ratings to create a standardized dependent variable.

Descriptive and correlation analyses revealed significant variability in liquidity risk and governance characteristics across countries. Regression analysis using Ordinary Least Squares (OLS) with robust standard errors showed that liquidity risk has a positive and significant effect on credit ratings. More importantly, board independence significantly moderated this relationship weakening the influence of liquidity risk on credit ratings. Control variables such as firm size, profitability (ROA) and regional dummies were also found to be significant predictors. These results provide empirical support for the theoretical proposition that governance structures influence how financial risks affect external ratings in emerging markets.

**5.2 Conclusion**

This study concludes that board independence significantly moderates the relationship between liquidity risk and credit ratings among listed banks in West Africa. While liquidity risk generally enhances credit ratings by signalling sound financial health, the interaction with board independence shows that stronger governance can dampen this effect through heightened scrutiny and oversight. This supports Stewardship Theory and Financial Development Theory, both of which emphasize the role of governance in shaping financial outcomes. However, the study also finds that the overall effect of liquidity risk on credit ratings is weakened, largely due to implicit government support in the region, evident in Nigeria’s $4bn bailout (CBN, 2010) and Ghana’s $1.6bn intervention (BoG, 2019). Such actions, alongside rating agency adjustments (Moody’s, 2022; S&P, 2023) and lower liquidity premiums for state, backed banks (Beck et al., 2021), reduce market sensitivity to liquidity risk. These factors collectively weaken the liquidity, risk/rating relationship, mirroring global "too, big, to, fail" trends (Laeven & Valencia, 2013), but more pronounced in West Africa’s concentrated banking systems.

**5.3 Recommendations**

In light of the findings, several practical and policy, oriented recommendations emerge to enhance the governance of liquidity risk and improve credit rating performance in West African banks. Regulatory bodies across the sub, region should intensify their enforcement of board independence provisions, ensuring that independence is not merely formal but functionally effective. It is important that board members particularly independent directors demonstrate meaningful engagement in overseeing liquidity and risk management practices. Bank management should prioritize the continuous development of board members through training programmes focused on financial oversight, liquidity evaluation and regulatory compliance. This would strengthen the board’s capacity to influence risk, related decisions that align with both internal controls and credit rating benchmarks. Furthermore, credit rating agencies operating in emerging markets, especially in Sub, Saharan Africa, should broaden their methodological frameworks to explicitly incorporate governance, related indicators such as board independence. This would allow for more context, sensitive assessments of creditworthiness. Regional bodies like the West African Monetary Zone (WAMZ) and the African Union should also support policy harmonization and promote governance practices that link liquidity oversight to board accountability. Lastly, future research should explore additional board, level characteristics such as ownership structure, board tenure and audit committee activity to provide deeper insights into how governance quality shapes the relationship between liquidity and credit ratings.

**5.4 Limitations of the Study**

Despite its contributions, this study is subject to several limitations that warrant acknowledgment. The scope of the research was geographically limited to three West African countries (Nigeria, Ghana and Togo) which, while strategically selected, may restrict the generalizability of findings across the broader West African banking landscape. Expanding the study to include other West African member states could enhance regional applicability and robustness. Another limitation relates to data availability. The study relied on publicly available credit ratings and financial reports, which limited the pool of eligible banks and necessitated the creation of a composite credit rating index. While this index offers a methodologically robust measure of creditworthiness, it may obscure rating, specific nuances inherent to each agency’s evaluation process. In addition, board independence was assessed solely by the proportion of independent non, executive directors, a common but limited metric that does not capture qualitative aspects of board effectiveness such as director expertise, engagement, or influence. Moreover, the use of pooled panel data, while suitable for the research objectives, may have masked individual firm, level or temporal variations that could be better captured through fixed or random effects modeling. Finally, the study focused primarily on board independence as the moderating variable. Other potentially influential governance variables such as CEO duality, institutional ownership, or audit committee strength were not included and may offer additional explanatory power in future investigations. Nonetheless, these limitations do not detract from the study’s overall contributions; rather, they highlight important directions for future research aimed at refining our understanding of governance, risk dynamics in emerging financial markets.

