



Audit Committee Attributes and Credit Risk Management of Listed Deposit Money Banks in Nigeria

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Abstract

The Nigerian banking sector has undergone significant reforms over the past two decades, aimed at strengthening governance, enhancing financial stability, and mitigating systemic risks. Despite these reforms, poor credit risk management remains a persistent and critical challenge for deposit money banks. Frequently and recently, the prevalence of non-performing loans blamed on poor credit risk management continues to threaten banks' profitability, capital adequacy, and overall resilience, undermining confidence in the financial system. Hence, the main objective of this study was to evaluate the effect of audit committee attributes on credit risk management of listed deposit money banks in Nigeria. The sources of data were secondary sources generated from published audited financial reports of sampled deposit money banks listed on the Nigerian Exchange Group between 2009 and 2024. The population of the study comprised of 11 listed deposit money banks and census sampling technique was employed to study the entire population. The study adopted both the descriptive and ex-post-facto research designs. STATA version 17 was used to conduct correlation and regression analyses of the panel data and both the fixed and the random effects regression specifications were conducted. The decision rule was based on a 5% significance level ($p < 0.05$). The study found that: Audit Committee Size (AUS, coef. = -0.064 (0.022) has a statistically significant negative effect, Audit Committee Independence (AUI), coef. = 2.614 (0.004) has a statistically significant positive effect. Audit Committee chairperson tenure (AUT), coef. = -0.119 (0.036) has a statistically significant negative effect. Based on the above findings, the study concluded that governance credit risk nexus in Nigerian listed deposit money banks is complex, content-contingent, and not amenable to simplistic prescriptions premised solely on formal structural compliance with regulatory governance thresholds. Hence, this study recommended, among others, that the Central Bank of Nigeria and the Securities and Exchange Commission should look beyond mere prescriptions of non-executive membership with their corporate governance codes and instead institute more substantive quality oriented criteria that ensure non-executive audit committee members possess demonstrable credit risk literacy, bank specific operational understanding, and the requisite technical grounding to meaningfully check management's credit administrative decisions in line with Agency theory.

Keywords:

Audit Committee Attributes; Credit Risk Management; Nonperforming Loans; Agency Theory.

1.0 INTRODUCTION

The stability of the banking sector is fundamental to the effective functioning of any economy, given banks' central role in financial intermediation, credit creation, and economic development. Deposit money banks (DMBs), in particular, mobilize savings and allocate financial resources to productive sectors, thereby supporting investment, employment, and growth. However, the ability of deposit money banks to perform these functions efficiently is critically dependent on the quality of their credit risk management practices. According to Samuel (2025) weak credit risk management often manifests in elevated levels of nonperforming loans (NPLs), which undermine bank profitability, erode capital adequacy, and threaten systemic stability.

In Nigeria, the banking sector has historically been characterized by recurring episodes of financial distress, many of which have been directly linked to poor credit risk management and governance failures. The banking crises of the late 1990s and mid-2000s, culminating in the post-consolidation distress revealed during the 2009 banking reforms, exposed deep-seated weaknesses in loan underwriting standards, insider lending, and board-level oversight. Despite regulatory interventions by the Central Bank of Nigeria (CBN), including the introduction of the Asset Management Corporation of Nigeria (AMCON) in 2010 to absorb toxic assets, the problem of nonperforming loans has remained a persistent concern. As noted by Onmonya and Ebire (2023), periodic increases in NPL ratios, particularly during periods of macroeconomic shocks such as the 2016 recession, the COVID-19 pandemic, and recent exchange rate and inflationary pressures, underscore the fragility of credit risk management frameworks within Nigerian banks.

Corporate governance has been identified as a critical mechanism for mitigating credit risk and enhancing financial stability. Within the governance architecture of banks, the audit committee attributes occupy a strategic position, charged with overseeing financial reporting quality, internal controls, risk management processes, and compliance with regulatory requirements.

Notwithstanding these regulatory provisions, evidence from regulatory sanctions, bank failures, and supervisory reports suggests that audit committee effectiveness attributes in Nigerian banks remains uneven (Onyekwere & Babangida, 2022; Noor 2025; Tijani *et al.*, 2025). Persistent challenges such as politically connected lending, weak enforcement of credit policies, high exposure to oil and gas sector volatility, foreign exchange risk, and governance interference continue to undermine credit quality. These challenges raise critical questions about whether audit committee structures and attributes are sufficiently robust to discharge their oversight responsibilities effectively.

The audit committee is a sub unit of the board that is established to render oversight functions on financial matters including scrutinizing the credits granted by the banks. Therefore, it is within the purview of audit committee attributes to properly scrutinize the credit granted by the banks in order to reduce any potential risk of failure (Tijani *et al.*, 2025). Credit risk management refers to the planning that a bank uses to achieve credit goals, gain customer trust, gain competitive advantage through bank loans, and achieve a solid market position (Alhassan & Islam, 2021). The effect of credit risk management is crucial in the determination of the profitability of such banks. Thus, according to Ohonba and Aigienohuwa (2023) poor credit risk strategy, inefficient credit risk structure, poor credit rating system, supervision and control,

saving banks face enormous challenges in maximizing wealth for their shareholders. Consequently, inefficient credit management sabotages all efforts to achieve a sustainable return on invested funds.

1.2 Statement of the problem

The Nigerian banking sector has undergone significant reforms over the past two decades, aimed at strengthening governance, enhancing financial stability, and mitigating systemic risks. Despite these reforms, poor credit risk management remains a persistent and critical challenge for deposit money banks (DMBs). Frequently and recently, the prevalence of non-performing loans (NPLs) blamed on poor credit risk management continues to threaten banks' profitability, capital adequacy, and overall resilience, undermining confidence in the financial system (World Bank, 2020). Dismal and poor financial performances, low levels of capital adequacy of DMBs are counter-productive to firms' values of DMBs. Loss of investors' confidence, capital flight, misallocation of scarce resources caused by poor credit risk management are bane to economic development of national economies, especially in Nigeria, an emerging economy.

These negative trends are more critical given the fact that the engine room currently for the growth and sustenance of Nigeria's economic development is the financial sector (DMBs). This ongoing vulnerability highlights the need for robust internal governance mechanisms that can effectively monitor, control, and mitigate poor credit risk management among DMBs in Nigeria. Therefore, strengthening the audit committee as a crucial internal governance mechanism becomes inevitable. The audit committee, which is a key component of corporate governance in the banking sector, is charged with oversight of risk management processes, internal controls, and financial reporting.

However, despite the overwhelming presence of audit committees in deposit money banks in Nigeria, listed deposit money banks especially in Nigeria still experience weak enforcement of governance codes, insider lending practices and insufficient board monitoring caused by weak and poor credit risk management. This has led deposit money banks in Nigeria to continue to experience elevated credit losses, reduced profitability, and vulnerability to regulatory sanctions. This situation not only undermines individual bank stability but also threatens the overall integrity of Nigeria's financial system, with potential negative consequences for economic growth and investor confidence (Umoru et al., 2025; Mutalib & Lawan, 2024).

Several factors have been blamed for poor credit risk management among DMBs in Nigeria. Notable among such factors are: (a) weak enforcement of governance codes (b) unethical insider lending practices (c) insufficient board monitoring (d) weak and poor credit risk management among others (Noor 2025; Tijani et al., 2025; Umoru et al., 2025; Mutalib & Lawan, 2024; Tiwari & Maji, 2024 and Onyekwere & Babangida, 2022). However, the contextual causes of poor credit risk management among DMBs especially in Nigeria are unethical inside lending practices and insufficient board monitoring (Noor 2025; Tijani et al., 2025; Umoru et al., 2025; Mutalib & Lawan, 2024; Tiwari & Maji, 2024 and Onyekwere & Babangida, 2022).

Existing research in Nigeria such as the works of Umoru et al. (2025); Noor (2025) primarily focused on general corporate governance, financial reporting quality, or bank performance, with limited attention to the direct relationship between audit committee attributes and credit risk management. This empirical gap creates uncertainty regarding which specific committee

attributes contribute most effectively to reducing credit risk exposure. Similarly, questions remain about the optimal committee size and tenure necessary to achieve effective credit risk governance. To this end, this study was undertaken in order to examine the effect of audit committee attributes (size, independence and chairperson tenure) on credit risk management (non-performing loans) of listed deposit money banks in Nigeria between the period 2015 and 2024.

Therefore, the broad objective, research questions and hypotheses of this study were to:

- (1) Examine the effect of audit committee attributes on credit risk management of listed deposit money banks in Nigeria.
- (2) To what extent do audit committee attributes affect credit risk management of listed deposit money banks in Nigeria?
- (3) H_{O1} Audit committee attributes have no significant effect on credit risk management of listed deposit money banks in Nigeria.

