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An empirical study on the effect of non-performing loans and fraud on the financial performance of tier 1 deposit money banks in Nigeria

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Abstract

The study aimed at evaluating the extent to which non-performing loans and fraud affect the financial performance of Tier 1 deposit money banks in Nigeria. The study made use of secondary data which are gotten from central bank statistical bulletin 2025. The study made use of the multiple regression method for the analysis. The study therefore concluded that there is a significant relationship between fraud cases, non-performing loans and financial performance of tier 1 deposit money banks in Nigeria. The study recommends that Tier 1 banks should enhance their risk management frameworks to effectively address non-performing loans and fraud. This includes implementing stricter credit controls, conducting regular loan portfolio reviews, and investing in advanced fraud detection technologies.

Keywords:
Financial performance
Fraud
Non-performing loans
Risk management
Tier 1 deposit money bank.

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1. Introduction

The financial sector, like any other, was inherently driven by the pursuit of optimal performance to sustain profitability and viability (Olulu-Briggs & Sunday-Goya, 2023; Vu & Asongu, 2023). Over the years, stakeholders in the financial industry had strived to enhance their operational effectiveness and efficiency. However, amidst these efforts, the emergence of challenges such as non-performing loans and fraudulent activities had cast a shadow over the sector's performance. These issues had become increasingly prevalent, posing significant threats to the stability and integrity of financial institutions (Adhania, Holiawati, & Nofryanti, 2024; Jolaiya, 2024; Yunisari, Evana, & Metalia, 2024). Given the pivotal role of banks in the economic development of nations, researchers turned their attention to understanding the impact of these

challenges on the financial performance of Tier 1 deposit money banks in Nigeria (Anees, Heidler, Cavaliere, & Nordin, 2021; Aroghene, 2023; Bolarinwa, Olayeni, & Vo, 2021; Fakunmoju & Olukayode, 2021).

Non-performing loans (NPLs) emerged as a critical concern for banks, reflecting the failure of borrowers to meet their repayment obligations (Ahmed, Kihombo, Chen, Adebayo, & Kirikkaleli, 2021; Kartal, 2023; Paysan-Lafosse et al., 2023). The high prevalence of NPLs not only undermined the profitability of banks but also eroded their capital base, limiting their capacity to extend credit and support economic activities (Liu et al., 2023; Ughulu & Odion, 2023). Concurrently, the rising incidence of fraud within the banking sector exacerbated these challenges, as fraudulent activities led to financial losses, reputational damage, and diminished trust among stakeholders. Consequently, the effective management of NPLs and the prevention of fraud became imperative for banks to safeguard their financial performance and sustainability (Aroghene, 2023; Wekesa & Dayim, 2022).

Non-performing loans (NPLs) represented a significant financial challenge for banks, indicating loans that had not been serviced according to their contractual terms for a specified period. Essentially, they reflected assets on a bank's balance sheet that were at risk of default. NPLs typically arose when borrowers failed to make scheduled interest or principal payments for an extended duration, often due to financial distress or insolvency. The management of NPLs involved strategies aimed at minimizing credit risk and maximizing recovery efforts. Banks employed various measures to address NPLs, including loan restructuring, collateral liquidation, and debt recovery procedures. Despite the effort, the situation persisted. Consequently, the risk on non-performing loans arose from massive defaults by borrowers, thereby depriving the banks of making funds available for the depositors on demand (Michael & Enang, 2022).

Furthermore, another pertinent factor that weakened the efforts and performance of financial institutions was the intentional deception by the stakeholders of banks to gain undue personal benefits without regard for the harm or loss caused. Globally, fraud was recognized as a persistent menace to corporate governance and had become increasingly unbearable with no exception to banks. Fraud in banks ranged from the simple theft of petty cash or cheques fraud to major cases. Examples included ATM fraud, management fraud, employee fraud, advance fee fraud, cheque kiting, account opening fraud, loan fraud, counterfeit securities, etc. According to a report published on Occupational Fraud in 2022 by the Association of Certified Fraud Examiners (ACFE), an average of 5% of total revenue in every organization was tied to economic loss from fraud. Similarly, the definitions of fraud by both the Institute of Internal Auditors (IIA) and Association of Certified Fraud Examiners (ACFE) revealed that employees remained the executors of corporate frauds. A good example was the case of how First Bank was hijacked by a privileged elite who misgoverned the bank and depleted its fortunes under the guise of insider loans in pursuit of private interests (Aguguom & Ebun, 2021). Moreover, the trends of fraud cases in the Nigerian banking sector were quite alarming and worrisome. This might have been due to insufficient attention given to it by literature in the field of bank performance.