**5.5 Suggestions for Further Study**

Building on the scope and findings of this study, several avenues for further research are recommended. Future studies could extend the geographic coverage beyond Nigeria, Ghana and Togo to include other countries beyond West Africa. This would enable comparative analysis across different regulatory environments and provide a more comprehensive understanding of credit rating dynamics within the region.

In addition, subsequent research could adopt longitudinal or panel data techniques such as fixed effects, random effects, or generalized method of moments (GMM) to capture firm, specific and time, invariant heterogeneity. This would improve causal inference and address any potential omitted variable bias. Future work could also explore the non, linear effects or threshold conditions under which board independence becomes either beneficial or detrimental to creditworthiness.

Moreover, future researchers are encouraged to incorporate broader governance metrics such as board financial expertise, audit committee effectiveness, ownership structure and CEO duality to assess their moderating or mediating influence on the relationship between risk indicators and credit ratings. Expanding the theoretical scope to include institutional theory or stakeholder theory may also yield richer interpretations of governance, performance linkages, particularly in politically embedded or state, owned banking systems.

**5.6 Contribution to Knowledge**

This study makes several original contributions to the academic and practical understanding of credit rating dynamics in emerging markets, particularly within the West African sub, region. Methodologically, it introduces a novel composite credit rating index (CRIndex) derived from Principal Component Analysis (PCA) of S&P, Moody’s and Fitch scores, thereby offering a unified and statistically robust proxy for measuring creditworthiness across banks. This approach reduces methodological bias and enhances comparability across institutions with diverse rating profiles.

Conceptually, the study advances corporate governance literature by empirically examining board independence not just as a main predictor but as a moderating construct. This expands the theoretical application of Stewardship Theory, demonstrating that independent boards influence how liquidity risk translates into external credit ratings. The integration of Innovation Theory and Financial Development Theory further strengthens the interdisciplinary understanding of how governance quality and financial practices interact in low, to middle, income countries.

From a policy standpoint, the findings offer actionable insights for regulators, credit rating agencies and bank executives on the governance mechanisms that can strengthen financial resilience and investor confidence. The study also provides a contextualized empirical foundation for reform efforts targeting board structures and risk disclosure practices in African banking systems.

**References**

Abid, F., & Naifar, N. (2006). The determinants of credit ratings: A comparative study between conventional and Islamic banks. International Journal of Business, 11(2), 155, 172.

Abubakar, A., & Kurawa, J. M. (2021). Corporate governance and financial performance of banks in Nigeria. Journal of Finance and Economics, 9(3), 45, 60.

Acock, A. C. (2014). A gentle introduction to Stata (5th ed.). Stata Press.

Afonso, A., Gomes, P., & Rother, P. (2010). What 'hides' behind sovereign debt ratings? European Journal of Political Economy, 27(1), 1, 13. https://doi.org/10.1016/j.ejpoleco.2010.06.004

Agyemang, Mintah, P., & Schadewitz, H. (2018). Gender diversity and firm value: Evidence from UK corporate boards. Management Research Review, 41(2), 165, 181. https://doi.org/10.1108/MRR, 04, 2017, 0106

Almaqtari, F. A., Al, Homaidi, E. A., Tabash, M. I., & Farhan, N. H. (2022). The impact of corporate governance on financial performance of Indian banks. Journal of Asian Finance, Economics and Business, 9(1), 19, 33.

Al, Najjar, B., & Elgammal, M. M. (2013). Innovation and credit ratings: Does it matter? Journal of Business Research, 66(8), 1192, 1197. https://doi.org/10.1016/j.jbusres.2013.02.032

Alzoubi, E. S. (2017). Liquidity risk management and financial performance in Islamic banks: Empirical evidence from the Middle East. International Journal of Economics and Finance, 9(10), 103, 115. https://doi.org/10.5539/ijef.v9n10p103

APR Forum. (2024). Establishing a Pan, African Credit Rating Agency: Policy Brief. African Peer Review Mechanism Secretariat.