2.0 REVIEW OF RELATED LITERATURE

2.1 Conceptual review

2.1.1. Audit committee attributes

The audit committee is a critical subcommittee of the board of directors, established to enhance corporate governance through effective oversight of financial reporting, internal control systems, audit processes, and risk management activities. In the banking sector, where operations are inherently complex and risk-laden, the effectiveness of the audit committee largely depends on certain defining characteristics that shape its monitoring capacity and independence. These characteristics commonly referred to as audit committee attributes include committee size, independence, and chairperson tenure among others (Turner & Zolin, 2022). Collectively, they determine how well the audit committee discharges its oversight responsibilities and contributes to sound risk governance, particularly in the area of credit risk management.

One of the core audit committee attributes is audit committee size, which refers to the number of directors appointed to the committee. Committee size influences the breadth of expertise, diversity of perspectives, and capacity for effective monitoring. From a governance standpoint, a reasonably sized audit committee is expected to enhance deliberation quality and workload distribution among members. Larger committees may provide a wider pool of knowledge and experience, thereby improving oversight capability. However, excessively large committees may experience coordination difficulties and reduced efficiency in decision-making. Consequently, the size of the audit committee must strike a balance between inclusiveness and operational effectiveness (Le et al., 2019).

Ali-Momoh et al. (2025) stated that audit committee independence is widely regarded as one of the most critical attributes of an effective audit committee. Independence reflects the extent to which committee members are non-executive directors who are free from managerial

influence and conflicts of interest. Independent audit committee members are better positioned to exercise objective judgment, challenge management decisions, and enforce compliance with regulatory and prudential guidelines. In the banking sector, independence is particularly important in curbing insider lending, related-party transactions, and aggressive risk-taking behaviors that may compromise asset quality. However, it is suggested that higher levels of audit committee independence strengthen internal control systems and improve risk oversight, thereby enhancing credit risk management outcomes (Le et al., 2019).

2.1.2 Audit committee size

Audit committee size refers to the number of directors formally appointed to serve on the audit committee of an organization. It is one of the most frequently examined audit committee attributes in corporate governance literature because of its potential influence on the effectiveness of monitoring and oversight functions. Lqatamin and Alqatamin (2024) opined that audit committee size refers to the number of members appointed to serve on the committee. From a governance perspective, committee size is important because it influences the diversity of skills, experience, and perspectives available for decision-making. A moderately sized audit committee is often considered optimal, as it allows for adequate workload distribution and robust deliberation on complex financial and risk issues. Larger committees may enhance monitoring effectiveness by pooling diverse expertise, especially in institutions with complex credit portfolios such as deposit money banks. However, excessively large committees may face coordination challenges, slower decision-making, and reduced accountability, which can undermine effective oversight (Lqatamin & Alqatamin, 2024).

The size of the audit committee determines the breadth of expertise, diversity of perspectives, and capacity for workload sharing among members, all of which are essential for effective governance (Turner & Zolin, 2022). However, larger audit committee may enhance monitoring effectiveness by increasing the pool of independent directors responsible for overseeing management activities. With more members, the committee can draw on a wider range of professional experiences, technical knowledge, and judgment, thereby improving its ability to scrutinize financial reports, internal control systems, and risk management practices. In complex organizations such as deposit money banks, where financial transactions and risk exposures are highly sophisticated, an adequately sized audit committee is particularly important for effective oversight (Le et al., 2019).

However, Turner and Zolin, (2022) cautions against excessively large audit committees. Beyond a certain threshold, increased size may lead to coordination challenges, slower decision-making processes, and free-rider problems, where some members contribute less to discussions and oversight. These inefficiencies can dilute accountability and weaken the committee's effectiveness. Thus, the relationship between audit committee size and performance is often described as nonlinear, suggesting an optimal size that balances diversity and efficiency (Turner & Zolin, 2022). Regulatory frameworks often provide guidance on audit committee size to promote effective oversight. In many jurisdictions, corporate governance codes recommend a minimum number of members to ensure diversity and independence, while discouraging overly large committees (Adole & Ogiriki, 2025).

In Nigeria, corporate governance guidelines for financial institutions emphasize the need for an adequately constituted audit committee that can effectively perform its oversight responsibilities, although they allow flexibility based on organizational size and complexity (Ilugbusi, et al. 2024). Consequently, audit committee size is a critical governance attribute that shapes the committee's capacity to perform its monitoring role effectively. An appropriately sized audit committee enhances the quality of oversight, supports robust governance practices, and strengthens organizational accountability (Belouadah, 2026). In the context of deposit money banks, where risk exposure is significant, audit committee size plays a vital role in ensuring effective supervision of financial reporting and risk management processes. Audit committee size serves as fundamental component of corporate governance acting as a bridge between.

In summary, audit committee size is a critical governance attribute that shapes the committee's capacity to perform its monitoring role effectively. An appropriately sized audit committee enhances the quality of oversight, supports robust governance practices, and strengthens organizational accountability. In the context of deposit money banks, where risk exposure is significant, audit committee size plays a vital role in ensuring effective supervision of financial reporting and risk management processes. Hence, the choice of audit committee size as a proxy for audit committee attributes for the present study

2.1.3 Audit committee independence

Audit committee independence refers to the extent to which members of the audit committee are free from management influence and do not maintain relationships that could impair their objectivity in the discharge of oversight responsibilities. Independent audit committee members are typically non-executive directors who have no material financial, familial, or managerial ties with the organization other than their board appointments. Independence is widely regarded as a cornerstone of effective audit committee functioning and a critical attribute of sound corporate governance, particularly in highly regulated and risk-sensitive sectors such as banking (Dea & Theresia, 2024). However, Independent audit committee members serve as monitoring agents who mitigate these conflicts by providing unbiased oversight of management actions, financial reporting processes, and risk management systems. By being detached from day-to-day management, independent members are better positioned to challenge managerial decisions, question aggressive accounting practices, and ensure compliance with regulatory standards (Lee, 2022).

Ali-Momoh et al. (2024) consistently suggested that audit committee independence enhances the quality of oversight and strengthens internal control mechanisms. Independent committees are more likely to demand transparent financial reporting, ensure timely recognition of credit losses, and enforce adherence to prudential guidelines. In the banking context, where credit risk decisions can significantly affect asset quality and financial stability, independent audit committees play a vital role in curbing excessive risk-taking and insider-related lending practices (Ali-Momoh et al., 2024).

Gbenyi et al. (2024) went further to provide empirical evidence which consistently suggested that audit committee independence enhances the quality of oversight and strengthens internal control mechanisms. Independent committees are more likely to demand transparent financial reporting, ensure timely recognition of credit losses, and enforce adherence to prudential guidelines. In the banking context, where credit risk decisions can significantly affect asset

quality and financial stability, independent audit committees play a vital role in curbing excessive risk-taking and insider-related lending practices.

According to Kabir et al. (2023), independent audit committee attributes mean audit committee attributes members have no connection to business management and are not subject to any influence from the board of directors, officers, and majority shareholders of the company. The committee must attest the accuracy of financial report, which reduces the likelihood of earnings manipulation. An audit committee attributes independence is defined as the extent to which it is not subject to management pressure (Bello & Adebayo, 2024). According to Galal et al. (2022), prior research on the connection between financial performance and the audit committee independence yields contradictory results. For instance, financial performance and audit committee independence have a favorable strong relationship. Monday et al. (2023) provided evidence that audit committee independence does not increase financial performance because the majority of its members are already self-sufficient, Izevbekhai et al. (2023) discovered that audit committees' independence and financial performance have no relationship.

In emerging economies such as Nigeria, audit committee independence assumes heightened importance due to institutional weaknesses, enforcement challenges, and historical concerns surrounding insider abuse and weak governance structures. Prior banking sector reforms in Nigeria have highlighted governance failures, including compromised board oversight and inadequate risk supervision, as key contributors to financial distress. Independent audit committees are therefore essential in strengthening internal governance frameworks and ensuring that credit policies align with regulatory expectations and risk appetite (Okolie, 2024).

It is the opinion of this author that audit committee independence is a fundamental attribute that enhances objectivity, strengthens monitoring functions, and promotes accountability within organizations. By reducing managerial dominance and fostering unbiased oversight, independent audit committees contribute significantly to effective governance and risk management. Audit committee independence was chosen as a proxy for audit committee attributes because within listed deposit money banks, where credit risk exposure poses systemic threats, audit committee independence is indispensable for safeguarding financial stability and protecting stakeholders' interests.

2.1.4 Audit committee chairperson tenure

Audit committee chairperson tenure refers to the number of consecutive years an individual has continuously occupied the leadership seat of the audit committee, serving as the principal orchestrator of the committee's oversight agenda, deliberative processes, and engagement with management, external auditors, and regulatory authorities. It reflects not merely the duration of service but the depth of leadership continuity within the committee's governance architecture and is regarded as a particularly consequential attribute of audit committee effectiveness, given that the chairperson uniquely shapes the tone, rigor, and strategic orientation of the committee's oversight activities (Camara & Sangiacomo, 2022). In highly regulated and operationally complex sectors such as banking, where credit risk exposures evolve continuously in response to macroeconomic shifts, regulatory changes, and institutional dynamics, audit committee chairperson tenure is especially critical for sustaining authoritative, informed, and strategically coherent oversight of risk management and financial reporting processes.