Tier 1 deposit money banks in Nigeria represented the pinnacle of the banking sector, characterized by their robust financial strength, extensive market presence, and significant contributions to the country's economy. These institutions, comprising a select group of top-tier banks, played a pivotal role in driving financial intermediation, facilitating economic growth, and fostering monetary stability. Tier 1 banks were distinguished by their large asset base, diversified product offerings, sophisticated risk management frameworks, and adherence to stringent regulatory standards. With extensive branch networks, advanced technological infrastructure, and a wide range of financial services, they catered to the diverse needs of individuals, businesses, and government entities. Moreover, Tier 1 banks often served as trailblazers in innovation, promoting financial inclusion, and implementing best practices in corporate governance. As key players in Nigeria's banking landscape, Tier 1 deposit money banks wielded considerable influence and were instrumental in shaping the trajectory of the country's financial sector and broader economy (Danjuma, Kola, Magaji, & Kumshe, 2016; Joseph & Adelegan, 2023).

1.1. Objectives of the Study

The main objective of this study was to investigate the effect of non-performing loans and fraud on the financial performance of Tier 1 deposit money banks in Nigeria. The specific objectives were to:

i. Assess the extent to which non-performing loans and fraud affect the financial performance of Tier 1 deposit money banks in Nigeria.
ii. Examine whether the effect of non-performing loans on financial performance differs across Tier 1 deposit money banks in Nigeria.
iii. Determine the direction of causality among non-performing loans, fraud, and financial performance of Tier 1 deposit money banks in Nigeria.

2. Review of Related Literature

2.1. Conceptual Review

2.1.1. Nonperforming Loans

It was quite unambiguous that credit creation remained the primary function of banks, and this had been exposing them to credit risk. This problem was partly tied to information asymmetry at the initial stage of the

loans, which eventually resulted in adverse selection and moral hazard (Atoi, 2018). Meanwhile, the survival, sustainability, and performance of banks could not reasonably be isolated from performing loans. This might have been the main reason why studies on asset quality were accorded global patronage in finance literature, thereby corroborating the position of the Central Bank of Nigeria that any loan whose principal and/or interest was unpaid for a period of 90 days was termed or considered as Non-performing (Akinlo & Emmanuel, 2014). Statistics had shown that most banks in Nigeria, including Tier I banks, were not exonerated from NPL crises (Adebisi & Matthew, 2015; Akinlo & Emmanuel, 2014; Etale, Etale, & Lyndon, 2016). The aforementioned explanations propelled the rationale for evaluating the effect of non-performing loans in objective two of the study. To achieve this, the study employed interest rate, inflation rate, liquidity ratio, and asset quality to provide a basis for the empirical evidence.

2.1.2. Bank Fraud

Fraud was an epidemic corruption that deeply affected the banking sector as well as the entire economic system in Nigeria. Its devastating effect was reflected in the deteriorating financial position of banks. It was not entirely incorrect to assume that measures to prevent, detect, and eradicate fraud in the banking sector had been quite ineffective, given the steady increase observed in fraudulent practices in recent times. Meanwhile, there was a general consensus among criminologists that fraud was caused by three elements known as 'WOE' (John, 2021). For fraud to occur, there had to be a will, an opportunity, and an exit (escape route). According to Nwankwo (2013) fraud was explained as a deliberate and conscious act by an individual or a group of persons with the intention of falsifying the truth or facts for selfish or personal gains. Additionally, the nature of poor and inadequate control measures for early detection of these corrupt practices had paved the way for an increase in the number of employees involved in such acts (John, 2021). However, it became a matter of concern that while banks were intensifying efforts to meet the demands of monetary authorities and their capital base thresholds, fraudsters were relentlessly devising strategies to erode their financial assets. This loophole was widening due to the inability of law enforcement agents to successfully track down and prosecute the culprits. It should be noted that fraudulent activities led to bank distress because fraud reduced depositors' funds and eventually eroded the capital base of banks. The cost of fraud was not easily determined because not all frauds were discovered or reported. This was assumed to be a deliberate attempt to cover up internal or employee frauds and maintain customer confidence (Udeh & Ugwu, 2018). According to the Nigeria Electronic Fraud Forum's report, it was statistically shocking and alarming to reveal that banks lost an average sum of ₦1.1 billion annually from 2015 to date (Komolafe, Tokunbo, & Olawale, 2024). As a result of the aforementioned issues, it was apparent that the existing mechanisms for fraud detection and management were quite ineffective. Against this background, the study aimed to quantitatively ascertain the impact of bank frauds on their performance during the period under review in Nigeria, with a view to proposing policy options that could help reduce the incidence of bank frauds in the country. Several variables had been employed by different scholars to determine the effect of fraud on bank performance. For instance, Expected Loss was used by Akinlo and Emmanuel (2014), Bank Deposit by Mawutor, Enofe, Embele, Ndu, and Awodola (2019) Kolapo, Oke, and Olaniyan (2018) Return on Asset by Muritala, Guban, Roeb, and Sattler (2020) and Earnings Per Share by Nwankwo (2013). This study intended to examine Profit Before Tax (PBT) of Tier 1 banks to determine and report the possible relationship