Aslam, E., & Haron, R. (2021). Does corporate governance affect the performance of Islamic banks? New insight into Islamic countries. Corporate Governance: The International Journal of Business in Society, 21(2), 333, 348. [https://doi.org/10.1108/CG, 05, 2020, 0191](https://doi.org/10.1108/CG-05-2020-0191)

Bank of Ghana. (2019). Banking sector report 2018. <https://www.bog.gov.gh>

Beck, T., Maimbo, S. M., Faye, I., & Triki, T. (2021). Financing Africa: Through the crisis and beyond. World Bank. https://doi.org/10.1596/978, 1, 4648, 1578, 3

Bitar, M., Pukthuanthong, K., & Walker, T. (2020). The effect of capital ratios on the risk, efficiency and profitability of banks: Evidence from OECD countries. Journal of International Financial Markets, Institutions and Money, 65, 101, 118. https://doi.org/10.1016/j.intfin.2020.101218

Bonfim, D., & Kim, M. (2012). Liquidity risk in banking: Is there herding? European Banking Center Discussion Paper, 2012, 008.

Central Bank of Nigeria. (2010). Annual report and statement of accounts 2009. https://www.cbn.gov.ng

Chenga, M., Maredza, A., & Sibindi, A. B. (2020). Financial stability and liquidity risk in South African banks. African Journal of Economic and Management Studies, 11(3), 345, 360. https://doi.org/10.1108/AJEMS, 03, 2019, 0105

Davis, J. H., Schoorman, F. D., & Donaldson, L. (2010). Stewardship theory or agency theory: CEO governance and shareholder returns. Australian Journal of Management, 16(1), 49, 64. https://doi.org/10.1177/031289629101600104

Delis, M. D., Molyneux, P., & Pasiouras, F. (2009). Regulations and productivity growth in banking: Evidence from transition economies. Journal of Money, Credit and Banking, 41(4), 735, 764. https://doi.org/10.1111/j.1538, 4616.2009.00228.x

Demirgüç, Kunt, A., & Levine, R. (2001). Financial structure and economic growth: A cross, country comparison of banks, markets and development. MIT Press.

Dietsch, M., & Petey, J. (2002). The credit risk in SME loans portfolios: Modeling issues, pricing and capital requirements. Journal of Banking & Finance, 26(2, 3), 303, 322. https://doi.org/10.1016/S0378, 4266(01)00221, 9

Donaldson, L., & Davis, J. H. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. Australian Journal of Management, 16(1), 49, 64. https://doi.org/10.1177/031289629101600104

Drehmann, M., & Nikolaou, K. (2013). Funding liquidity risk: Definition and measurement. Journal of Banking & Finance, 37(7), 2173, 2182. https://doi.org/10.1016/j.jbankfin.2013.01.013

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

Fadun, O. S., & Oye, O. (2020). Liquidity risk and financial performance: Evidence from Nigerian deposit money banks. Journal of Economics and Business, 3(2), 45, 60.

Fisman, R., & Love, I. (2007). Financial development and intersectoral allocation: A new approach. The Journal of Finance, 62(6), 2785, 2807. https://doi.org/10.1111/j.1540, 6261.2007.01292.x

Fitch Ratings. (2023). Corporate rating methodology. Fitch Ratings.

Fuzi, S. F. S., Halim, S. A. A., & Julizaerma, M. K. (2016). Board independence and firm performance. Procedia Economics and Finance, 35, 156, 162. https://doi.org/10.1016/S2212, 5671(16)30152, 6

Gillette, A. B., Stefanescu, I., & Strahan, P. E. (2020). Credit ratings and information efficiency. Journal of Financial Economics, 137(1), 56, 75. https://doi.org/10.1016/j.jfineco.2020.02.003

Giordana, G. A., & Schumacher, I. (2013). Liquidity risk, liquidity creation and financial fragility: A theory of banking. Journal of Financial Intermediation, 22(4), 594, 615. https://doi.org/10.1016/j.jfi.2013.03.003

Gupta, V. (2005). The impact of board size and independence on firm performance: Evidence from large US firms. Corporate Governance: An International Review, 13(2), 123, 130. https://doi.org/10.1111/j.1467, 8683.2005.00411.x

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson.

Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. Academy of Management Review, 28(3), 383, 396. https://doi.org/10.5465/amr.2003.10196729

Inegbedion, H., Obadiaru, E., & Asaleye, A. (2020). Liquidity risk and financial performance of deposit money banks in Nigeria. Banks and Bank Systems, 15(2), 1, 12. [https://doi.org/10.21511/bbs.15(2).2020.01](https://doi.org/10.21511/bbs.15%282%29.2020.01)

International Monetary Fund. (2022). Regional economic outlook: Sub, Saharan Africa (IMF Working Paper WP/22/87). https://www.imf.org

Islam, M. A., Jain, A., & Thomson, D. (2019). Does corporate governance predict firms' market values? Evidence from Qatar. International Journal of Law and Management, 61(1), 2, 21. https://doi.org/10.1108/IJLMA, 02, 2018, 0029

Jackson, E. A., Tamuke, E., & Jabbie, M. (2022). Liquidity risk and bank performance in Sierra Leone: A dynamic panel approach. African Journal of Economic and Management Studies, 13(1), 78, 92. https://doi.org/10.1108/AJEMS, 04, 2021, 0175

Jiang, F. (2022). Corporate governance in China: A review and synthesis. International Journal of Management Reviews, 24(1), 45, 67. https://doi.org/10.1111/ijmr.12271

Jolliffe, I. T., & Cadima, J. (2016). Principal component analysis: A review and recent developments. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 374(2065), 20150202. https://doi.org/10.1098/rsta.2015.0202

Kanadlı, S. B., Torchia, M., & Gabaldon, P. (2022). Board diversity and innovation: The role of gender and foreign directors. Journal of Business Research, 141, 350, 362. https://doi.org/10.1016/j.jbusres.2021.12.035

Kerlinger, F. N., & Lee, H. B. (2000). Foundations of behavioral research (4th ed.). Harcourt College Publishers.

Krykliy, O., & Luchko, M. (2018). Basel III liquidity requirements and bank profitability: Evidence from EU countries. Banks and Bank Systems, 13(3), 11, 25. [https://doi.org/10.21511/bbs.13(3).2018.02](https://doi.org/10.21511/bbs.13%283%29.2018.02)

Laeven, L., & Levine, R. (2009). Bank governance, regulation, and risk taking. Journal of Financial Economics, 93(2), 259–275. DOI: 10.1016/j.jfineco.2008.09.003

Laeven, L., & Valencia, F. (2013). Systemic banking crises database. IMF Economic Review, 61(2), 225, 270. https://doi.org/10.1057/imfer.2013.12

Levine, R. (2005). *Finance and growth: Theory and evidence*. In Aghion, P., & Durlauf, S. N. (Eds.), *Handbook of economic growth* (Vol. 1, pp. 865, 934). Elsevier. [https://doi.org/10.1016/S1574, 0684(05)01014, 7](https://doi.org/10.1016/S1574-0684%2805%2901014-7)

Li, X., & Guo, H. (2021). Innovation and credit ratings: Evidence from Chinese firms. Journal of Innovation & Knowledge, 6(3), 123, 135. https://doi.org/10.1016/j.jik.2021.04.002

Ly, K. C., Chen, Z., Wang, S., & Jiang, Y. (2017). The Basel III net stable funding ratio adjustment speed and systemic risk. Journal of Financial Stability, 33, 223, 236. https://doi.org/10.1016/j.jfs.2017.08.003

Maaka, Z. A. (2013). Liquidity risk management and financial performance of commercial banks in Kenya. Research Journal of Finance and Accounting, 4(10), 72, 85.

Mamari, M., Al, Hiyari, A., & Al, Shattarat, B. (2022). Corporate governance and liquidity risk: Evidence from Oman. Journal of Governance and Regulation, 11(1), 8, 20. https://doi.org/10.22495/jgrv11i1art1

Martín, G., & Herrero, B. (2018). Do board characteristics affect environmental performance? A meta, analytic review. Business Strategy and the Environment, 27(6), 739, 752. https://doi.org/10.1002/bse.2039

Masood, O., & Javaria, K. (2017). Impact of liquidity on profitability: Evidence from Pakistani banks. Journal of Finance and Economics, 5(3), 145, 156.

Moody's Investors Service. (2022). Rating methodology: Banks. Moody's Investors Service.