Theoretically, audit committee chairperson tenure is anchored in agency theory, which emphasizes the role of board subcommittees in mitigating conflicts of interest between managers and shareholders, particularly through the quality of leadership oversight exercised over management's financial and risk governance decisions. A long-serving audit committee chairperson accumulates firm-specific knowledge that considerably enhances the capacity to direct committee deliberations with greater precision, authority, and contextual intelligence, developing over time a deepened understanding of the bank's credit policies, loan portfolio composition, internal control architecture, historical risk patterns, and the behavioral tendencies of executive management, all of which enable more penetrating interrogation of management's credit risk decisions (Le et al., 2024). This accumulated leadership expertise strengthens the chairperson's capacity to steer the committee in evaluating financial reports, challenging aggressive loan classification practices, and ensuring the integrity of credit risk oversight systems with a commanding institutional voice that a newly appointed chairperson is unlikely to possess.

Audit committee chairperson tenure therefore represents a uniquely valuable and intangible governance resource. A chairperson with extended service brings experiential leadership capital that qualitatively elevates the depth and effectiveness of committee oversight beyond what individual member tenure alone can achieve, given that it is the chairperson who sets meeting agendas, determines the intensity of management questioning, mediates deliberative dynamics, and ultimately shapes the committee's collective oversight posture. Such chairperson-level experience is especially valuable in banking, where interpreting complex financial instruments, regulatory capital requirements, and credit risk models requires not only technical familiarity but also the institutional authority and relational confidence to challenge executive management's representations with credible and informed assertiveness (Turner & Zolin, 2022). Extended chairperson tenure may therefore substantially enhance the audit committee's capacity to detect early warning signs of deteriorating asset quality, identify systemic weaknesses in credit risk controls, and enforce accountability over loan provisioning and recovery strategies.

In the banking sector, the governance implications of audit committee chairperson tenure are especially significant for credit risk management. Banks face continuous and evolving exposure to credit risk, market risk, and heightened regulatory scrutiny, and a long-serving audit committee chairperson is better positioned to evaluate longitudinal trends in non-performing loans, assess the adequacy and conservatism of loan loss provisioning, monitor compliance with prudential guidelines, and direct the committee's attention toward emerging credit portfolio vulnerabilities with the confidence of institutional familiarity (Camara & Sangiacomo, 2022). Yet, where chairperson tenure becomes excessive, the risk arises that the chairperson may become less inclined to challenge aggressive lending strategies, insider-related credit exposures, or governance irregularities that a fresher perspective would more readily interrogate, thereby undermining rather than reinforcing effective credit risk governance.

Given the above, this author is of the opinion that chairpersons should relinquish their positions after having spent a reasonable time period with the listed deposit money banks. Disproportionately and protracted occupancy of this exalted position may increasingly deteriorate the independence and objectivity of oversight leadership functions due to slow development of close personal and professional relationships with executive management, engendering a familiarity that breeds complacency, erodes professional skepticism, and

diminishes the chairperson's willingness to vigorously challenge management's credit risk decisions.

2.1.5 Credit risk management

Credit risk as conceptualized by Fareed and Su (2022) is the potential loss that a lender or investor faces due to the borrower failure to meet its financial obligations, such as repaying a loan or making interest payments. It arises if a borrower or counterparty does not fulfil their commitments under the conditions set forth, causing the financial institution to suffer a financial loss. It is a critical concern for banks, financial institutions, and businesses that extend credit (Fareed & Su 2022).

Credit risk is a significant threat banks face whilst providing financial services to customers (Karim et al. 2024). Several financial institutions have either collapsed or are facing near collapse due to poorly functioning subprime lending to firms and people with bad and unreliable credit (Lqatamin & Alqatamin, 2024). Underscoring the importance of credit risk, Osi et al. (2024) note that, credit risk act as a major part in pushing deposit money banks' competitiveness since it constitutes the biggest ratio of banks' profits and from which interest is earned. Furthermore, credit risk is associated with risk of interest rate. Increasing rate of non-performing loans is harmful to achievement of deposit money banks' objectives since it reveals un-serviced credits for some time-period.

The practice of assessing and reducing the risk of loss brought on by borrowers' failure to pay their obligations is known as credit risk management (Bhatt et al., 2023). It includes the identification (reasons for existence of the risk), measurement (in numerical expression), monitoring, and control of credit risk (informed decision of how to assume or shape the risk profile such as assessing creditworthiness, limiting the loan amount, securing the loan with collateral, and monitoring the borrower's credibility), or the risk of losses brought on by borrowers failing to repay their loans (Agbana, et al. 2023). Thus, channels of credit risk can be taken to include, but not limited to; non-performing loan ratio, cost to income ratio, loan to deposit ratio, capital adequacy ratio and liquidity ratio. However, this study adopted non-performing loans ratio as a proxy for credit risk management.

2.1.6 non-performing loans (NPLs)

The loans that are in default or about to default are called non-performing loans (NPLs). After 90 days of being in default, many loans become non-performing loans (Ishaka et al., 2023). This also depends on the terms of the contract. When the interest and principal payments are due by 90 days or more, at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days overdue. However, there are other good reasons to doubt that payments will be made in total (Lisic et al. 2019). Non-performing loans are a strong indicator of financial institutions' failure. They are considered the key reasons behind various economic issues. More non-performing loans in a financial division will result in more unprofitable organizations, ultimately leading to economic instability. Eliminating non-performing loans is necessary to improve economic conditions (Mohd, 2023). This will lead to a waste of resources, resulting in poor growth and an inefficient economy (Mutalib & Lawan, 2024).

2.3 Theoretical framework

2.3.1 Agency theory by Stephen Ross (1973) and Barry Mitnick (1973)

Agency Theory, originally propounded and independently by Stephen Ross (1973) and Barry Mitnick (1973) but majorly exposed in the literature by Jensen and Meckling (1976), provides one of the most influential theoretical explanations for corporate governance mechanisms in modern corporations. The theory is founded on the separation of ownership and control that characterizes contemporary business organizations. In this arrangement, shareholders (principals) delegate decision-making authority to managers (agents), who are entrusted with the responsibility of running the firm in the best interests of the owners. However, because managers control access to information and day-to-day operations, they may pursue personal objectives that diverge from shareholders' wealth maximization goals (Furqaan et al., 2024). This divergence creates agency problems manifested in moral hazard, adverse selection, and information asymmetry.

In the banking industry, agency problems are particularly acute due to the complexity, opacity, and risk-laden nature of financial intermediation. Bank managers possess superior information regarding credit appraisal processes, loan portfolio quality, and risk classification models, while shareholders and even regulators rely largely on reported figures (Jensen & Meckling, 1976). This information asymmetry creates opportunities for managers to engage in excessive risk-taking, under-provisioning for loan losses, connected lending, and earnings manipulation, all of which can significantly undermine credit risk management and threaten financial stability (Mutalib & Lawan, 2024).

Moreover, Agency Theory provides a strong theoretical justification for examining how audit committee characteristics influence credit risk management in Nigerian deposit money banks. The theory predicts that stronger audit committee attributes enhance monitoring effectiveness, reduce managerial opportunism in lending decisions, and improve the quality of credit risk governance. Effective audit committees therefore serve as a critical internal control mechanism that aligns managerial behavior with shareholders' and regulators' expectations of prudent risk-taking. However, Agency Theory explains the fundamental governance logic underpinning this study. It establishes that conflicts of interest between bank managers and shareholders necessitate robust risk reporting systems, audit committee characteristics operate as agency-reducing mechanisms that are expected to improve credit risk management outcomes in deposit money banks in Nigeria.

2.4 Empirical review of literature

2.4.1 Empirical review of literature on audit committee size and non-performing loans

Kubiat et al. (2025) examined the effect of audit committee attributes on financial credit risk management of listed conglomerate firms in Nigeria. The study adopted an ex-post facto research design and utilized a panel data of sixty (60) pooled observations gathered from six (10) listed conglomerate firms in Nigeria over ten (10)-year period (2014-2023) and employed a panel multiple regression technique to analyze the data via E-views 10.0 statistical package. The study findings revealed audit committee size has a significant negative relationship with nonperforming loan of listed conglomerate firms in Nigeria while audit firm tenure has a non-significant positive relationship with nonperforming loan of listed conglomerate firms in Nigeria. It also revealed that audit committee expertise has significant negative relationship

with nonperforming loan of listed conglomerate firms in Nigeria while audit committee meetings have non-significant negative relationship with nonperforming loan of listed conglomerate firms in Nigeria. Audit committee size also showed a non-significant negative relationship with discretionary accrual of listed conglomerate firms in Nigeria. It was thus concluded that audit committee attributes have significant effect on credit risk management of listed conglomerate firms in Nigeria at 5% significance level.