2.1.3. Financial Performance

Financial performance referred to the evaluation of a company's fiscal health and effectiveness in generating profits and managing resources over a specific period. It encompassed various metrics, including revenue growth, profitability ratios, liquidity, solvency, and efficiency in asset utilization. Robust financial performance indicated a company's ability to generate sufficient returns for its investors, sustain operations, and expand its business. It served as a crucial indicator for stakeholders, including investors, creditors, and management, to assess the company's overall health and make informed decisions regarding investment, lending, and strategic planning (Ahmed et al., 2021; Rahi, Johansson, Blomkvist, & Hartwig, 2024). Commonly, the majority of shareholders viewed performance as the earnings made on their behalf, whether or not adjusted for associated risks. However, it should be noted that profit and profitability did not have the same meanings. According to Abor (2005) profit had different meanings to different stakeholders. On the other hand, profitability was simply an outcome of profit. Therefore, profit could be seen as an absolute term, whereas profitability was considered a relative concept (Kenny et al., 2013). Nevertheless, they were intertwined with mutual interdependence in business appraisal. According to Olalekan and Adeyinka (2013) many corporate businesses, including DMBs, remained in business because they made a profit; however, when this became unattainable, the businesses went into extinction. Even though performance, which could also be referred to as profitability, could be measured qualitatively (non-financial) and quantitatively (financial), this study focused largely on the quantitative aspect of financial performance in a broader sense. This implied the contributions made by deposit money banks to the common wealth of the entity on behalf of customers and businesses using key performance metrics such as return on assets, return on equity, and profit before tax, among other relevant variables.

The issues relating to the determinants of banks' performance had not been alien to global scholars, including those in Nigeria. In fact, the linkage between bank performance and sustainability and profitability had given rise to numerous studies on the determinants (Arora & Sanni, 2019). Regardless of the various philosophies and schools of thought, determinants were simply various explanatory factors that had the potential to influence, impact, and effect changes in the direction, behavior, movement, and performance of a given phenomenon or entity. In the literature, several parameters and metrics, both quantitative and qualitative, covering microeconomic and macroeconomic variables, had been employed to measure the performance of banks. However, in line with the case study, capital adequacy, bank size, net interest margin, and income diversification were considered preferable by the study to explain their relevance to banks' performance. There were two ways to characterize bank capital. It was defined as the amount provided by a bank's owners that guaranteed them the right to all of the bank's future profits. It could also be defined as the worth of owners' funds available to finance a bank's operations (Athanasoglou, Brissimis, & Delis, 2008). Because it contained reserves, the latter term was often known as shareholders' funds (Eyigege, 2018). According to Adewumi (2007) capital that was raised from issuing and paying up shares was the fund with which firms, including deposit money banks, started their business. Over time, these capital funds of banks became accumulated capital, whether in the form of increase or decrease. The question of the adequacy of capital in banks was evidently essential, especially during world economic crises, where the introduction of bailout funds by supervisory authorities became inevitable for the sustenance of the financial system. Globally, the specification of an eight percent (8%) minimum capital adequacy ratio by the Basel Committee on banks' credit was taken as a yardstick to measure the capital adequacy of a bank. This implied that banks were required to own eight kobo in every Naira given as credit. Hence, any bank with a lower ratio than this was said to be undercapitalized (Adewumi, 2007). The significance of capital adequacy in the banking industry could not be overemphasized as it enabled banks to manage risks until they were capable of making earnings. Meanwhile, banks with a higher capital base than required might have had an edge over others to improve customers' trust and build confidence in the system (Ifuero & Chijuka, 2014). Ikpefan (2013) historically perceived that the failure of banks between 1977 and the early 2000s was traceable to illiquidity, poor asset quality, and undercapitalization among other factors. In most economies today, bank capitalization was aimed at resolving the challenges of unhealthy banks, improving efficient banking system management, providing adequate funding capacity for borrowing activities, reducing non-performing loans and advances, increasing profitability, reducing risk, and ensuring sound management of assets while placing banks in a strong liquidity position to meet future demands (Soludo, 2004). Meanwhile, the fall of banks, especially in the aspect of borrowing, was attributable to the losses suffered by banks. Therefore, it was needless to reiterate that the quality of banks' loan portfolios was dependent on the health and profitability of a bank. Soyemi, Akinpelu, and Ogunleye (2013) submitted that a variety of performance questions had been raised in the banking business since the advent of the Structural Adjustment Programme (SAP) in 1986 and the deregulation of the nation's financial system.