Mousa, G. A., Alshehhi, A., Nobanee, H., & Alhajjar, M. (2023). Board diversity and liquidity creation: Evidence from GCC banks. Corporate Governance: The International Journal of Business in Society, 23(1), 45, 60. https://doi.org/10.1108/CG, 01, 2022, 0007

Muth, M. M., & Donaldson, L. (1998). Stewardship theory and board structure: A contingency approach. Corporate Governance: An International Review, 6(1), 5, 28. https://doi.org/10.1111/1467, 8683.00080

Nigerian Code of Corporate Governance (NCCG). (2018). Securities and Exchange Commission, Nigeria.

Nikolaou, K. (2009). Liquidity risk concepts: Definitions and interactions. European Central Bank Working Paper Series, 1008.

Nkechi, O., & Nkiru, O. (2021). Board independence and financial risk management in Nigerian healthcare firms. Journal of Accounting and Management, 11(2), 34, 48.

Odhiambo, N. M. (2018). Liquidity risk and financial performance of commercial banks in Kenya. African Development Review, 30(3), 321, 334. https://doi.org/10.1111/1467, 8268.12337

Olamide, O., Uwalomwa, U., & Ranti, U. (2015). The effect of liquidity management on profitability of Nigerian banks. Journal of Accounting and Auditing, 5(1), 1, 10.

Pichet, E. (2017). The role of independent directors in corporate governance: A critical review. Corporate Governance, 17(1), 1, 15. https://doi.org/10.1108/CG, 07, 2016, 0140

Rogers, E. M. (1962). Diffusion of innovations. Free Press.

Saeful, M., Nurul, H., & Andri, S. (2019). Liquidity risk and bank performance: Comparative study of Islamic and conventional banks in Indonesia. Journal of Islamic Accounting and Business Research, 10(4), 620, 636. https://doi.org/10.1108/JIABR, 07, 2016, 0081

Saleh, I., & Afifa, M. M. (2020). The effect of liquidity risk on bank performance: Evidence from Jordan. Journal of Asian Finance, Economics and Business, 7(12), 363, 373. https://doi.org/10.13106/jafeb.2020.vol7.no12.363

Sani, A. (2020). Board independence and financial performance: Evidence from Nigerian banks. International Journal of Financial Research, 11(2), 456, 470. https://doi.org/10.5430/ijfr.v11n2p456

Sathyamoorthi, C. R., Mapharing, M., Dzimiri, M., & Mphoeng, M. (2020). Liquidity risk and financial performance: Evidence from Botswana commercial banks. Journal of Economics and Behavioral Studies, 12(1), 45, 58. https://doi.org/10.22610/jebs.v12i1(J).2954

Saunders, A., & Cornett, M. M. (2014). Financial Institutions Management: A Risk Management Approach (8th ed.). McGraw, Hill Education.

Sciascia, S., Nordqvist, M., Mazzola, P., & De Massis, A. (2010). Family ownership and R&D intensity in small, and medium, sized firms. Journal of Business Venturing, 25(4), 361, 375. https://doi.org/10.1016/j.jbusvent.2008.10.004

Standard & Poor's (S&P). (2022). Corporate ratings criteria. S&P Global Ratings.

Standard & Poor's Global Ratings. (2023). Banks rating criteria. <https://www.spglobal.com/ratings>

Standard & Poor's (S&P Global Ratings). (2024). Bank rating methodology. S&P Global Ratings.

Verster, T., Smit, A., & Malan, J. (2019). Re, evaluating sovereign credit ratings in emerging markets. South African Journal of Economic and Management Sciences, 22(1), a2632. https://doi.org/10.4102/sajems.v22i1.2632

Xu, J., Liu, F., & Shang, Y. (2023). Innovation and credit ratings: Evidence from Chinese listed firms. Technological Forecasting and Social Change, 186, 122, 135. https://doi.org/10.1016/j.techfore.2022.122135

Yunusa, A., Kurawa, J. M., & Abubakar, A. (2023). Board independence and financial risk management: Evidence from Nigerian listed firms. Journal of Financial Regulation and Compliance, 31(1), 78, 92. https://doi.org/10.1108/JFRC, 03, 2022, 0031