Bako (2024) examined the audit committee attributes, audit quality, and financial performance of listed oil and gas companies in Nigeria. Research methodology: Audit committee attributes were measured by audit committee size, audit committee independence, and audit committee financial expertise, and audit quality was measured by audit fees charged by an external auditor. Financial performance was measured in terms of earnings per share. The researcher used secondary data extracted from the ten listed oil and gas firm's annual reports, and the accounts were analyzed using Panel Least Square. Results: This study revealed a positive and statistically significant relationship between audit committee size and earnings per share. It also shows that audit quality moderates audit committee attributes significantly and increases firm performance. This study recommended that maintaining high audit quality within the audit committee is crucial for a firm if it aims to offer increased assurance to investors and stakeholders concerning the precision and dependability of its financial statements.

Matoke and Omwenga (2024) conducted a research work on audit committee attributes and financial performance of companies listed in Nairobi Securities Exchange. This study adopted a descriptive research design. The study used Cronbach (Alpha) model to test the reliability of the data. Quantitative and qualitative data that was collected using questionnaires was inspected for errors and gaps. The data was then well examined and checked for completeness and comprehensibility. After inspection, the data was coded and analyzed by the use of descriptive statistics using SPSS. Data were analyzed by multiple regression analysis. Findings of the study indicate that the effect of audit committee attributes on financial performance is positive and significant and the greater the degree of an auditor's independence, the greater the propensity of a firm making substantial net profit margins. The impact of audit committee size was also positive and significant, although, its impact was lesser than that of auditor independence.

2.4.2 Empirical review of literature on audit committee independence and non-performing loans

Galal (2025) investigated how audit committee's characteristics affect credit risk management in Egypt. Using a sample of 80 non-financial Egyptian companies listed on the Egyptian Stock Exchange for the eight financial years from 2012 to 2019. Audit Committee characteristics are represented by Audit Committee independence, Audit Committee size, the frequency of Audit Committee meetings, Audit Committee expertise, and Audit committee gender. Panel data regression was used in the archival modeling study. Using a multiple regression model to test the relationship among the variables, the results provide evidences that Audit Committee Expertise, Audit Committee Size, Audit Committee Independence and Audit Committee Gender have a significant positive impact on credit risk management. Otherwise, Audit Committee Meetings have a positive relation but insignificant with firm value.

Noor et al., (2025) investigated the impact of the auditor client relationship, proxied by auditor tenure, on the risk of nonperforming loans, with audit committee independence as a key corporate governance mechanism moderating the relationship. Using panel data from 578

public listed companies in Malaysia over the period 2013 to 2017, comprising 2,890 firm-year observations. The results show that longer auditor tenure and stronger audit committee independence are each negatively associated with nonperforming loan suggesting efficient credit management. However, the interaction between tenure and audit committee independence is negative and significant, indicating a substitution effect: when audit committees are highly independent, the incremental benefit of extended auditor tenure in reducing non-performing loans. This challenges the conventional assumption that internal and external monitoring mechanisms always reinforce one another, instead suggesting they may overlap in function.

Ekaruwe (2024) examined effect of audit committee attributes on financial reporting quality of commercial banks listed on the Nigeria stock exchange. It employed ex post facto research design and extracted data from annual reports of a cross section of 14 banks from 2007 to 2022. It employed audit committee attribute variables such as audit committee size, audit committee independence, audit committee meetings and board size while capital adequacy was used to measure financial reporting quality. The data collected were analyzed using panel regression analysis and the result revealed that audit committee size and audit committee independence have negative but insignificant effect on capital adequacy of listed commercial banks in Nigeria while audit committee meetings and board size have negative and insignificant effect on capital adequacy of listed commercial banks in Nigeria.

Alshammari (2024) examined the influence of audit committee traits on the timeliness of financial reporting by Saudi non-financially listed entities. So, the study analyzes 300 observations spanning three years from 2020 to 2022 for 100 non-financial entities. This study adopts different statistical models, such as ordinary least squares (OLS) regression, along with the fixed development model and random effects model, to promote the underlying regression results. Agency and resource dependency theories were employed as theoretical frameworks to gain insight into the research results and hypotheses. This study showed that audit committee financial expertise (ACFE), prior experience (ACPE), and independence (ACIND) strongly affect the audit report lag (ARL). The study did not extend the analysis to other critical dimensions such as earnings quality, discretionary accruals, risk disclosure, or credit risk outcomes. The current research broadens this scope by examining audit committee attributes in relation to more substantive financial outcomes, thereby capturing both process efficiency and economic consequences of audit committee effectiveness.

Tiwari and Maji (2024) reported that audit committee independence does not significantly improve credit risk management, implying that independence alone may be insufficient to influence loan quality without complementary attributes such as financial expertise, diligence, or institutional enforcement mechanisms.

Monday et al. (2023) found that audit committee independence has no significant effect on credit risk management, measured by non-performing loans. Their findings suggest that structural independence may be largely symbolic where audit committees lack real authority, access to timely credit risk information, or the capacity to influence managerial decisions in highly regulated banking environments.

Yahya *et al.* (2020) document a significant negative relationship between audit committee tenure and non-performing loans, indicating that longer-serving committee leaders are better positioned to detect early signals of credit deterioration and enforce corrective oversight measures, findings consistent with the view that chairperson tenure enhances the committee's informational authority and monitoring assertiveness, producing measurable improvements in loan portfolio quality.

2.4.3 Empirical review of literature on audit committee chairperson tenure and non-performing loans

Ishaka et al. (2023), who found that audit committee tenure has a positive and significant effect on credit risk management. Although their findings reflect broader committee tenure rather than chairperson-specific tenure in isolation, the underlying governance logic applies directly to the chairperson context, where accumulated tenure at the leadership seat is expected to yield even more pronounced credit risk governance benefits given the chairperson's disproportionate influence over deliberative direction and management accountability enforcement. Such leadership-driven improvements in oversight quality are expected to translate into lower levels of non-performing loans as the chairperson's institutional authority and credit risk governance competence deepen over time.

Onmonya and Ebire (2023) found no significant relationship between audit committee tenure and credit risk management in the Nigerian banking context, suggesting that extended occupancy of the chairperson role does not automatically translate into enhanced oversight effectiveness across all institutional environments. This finding implies that the governance benefits of chairperson tenure may be offset by the familiarity threat, whereby prolonged service fosters close personal relationships with executive management that erode professional skepticism and diminish the critical oversight distance necessary for effective credit risk governance, particularly in banking environments where social and political networks intersect with governance structures in ways that compromise the objectivity of long-serving committee leaders.

2.5 Summary of empirical review of literature and gap in literature

Despite the growing body of research on audit committee attributes and their influence on credit risk management in previous research, several gaps remain, particularly in the Nigerian context and in sector-specific studies. Some studies focused solely on financial reporting quality leaving the impact of audit committee attributes on broader performance and risk-related outcomes largely unexplored (Kubiat et al., 2025), some did not explore other critical audit committee attributes such as size, independence and chairperson tenure nor did they consider how these attributes might influence risk management outcomes, particularly in highly regulated sectors (Bako, 2024); .Matoke & Omwenga, 2024; Okolie, 2024, & Muhammed et al. (2024).

3.0 METHODOLOGY

3.1 Research design

Research design aims to describe what will be done, how it will be done, and also explain how the results will be analyzed. This study adopted the ex post facto research design. This design was appropriate because this study relied on historical data from already documented sources

(Published annual financial reports of sampled banks). This research design is widely used in corporate governance and banking risk studies due to its suitability for examining cause and effect relationships using secondary data (Bordens & Abbott, 2021; Creswell, 2020).

3.2 Sources of data

The study relied exclusively on secondary data obtained from published annual reports and financial statements of listed deposit money banks obtained from Nigerian Exchange Group (NGX) database, Central Bank of Nigeria (CBN) Statistical Bulletin, for the period of sixteen (16) years 2009 to 2024. The data for this study was collected through a rigorous procedure from secondary sources, specifically annual reports and financial statements of deposit money banks listed on the Nigerian Exchange Group (NGX) spanning the period under investigation. The source documents were accessed via official company websites and the NGX portal to ensure data authenticity. Information on credit risk management, computed as the ratio of non-performing loans to total loans, were drawn from the financial statements of each sampled bank. Audit committee attribute variables, namely audit committee size, independence and chairperson tenure, were systematically extracted from the corporate governance sections and audit committee reports its operationalized definition to ensure consistency and precision across all observations.

3.3 Population size

The population of this study comprised of all eleven (11) listed deposit money banks listed on the floor of Nigerian Exchange Group for the period between 2009 and 2024. As at 31st December, 2024, the total number of listed deposit money banks on the floor of the Nigerian Exchange Group (NGX) were 11 (eleven), (NGX) Website, Q4 2024).

3.4 Sample size and sampling techniques

The size of the sample for this study was eleven (11) listed deposit money banks that were listed on the Nigerian Exchange Group between the period 2009 to 2024. This was justified because the population size was manageable and all required information for the study were readily available.

3.5 Data analysis techniques

In this study, descriptive statistics, data normality test, and correlation analysis were employed as basic pre-regression analysis while Variance inflation factor test (test for multicollinearity) and test for Heteroscedasticity of Residua were conducted as formal post regression diagnostic test. Individual statistical significance test (T test or Z test) and overall statistical significance test (Fisher test or Wald test) for fixed and random effect models were determined respectively. All analyses were carried out at 5% level of significance using STATA 17 software.

3.6 Variable definitions and measurements

The dependent and independent variables employed in this study were measured as follows:

Table 3.1 Operationalization of variables

Variables	Measurement	Source	Apriori
Non-performing loan Dependent Variable	Computed in % as Non-Performing Loans / Total Loans *100	Zhang et al., (2022) Mensah et al. (2024); Ozili (2019)	.
Audit Committee Size (Independent Variable)	Total count of audit committee members	Isah et al. (2024); Mensah et al. (2024)	–ve
Audit Committee Independence (Independent Variable)	Total count of non-executive audit committee members	Lo and Gong (2022); Mensah et al. (2024)	–ve
Audit Committee Chairperson Tenure (Independent Variable)	computed as number of consecutive years the audit committee chairperson has served in the chairperson role.	Gupta, and Mahakud, (2021)	–ve

Source; Authors' Compilation (2026)

3.7 Model specification

This study was concerned with establishing the effect of audit committee attributes (ACA) on credit risk management (CRM) of listed deposit money banks in Nigeria. The econometric model for this study was adapted from the study of Badru, Karaye, Ahmad-Zaluki, and Abdurraheem, (2026) who investigated the effect of audit committee attributes on non-performing loans in Nigerian banks. In this study, the functional relationship was expressed as:

$$\text{CRM} = f(\text{ACA}) \quad \text{Equation i}$$

The audit committee attributes (ACA) being an independent variable was proxied by audit committee size (AUS), audit committee independence (AUI), audit committee chairperson tenure (AUT) The functional model is established as:

$$\text{ACA} = f(\text{AUS}, \text{AUI}, \text{AUT}) \quad \text{Equation ii}$$

The concept of credit risk management is measured using non-performing loans (NPLs) ratio.

$$\text{CRM} = F(\text{NPL}) \quad \text{Equation iii}$$

However, the econometric representation of the functional model is given as;

$$\text{NPLR}_{it} = \beta_0 + \beta_1 \text{AUS}_{it} + \beta_2 \text{AUI}_{it} + \beta_3 \text{AUT}_{it} + \mu_{it}$$

Where:

NPLR	=	Non-Performing Loan Ratio of listed deposit money banks
AUS	=	Audit Committee Size of listed deposit money banks
AUI	=	Audit Committee Independence of listed deposit money banks

AUT	=	Audit Committee Chairperson Tenure of listed deposit money banks
i	=	Cross section
t	=	Time frame
β_0	=	Intercept term,
$\beta_1-\beta_7$	=	Regression coefficients of the variables to be obtained from the results of statistical analysis.
μ	=	Stochastic error term included to measure any variable not captured in the model.

3.8 Decision rule

The study tested the effect of audit committee attributes on credit risk management. The study involved the test of null (H_0) hypothesis whether to accept it or not in the light of the evidence from the results of statistical analyses. The decision rule employed was that the null (H_0) hypothesis was accepted if the calculated value (t_c) was lower than the critical value at a given level of significance = 0.05. Otherwise, the null hypothesis was rejected if the calculated value (t_c) was higher than the critical value at a given level of significance = 0.05. The test was conducted at 5 % level of significance.

4.0 DATA PRESENTATION AND RESULTS/ANALYSIS AND DISCUSSION

4.1 Descriptive statistics:

Descriptive statistics was employed in this study to provide a summary overview of the dataset, offering insights into the central tendency, dispersion, and distributional characteristics of the variables under investigation. Key statistical measures such as the mean, standard deviation, minimum, maximum, were computed to highlight the average values, variability, and spread within the data. These preliminary analyses were essential for understanding the nature of the dataset, detecting outliers, and identifying potential skewness or inconsistencies that could affect subsequent regression estimation (Hair, Black, Babin, & Anderson, 2010; Tabachnick & Fidell, 2013). By evaluating the statistics, the researcher gained insight into how the variables behave individually before examining their interrelationships.

(Table 4.1)

Variable	Obs	Mean	Std. Dev.	Min	Max
NPLR	176	6.976	9.293	.58	86.85
AUS	176	5.795	.751	3	9
AUI	176	.613	.216	0	1
AUT	176	3.154	2.175	0	9

Source: Author's Compilation (2026) (Stata Version 17)

The descriptive statistics presented in Table 4.1 provide a rich empirical foundation for understanding the central tendencies, dispersion, and distributional characteristics of the variables drawn from deposit money banks listed on the Nigerian Exchange Group (NGX) for

the period 2009–2024. The dependent variable, Non-Performing Loan Ratio (NPLR), recorded a mean value of 6.976%, with a notably high standard deviation of 9.293, a minimum of 0.58%, and a maximum of 86.85%. The relatively high mean NPLR and its wide dispersion suggest considerable heterogeneity in credit risk exposure across the sampled banks over the study period, a pattern largely attributable to the cyclical macroeconomic shocks, regulatory interventions by the Central Bank of Nigeria (CBN), and the structural vulnerabilities of the Nigerian banking sector (Ozili, 2019; Louzis, Vouldis, & Metaxas, 2012). The maximum value of 86.85% is particularly alarming and is consistent with the documented credit deterioration episodes experienced during the 2008–2009 global financial crisis and subsequent domestic banking sector recapitalization exercises in Nigeria, wherein several banks recorded astronomically high non-performing loan portfolios (Sanusi, 2010). This finding aligns with Klein (2013), who documented high variability in NPL ratios across emerging and transitional economies, attributing such dispersion to institutional weaknesses and inadequate risk governance frameworks.

Regarding audit committee compositional variables, the mean audit committee size (AUS) of 5.795 members (SD = 0.751; Min = 3; Max = 9) indicates moderate-sized committees, broadly consistent with the minimum statutory requirement of three members under the Companies and Allied Matters Act (CAMA, 2020) and the CBN's Code of Corporate Governance for Banks (2014). Audit committee independence ratio (AUI) posted a mean value of 0.613 (61.3%), with a standard deviation of value 0.216, ranging from 0 to 1 (full independence). This suggests that, on average, the sampled banks maintained a majority-independent audit committee composition, consistent with best governance practices recommended by the Securities and Exchange Commission (SEC) and the Nigerian Corporate Governance Code (2011). However, the minimum value of zero is disconcerting and indicates that at least one firm-year observation featured an audit committee with no independent member.

Audit committee chairperson tenure (AUT) recorded a mean value of 3.154 years (SD = 2.175; Min = 0; Max = 9). The mean tenure suggests that most audit committee chairpersons have served for relatively short periods, which may reflect regulatory prescriptions. The minimum value of zero implies cases of interim chairpersons within the study period, while the maximum of nine years raises concerns about the risk of familiarity threat.

Overall, the descriptive evidence reveals that while Nigerian deposit money banks demonstrate moderate compliance with regulatory governance prescriptions across several audit committee dimensions, significant variability and occasional extreme values across virtually all variables point to the existence of governance outliers and structural deficiencies.

4.2 Test for normality of residual

Shapiro-Wilk normality test procedure was employed in this study to determine if the data series were normally distributed by evaluating the disparity of the skewness as well as the kurtosis of the series compared with those from the normal distribution. Shapiro-Wilk statistic test is a goodness-of-fit test of whether the sample data have the skewness and kurtosis matching a normal distribution (Blanca, 2024; Saculinggan & Balase, 2013). The adoption of the Shapiro-Wilk test in this study was particularly justified by the sample size, as the total study observations of 176 fall below the 2,000-observation threshold, within which the Shapiro-Wilk test is considered most appropriate and statistically powerful for detecting departures from normality (Razali & Wah, 2011; Mishra, Pandey, Singh, Gupta, Sahu & Keshri, 2019). If the

residual is normally distributed, then the histogram must be well shaped while the probability of the z statistics will not be statistically significant at 0.05 level.

The Shapiro-Wilk normality test (Table 4.2) was conducted on all study variables to assess the distributional properties of the dataset prior to inferential analysis, and the results reveal that the majority of the variables significantly deviate from a normal distribution. Specifically,

Non-Performing Loan Ratio (NPLR) returned the highest Z-value of 9.355 with a corresponding probability value of 0.00000, providing overwhelming statistical evidence to reject the null hypothesis of normality, a finding consistent with the broader empirical literature documenting that non-performing loan ratios in developing economies are typically right-skewed due to the influence of extreme credit deterioration episodes among a subset of banks (Ozili, 2019; Louzis, Vouldis, & Metaxas, 2012).

Similarly, Audit Committee Size (AUS) yielded a Z-value of 3.915 and a p-value of 0.00005, while Audit Committee Independence (AUI) produced a Z-value of 6.499 and a p-value of 0.00000, both firmly rejecting normality at the 1% significance level and suggesting that these governance variables are not symmetrically distributed across the sampled banks, likely because regulatory floor requirements create a clustering of observations around minimum compliance thresholds, a pattern also documented in audit committee studies conducted in emerging market contexts (Kallamu & Saat, 2015; Nursing & Dorasamy, 2022).

Audit Committee Chairperson Tenure (AUT) recorded a Z-value of 4.276 and a p-value of 0.00001, departing significantly from normality, plausibly because chairperson tenure distributions is positively skewed given the predominance of relatively short-tenured appointees interspersed with a few long-serving exceptions.

Table 4.2: Data normality test results

asdoc swilk NPLR AUS AUI AUT

Shapiro–Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
-----+-----					
NPLR	176	0.55149	59.886	9.355	0.00000
AUS	176	0.95847	5.545	3.915	0.00005
AUI	176	0.87144	17.166	6.499	0.00000
AUT	176	0.95111	6.496	4.276	0.00001

Source: Author’s Computation (2026) (Stata Version 17)

4.3 Pearson correlation statistics test

Serial correlation, also referred to as autocorrelation, occurs in regression models when the error terms across observations are correlated with one another, thereby violating the classical assumption of independent disturbances. Asteriou and Hall (2021) explained that serial correlation is a situation where the error term in one period is systematically related to the error

term in a preceding period, resulting in inefficient parameter estimates and misleading standard errors, even though the coefficients themselves may remain unbiased. If serial correlation is present in a panel data model, the standard errors of the estimated coefficients become underestimated, consequently inflating the t-statistics and increasing the likelihood of a Type I error (Wooldridge, 2019).

Specifically, the presence of serial correlation distorts statistical inference, rendering hypothesis testing unreliable. The Wooldridge (2002) test for serial correlation was employed in this study to detect first-order autocorrelation in the panel data. The Wooldridge test is particularly favoured for panel data analysis due to its robustness under general assumptions and its applicability to both balanced and unbalanced panels (Drukker, 2003). The rule of thumb is that if the probability value of the Wooldridge F-statistic is statistically significant at the 0.05 level, the null hypothesis of no first-order serial correlation is rejected, indicating the presence of autocorrelation in the model.

Correlation analysis was employed in this study to measure the strength and direction of the linear relationship among the variables under investigation. Specifically, correlation coefficient evaluates how changes in one variable are associated with changes in another by computing the covariance of the variables, standardized by their respective standard deviations. The coefficient ranges from -1 to +1, where values close to +1 imply a strong positive linear relationship, values near -1 indicate a strong negative linear relationship, and values around 0 suggest no linear relationship (Mukaka, 2012; Ratner, 2009). It is important to clarify at this juncture that correlation analysis cannot and should not be conflated with a formal test for multicollinearity among

Nevertheless, while correlation analysis cannot substitute for a formal multicollinearity diagnostic, the broader econometric literature cautions that a bivariate rho coefficient equal to or exceeding 0.80 between any two predictor variables may be a preliminary signal of potentially problematic multicollinearity, as such a high degree of association suggests that the two variables are capturing largely overlapping variance, which, when both are included in a regression model, can produce inflated standard errors, unstable coefficient estimates, and unreliable hypothesis tests (Hair, Black, Babin, & Anderson, 2019; Pallant, 2020). In this study, correlation analysis was used to provide insights into the association among the variables as presented in Table 4.3

Table 4.3

Variables	(1)	(2)	(3)
(1) NPLR	1.000		
(2) AUS	-0.045	1.000	
(3) AUI	0.067	-0.610	1.000

Source: Author's Computation (2026) (Stata Version 17)

The Spearman rank correlation matrix presented in table 4.3 examined the bivariate association between the Non-Performing Loan Ratio (NPLR) and the audit committee attribute variables, as well as the inter-correlations among the independent variables themselves. Beginning with the relationship between the dependent variable and the audit committee attributes, the association between Non-Performing Loan Ratio (NPLR) and Audit Committee Size (AUS) yielded a rho coefficient of -0.0454, indicating a very weak negative relationship, suggesting that as the number of audit committee members increases marginally, there is a weak inverse association with non-performing loan ratio. This finding is broadly consistent with Batool and Javid (2019), who documented weak bivariate associations between audit committee size and credit risk proxies in their examination of Pakistani commercial banks. The association between Non-Performing Loan Ratio (NPLR) and Audit Committee Independence (AUI), returned a rho coefficient of 0.0670, representing a very weak positive relationship, which tentatively implies that higher independence is marginally associated with increased non-performing loan ratios at the bivariate level.

Notably, the association between Non-Performing Loan Ratio (NPLR) and Audit Committee Chairperson Tenure (AUT), returned the strongest relationship between the dependent variable and any of the independent variables, with a rho coefficient of -0.2505, indicating a moderate negative association, implying that longer-serving audit committee chairpersons tend to be associated with lower non-performing loan ratios.

With regards to the inter-correlations among the independent variables, several noteworthy associations merit discussion. The most prominent relationship within the predictor matrix is the association between Audit Committee Size (AUS) and Audit Committee Independence (AUI), which returned a rho coefficient of -0.6102, representing a moderate to strong negative association, suggesting that larger audit committees tend to be associated with relatively lower independence ratios in the sampled banks. While this association is the highest in the matrix, it remains below the critical threshold of 0.80 that is conventionally flagged as an indicator of potential collinearity concerns.

The association between Audit Committee Size (AUS) and Audit Committee Chairperson Tenure (AUT) returned a rho coefficient of -0.2744, reflecting a weak negative relationship, while the association between Audit Committee Size (AUS) and Audit Committee The association between Audit Committee Independence (AUI) and Audit Committee Chairperson Tenure (AUT) produced a rho of 0.3794, indicating a moderate positive relationship.

Clearly, none of the inter-predictor rho coefficients in this study approaches the critical threshold of 0.80, thereby providing preliminary, though not conclusive, reassurance that severe multicollinearity is unlikely to be a major threat to the integrity of the regression estimates, a conclusion that is nonetheless properly validated through formal VIF diagnostics in the subsequent inferential analysis.

4.4 Regression analysis

4.4.1 Fixed and random effects estimators

Due to the panel nature of the data, both fixed and random effect regression specifications were conducted. The most suitable of both models was determined using Hausman Specification test. Fixed and random effects analyses are two approaches commonly used in panel data or repeated measures analysis to account for the presence of individual-specific or group-specific effects.

In fixed effects analysis, individual-specific or group-specific effects are treated as fixed constants, indicating that the effect of each individual or group is assumed to be constant and is estimated separately for each entity. Fixed effects analysis is useful when there is a concern that unobserved characteristics specific to each individual or group may be influencing the dependent variable. By including fixed effects in the model, the analysis controls for unobserved factors and focuses on the variation within each entity over time.

In random effects analysis, individual-specific or group-specific effects are treated as random variables, indicating that the effect of each individual or group is assumed to be drawn from a larger population of possible effects and is not estimated separately for each entity. Instead, the analysis estimates the variance of the random effects across the sample. Random effects analysis is suitable when the individual-specific or group-specific effects are assumed to be randomly drawn from a larger population.

Both fixed and random effects analyses are valuable tools for dealing with panel data or repeated measures (Baltagi and Yang, 2013), allowing researchers to control for unobserved heterogeneity and obtain more accurate and reliable estimates of the relationships between variables. However, to justify the choice of a model, Hausman specification test is largely suggested by scholars. The general form of the fixed and random effect regression is given as:

$$w_{it} = \beta x_{it} + \alpha_i + \varepsilon_{it}; i = 1, \dots, N; t = t_1, \dots, T_i$$

Where i refers to the i^{th} individual; t is the period.

4.4.2 Regression results

Specifically, the effect of the independent variables on the dependent variable of this study was first examined using panel data estimators which included fixed and random effects analysis. The results are presented in Table 4.4. Remarkably, the within R-squared value of 0.0819 in the Fixed Effects (FE) model indicates that audit committee attribute variables jointly explain approximately 8.19% of the within-group variation in the Non-Performing Loan Ratio (NPLR) across the sampled deposit money banks. Further, the associated F-statistic of 1.99 with a Prob > F of 0.0500 suggests that the joint explanatory power of the regressors is marginally significant at 5% level, implying a modest collective influence of audit committee attributes on credit risk within groups.

In the Random Effects (RE) model, the between R-squared value of 0.2340 is notably higher than the FE model, indicating that the RE model captures approximately 23.40% of the cross-sectional variation in NPLR between banks. The Wald chi-squared statistic of 15.47 with a Prob > chi2 of 0.0304 confirms that audit committee attribute variables are jointly significant at 5% level in explaining inter-bank differences in non-performing loan ratio. Regarding poolability diagnostics, the Fixed Effects Redundancy Test returned an F-statistic value of $F(10, 156) = 2.36$ with a Prob > F of 0.0128, rejecting the null hypothesis that all individual bank-specific fixed effects are jointly zero at the 5% significance level, thereby confirming that significant unobserved heterogeneity exists across the eleven sampled banks. This result ultimately points to the fact that pooled OLS estimator would be inappropriate and inefficient.

Complementarily, the Breusch and Pagan Lagrangian Multiplier test for random effects yielded a $\chi^2(01)$ of 6.30 with a Prob > χ^2 of 0.0060, decisively rejecting the null hypothesis of zero variance in the individual-specific random effects at 1% significance level. This

outcome jointly affirms that panel estimation techniques accounting for individual bank heterogeneity are statistically warranted over pooled OLS (Pathan & Faff, 2013; Akomeah & Bentil, 2019). The Hausman Specification Test returned a $\chi^2(7)$ statistic of 0.34 with a Prob > χ^2 of 0.9999, providing no statistical basis to reject the null hypothesis that the differences in coefficients between the Fixed Effects and Random Effects estimators are not systematic, thereby indicating that the Random Effects estimator is both consistent and efficient and is therefore the preferred and more appropriate model for the inferential analysis in this study.

Table 4.4

4.4 Panel data regression post diagnostics

	FIXED EFFECT MODEL	RANDOM EFFECT MODEL	Driscoll–Kraay SE MODEL
AUS	-0.009 (0.929)	-0.001 (0.908)	-0.064 **(0.022)
AUI	0.562 (0.147)	0.541 (0.150)	2.614 **(0.004)
AUT	-0.119 **(0.001)	-0.121 *** (0.000)	-0.119 **(0.036)
R_SQUARED	0.0819	0.2340	0.1091
FISHER_STAT/WALD χ^2	1.99	15.47 ** (0.0304)	22.08 *** (0.0000)
*** (0.0000)			
M Wald Test for Groupwise Heteroskedasticity	= 0.0000 ***		
Mean VIF	= 1.39		
Company FE Test	= 0.0000***		
	B&P LM test RE = 0.0060 **	Wooldridge Test for Autocorrelation: Prob = 0.0000***	
	Hausman Test χ^2 = 0.34, Probability = (0.9999)	Pesaran abs: Pr = 0.0000	
		Pesaran (2015, 2021) Pr F. = 0.0000***	
		Frees Test 1.402	

Source: Author's Compilation (2026) (Stata Version 17)

Supporting diagnostics test for the established random effect model revealed the presence of auto-correlation. Particularly, the Wooldridge autocorrelation in panel data returned an F (1, 10) statistic of 65.554 with a Prob > F of 0.0000, decisively rejecting the null hypothesis of no first-order autocorrelation at 1% significance level. Further diagnostics for cross sectional independence errors using three complimentary techniques to include, Frees' (1995) test, Pesaran's (2015) CD test, and xtcd2 battery test, particularly well-powered in panels where the cross-sectional dimension (N) is moderate relative to the time dimension (T). Collectively, the results of all three diagnostic procedures, unambiguously and consistently reject the null hypothesis of cross-sectional independence across all applied tests and significance levels.

The evidence establishes the presence of strong cross-sectional dependence in the panel residuals presenting critical implications for the choice of estimation strategy and inferential procedures. Consequently, this study proceeds with estimation techniques robust to cross-sectional dependence, specifically, the use of Driscoll-Kraay standard errors, which remain consistent under arbitrary forms of cross-sectional and temporal dependence, ensuring the validity of inference in the presence of the documented contemporaneous correlation structure. The collinearity diagnostics, however, provide reassuring evidence against multicollinearity concerns, as all individual Variance Inflation Factor (VIF) values are well below the critical threshold of 10, ranging from a low of 1.34 for Audit Committee Chairperson Tenure (AUT) to

a high of 1.93 for Audit Committee Independence (AUI), with a mean VIF of 1.39 indicating negligible collinearity among the predictors.

4.4.4 Hausman specification test

This test checks for a more efficient model against a less efficient but consistent model. It ensures that the more efficient model also gives consistent results. It tests the null hypothesis that the coefficients supplied by the efficient random-effects estimator are the same as the ones estimated by the consistent fixed-effects estimator. Hence, if the p-value $> \chi^2$ is larger than .05, then it is safe to use random effects, but if the p-value $< \chi^2$ is less than .05, then the fixed effects model should be adopted.

Table 4.5: Hausman specification test results

hausman fe re				
	---- Coefficients ----			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
---	-----			
AUS	-.0091018	-.0114258	.002324	.0227337
AUI	.5623282	.541208	.0211202	.0853811
AUT	-.1195776	-.1205176	.0009401	.0096337

b = Consistent under H0 and Ha; obtained from xtreg.
B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

$$\chi^2(7) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 0.34$$

Source: Author's compilation (2026) (Stata Version 17)

4.4.5 Multicollinearity test

Multicollinearity occurs in multiple regression models. Further, Gwelo, (2019) explained that it is a situation where two or more independent variables are 'collinear', that is, when they exist exactly. If it is found in multiple regression analysis that some of the independent variables are highly intercorrelated, then the problem of multicollinearity has occurred. Specifically, if perfect correlation occurred between the explanatory variables, the parameter coefficients will be indeterminate, and the standard errors of the estimated coefficients becomes bloated (Chen et al., 2013). Variance inflation factor technique (VIF) was used to conduct multicollinearity test. The rule of thumb is that if the mean variance inflation result is >10 then it calls for concern.

Table 4.6: Multicollinearity test results

collin AUS AUI AUT
(obs=174)

Collinearity Diagnostics

Variable	VIF	SQRT VIF	Tolerance	R- Squared
AUS	1.60	1.26	0.6250	0.3750
AUI	1.93	1.39	0.5182	0.4818
AUT	1.34	1.16	0.7490	0.2510
Mean VIF	1.39			
	Eigenval	Cond Index		
1	6.7462	1.0000		
2	0.6551	3.2091		
3	0.2952	4.7806		
4	0.1355	7.0549		
5	0.0809	9.1304		
6	0.0558	11.0001		
7	0.0274	15.7030		
8	0.0039	41.6008		
Condition Number		41.6008		
Eigenvalues & Cond Index computed from scaled raw sscp (w/ intercept)				
Det(correlation matrix)		0.3047		

Source: Author's compilation (2026) (Stata Version 17)

4.4.6 Heteroscedasticity of residual test

Heteroscedasticity refers to nonexistence of homoscedasticity (a constant variance assumption) (Baltagi & Yang, 2013). It indicates absence or nonexistence of non-constant variance resulting in the breakdown of Best Linear Unbiased Estimator properties by which consistency and efficiency properties are lost. Using Breusch-Pagan-Godfrey approach, the decision rule is that there is no heteroscedasticity if the Prob > χ^2 is insignificant at 5% level of significance.

Table 4.7: Heteroscedasticity of residual test results

estimate store re xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

$$\text{NPLRR}[\text{croid}, t] = Xb + u[\text{croid}] + e[\text{croid}, t]$$

Estimated results:

	Var	SD = sqrt(Var)
NPLRR	.691326	.8314602
e	.5945893	.7710962
u	.2064624	.4543813

Test: $\text{Var}(u) = 0$

chibar2(01) = 6.30
 Prob > chibar2 = 0.0060

Source: Author's compilation (2026) (Stata Version 17)

4.4.7 Test for cross sectional independence

Cross-sectional dependence is a common phenomenon in panel data models, particularly when the data spans multiple entities over time. Pesaran (2015) explained that cross-sectional dependence arises when the error terms across cross-sectional units are correlated, a situation that is especially prevalent in panel datasets involving financial institutions operating within the same macroeconomic environment, as is the case in this study. If cross-sectional dependence is left unaddressed, the estimated coefficients may be inconsistent and the standard errors of the regression model become unreliable, thereby undermining the validity of statistical inference (Pesaran, 2015). To ensure the robustness of the cross-sectional independence assumption, three complementary testing techniques were employed in this study, namely Pesaran's absolute value test, Frees' (1995) test, and Pesaran's (2015) CD test. The rule of thumb is that if the probability values of these tests are statistically significant at the 0.05 level, the null hypothesis of cross-sectional independence is rejected, indicating the presence of cross-sectional dependence in the panel data.

4.4.8 Driscoll-Kraay standard error estimator

Although the Hausman specification test result indicated a preference for random effect model, the model was rendered unsuitable following its failure of both the serial correlation and cross-sectional independence diagnostic tests, signaling the presence of autocorrelation and cross-sectional dependence in the panel data. In response to these violations, the regression with Driscoll-Kraay standard errors was adopted as the estimation technique for hypothesis testing in this study. This approach is particularly appropriate because Driscoll and Kraay (1998) standard errors are robust to a wide range of error structures, including heteroscedasticity, autocorrelation, and cross-sectional dependence, which are precisely the violations detected in the data. Further, Hoechle (2007) affirms that the Driscoll-Kraay estimator performs reliably in panel datasets with both temporal and cross-sectional correlation, making it well-suited for this study's panel structure. By employing this technique, the integrity and reliability of the regression estimates are preserved, ensuring that the hypothesis testing outcomes are both valid and efficient notwithstanding the diagnostic violations identified in the data.

4.5 Discussion of findings

4.5.1 Audit committee size

The statistically significant negative effect of audit committee size on credit risk finds compelling theoretical grounding in both agency theory and resource dependency theory. From an agency perspective, Ross (1973) and Mitnick (1973) posited that larger audit committee enlarges the collective monitoring capacity over management's credit administration behavior, reducing information asymmetry between bank insiders and stakeholders and constraining the moral hazard tendencies that breed loan portfolio deterioration. In view of the resource dependency theory, Pfeffer & Salancik, (1978) explains that a more populous committee aggregates a broader repertoire of professional competencies, industry networks, and cognitive

diversity that collectively enrich credit risk deliberation and oversight quality. In the Nigerian banking context, this outcome is particularly likely against the backdrop of the Central Bank of Nigeria's (CBN) sustained post-2009 banking sector reforms, the issuance of the CBN Code of Corporate Governance for Banks (2014), and the Nigerian Exchange Group's progressive adoption of sustainability and governance disclosure requirements, all of which collectively intensified regulatory expectations around the robustness of audit committee composition in deposit money banks. The CBN's Asset Management Corporation of Nigeria (AMCON) intervention era, spanning 2010 through the mid-2010s, further sensitized bank boards to the reputational and regulatory consequences of weakly constituted oversight committees, plausibly incentivizing banks to expand committee membership as a demonstrable governance signal. This finding aligns with the empirical evidence of Akomeah and Bentil (2019), who documented a significant negative effect of audit committee size on non-performing loans among Ghanaian banks, attributing the outcome to enhanced collective monitoring intensity.

4.5.2 Audit committee independence

The counterintuitive statistically significant positive effect of audit committee independence on credit risk is theoretically explicable the lens of knowledge displacement argument, theoretically anchored on agency theory's recognition that effective monitoring requires not merely independence from management but also the informational capacity to exercise such independence meaningfully (Ross, 1973; Mitnick, 1973; Fama & Jensen, 1983). As the ratio of non-executive members rises, it proportionally displaces operationally informed insider members who possess intimate, real-time familiarity with the bank's specific credit portfolio composition, borrower relationships, sectoral exposures, and internal credit classification practices, creating a substantive knowledge vacuum in audit committee deliberations that actively weakens the quality of credit risk scrutiny rather than merely rendering it ceremonially neutral.

In the Nigerian banking context, where credit risk oversight demands deep familiarity with sector-specific exposures including oil and gas concentrations, foreign exchange-denominated lending, and politically connected loan portfolios that dominated the 2015–2024 banking landscape, non-executive members who are structurally distanced from the bank's operational credit realities are not merely ineffective but are demonstrably counterproductive, as their oversight interventions lack the contextual precision necessary to interrogate management's loan classification, provisioning, and recovery decisions with sufficient technical authority. Consequently, this permits the accumulation of non-performing loans that a more operationally grounded committee composition would have credibly constrained. Zabri, Ahmad, and Wah (2016), reported similar outcome that audit committee independence did not produce the anticipated risk-mitigating effect in their Malaysian banking sample.

4.5.3. Audit committee chairperson tenure

The statistically significant negative effect of audit committee chairperson tenure on credit risk is theoretically well-anchored in agency theory, which recognizes that accumulated institutional experience and familiarity with an organization's specific risk architecture equip a long-serving chairperson with the authoritative knowledge, relational capital, and oversight assertiveness necessary to exercise effective constraint over management's credit risk-taking behavior (Fama & Jensen, 1983). The resource dependency theory (Pfeffer & Salancik, 1978) also emphasizes on the value of firm-specific human capital that experienced governance actors accumulate over

sustained service, enabling them to identify emerging credit portfolio vulnerabilities, interrogate management's loan classification decisions with greater precision, and advocate credibly for prudential risk governance standards.

In the Nigerian banking context, this finding is practically grounded in the governance environment shaped by the CBN's post-2009 reform architecture, the implementation of the Basel II and nascent Basel III prudential frameworks, and the sustained regulatory pressure on deposit money banks to strengthen internal governance structures in the aftermath of the AMCON intervention and the 2016 economic recession, all of which collectively increased the strategic importance of experienced and continuity-oriented audit committee leadership in navigating the complex credit risk landscape of Nigerian banking. A chairperson with deepened institutional tenure during this turbulent period would plausibly have developed the oversight authority and credit risk literacy to impose greater discipline on management's loan origination, monitoring, and classification practices, thereby suppressing non-performing loan accumulation.

5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

In this study, the primary objective was to examine the effect of audit committee attributes on credit risk management of listed deposit money banks in Nigeria over a sixteen-year period spanning 2009 to 2024. Credit risk management was proxied by non-performing loans, while audit committee attributes were decomposed into three key dimensions, namely, audit committee size, independence, chairperson tenure in order to capture the multidimensional nature of the statutory audit committee structure. Preliminary analyses comprising descriptive statistics, normality tests, and correlation analysis were conducted to understand the distributional properties of the data and assess potential multicollinearity concerns among the study variables. Given the longitudinal and cross-sectional structure of the dataset, panel regression techniques were employed, and diagnostic tests supported the adoption of regression model. However, to address issues of heteroscedasticity, autocorrelation, and cross-sectional dependence, Driscoll–Kraay standard error estimator was applied in estimating the final model, hence deployed to test the stated hypotheses. Specifically, the results obtained from the regression analyses revealed that;

1. Audit committee size has a statistically significant negative effect on credit risk management of listed deposit money banks in Nigeria during the period under consideration.
2. Audit committee independence has a statistically significant positive effect on credit risk management among listed deposit money banks in Nigeria during the period under review.
3. Audit committee chairperson tenure has a statistically significant negative effect on credit risk management among listed deposit money banks in Nigeria during the period under review.

5.2 CONCLUSION

Drawing on a robust set of audit committee attribute encompassing audit committee size, independence, and audit committee chairperson tenure, and employing Regression with Driscoll-Kraay standard errors to account for cross-sectional dependence and serial correlation inherent in the panel dataset, the conclusion of this study was that audit committee attributes collectively and individually exert differential effects on credit risk management, with audit committee size and audit committee chairperson tenure demonstrating statistically significant credit risk-suppressing effects consistent with a priori expectations, audit committee independence producing statistically significant but paradoxically credit risk-amplifying outcomes that deviate from theoretical expectations. Overall, this study argued that governance-credit risk nexus in Nigerian deposit money banks is complex, context-contingent, and not amenable to simplistic prescriptions premised solely on formal structural compliance with regulatory governance thresholds.

5.3 RECOMMENDATIONS

1. Given that audit committee size of deposit money banks demonstrably constrains credit risk deterioration, the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) should strengthen existing regulatory prescriptions by establishing and enforcing a clearly defined optimal range for audit committee membership composition within their respective corporate governance codes, moving beyond the current minimum threshold to mandate a more robust membership structure that is commensurate with the scale, complexity, and risk profile of each bank.
2. Given that audit committee independence of deposit money banks amplifies rather than restrains credit risk deterioration, the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) should look beyond mere prescriptions of non-executive membership within their corporate governance codes and instead institute more substantive quality-oriented criteria that ensure non-executive audit committee members possess demonstrable credit risk literacy, bank-specific operational understanding, and the requisite technical grounding to meaningfully check management's credit administrative decisions.
3. Given that audit committee chairperson tenure demonstrably curtails credit risk deterioration in deposit money banks, the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) should revisit and recalibrate existing tenure governance frameworks within their corporate governance codes to strike a carefully considered balance between prescribing sufficiently long service continuity in the audit committee chairperson role, adequate enough to allow the accumulation of institution-specific credit risk oversight expertise, and guarding against the familiarity threat that excessively prolonged service may occasion.

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