Moreover, capital adequacy was simply calculated by the ratio of shareholders' funds to total assets (Golin, 2001). The higher the ratio, the less a bank needed to borrow from outside sources, and hence the higher the bank's profitability. Furthermore, a bank with adequate capital was less likely to fail (Kosmidou, Pasiouras, Zopounidis, & Doumpos, 2006). The ultimate line of defense against the possibility of technical insolvency, according to Demirgüç-Kunt and Huizinga (2010) was referred to as bank capital. Berger (1995) analysis of US banks found that bank profitability and capital had a positive connection. The positive effect of capital on profitability showed that a bank with a higher capital base stood the chance of extending additional loans, thereby giving room for additional revenue from interest on the loans granted. More explicitly, banks with substantial capital were at liberty to enjoy a reduction in the risk of bankruptcy, were capable of investing in riskier credits that attracted higher profitability, and did not need to borrow much to finance a given level of assets (loans), thereby reducing the cost of debts (Akinlo & Emmanuel, 2014). Summarily, capital adequacy was vital for stability and served as a defense against future losses.

2.1.3.1. Return on Asset

Return on Assets (ROA) was a performance measurement that was generally accepted and used by researchers when assessing bank performance (Ajibola, 2020). This was because it was found to be more suitable for reflecting a clearer financial status of banks in terms of resource management and utilization (Alfadhli & Alali, 2021). In addition, return on assets took into account the totality of firms' resources while relating it to the profit earned at the end of any given period (Nyabaga & Wephukulu, 2020). As a result, almost all strategic aspects of performance were integrated into this definition. It was important to note that business concerns focused on the maximization of earnings as their primary objective to improve the wealth of stakeholders, even though they may have other purposes. Often, the objective of a business concern had a direct bearing on the choice of performance metrics (Appah & Tebepah, 2021). In the banking industry, the significance of profitability and liquidity could never be overrated since their assets were highly volatile and in liquid form (Murat, Sinan, Namik, & Yakup, 2021). This was why return on assets was globally considered a

metric to evaluate the overall financial health of banks over a given period, in addition to being adopted as a basis for industry benchmarking (Almaqtari, Al-Homaidi, Tabash, & Farhan, 2019).

In other words, investors sometimes did not attach much importance to the cost of acquisition when estimating a return on investment because every asset was either supported by stock or debt but replaced with interest expenses (Isaac, 2015). Consequently, a higher ratio was assumed to signify efficient resource management, which was considered suitable for investors. An improved trend in profit realization was commonly an indication of a positive ROA ratio. Since the sole objective of banks' assets was to earn income and produce profits, return on assets enabled both management and investors to assess the capability of a bank in converting its investments in assets into profits. Moreover, since ROA was a measure of bank profitability, it was considered more sensible to relate it to the performance of deposit money banks due to the fact that profitability was one of the main targets of any business concern. Without being profitable, it was difficult, if not impossible, for a business to survive.

According to Osuagwu and Nwokoma (2017) ROA was a crucial element of financial growth; its importance covered both the performance of banking enterprises and macroeconomic stability. At the local level, a larger yield reduced bank fragility significantly. Increased macroeconomic profitability encouraged a long-term banking sector capable of funding economic growth and development. However, because of the banking system's intermediation function, bigger returns might have implied higher interest rates on loans. This was why monetary authorities were always looking for new ways to regulate the banking industry, as more regulations and counter-regulations increased competition. Although there were different schools of thought among researchers on the significance of one variable over others as a good measure of performance, studies reliably showed that return on assets measured efficient management of resources while revealing the ability of a bank to earn profits using existing resources (Oleka, Maduagwu, & Igwenagu, 2014). For the purpose of this research, return on assets was defined as profit before tax divided by total assets.

2.1.3.2. Return on Equity

Return on Equity (ROE) was a central measure of performance in the banking industry, used to allocate capital inside and across divisions. It was the key performance metric that most analysts used and was defined as profit after tax (PAT) divided by total equity. Therefore, a bank's ROE could be changed in two ways: through a change in net income or by operating with more or less equity. In the run-up to the recent global financial crisis, banks increased their ROE by boosting income and operating with smaller capital buffers. This development was driven both by investors' demands for higher returns and by a gradual loosening of regulatory standards. As a result, the ROE of many western banks reached levels in excess of 15%. The strategies used to increase ROE, which often involved more risk-taking, caused many banks to run into trouble once the financial crisis hit (Makram Nouaili, Abaoub, & Ochi, 2015). The reliance on this metric emerged from the risk management approach to banking that underlined bank capital regulation. A great deal of anecdotal evidence suggested that the return on equity was a central measure of performance used in banks before the crisis. It was pertinent to note that Jackson, Barrie, and Johnson (2021) argued that most banks around the world used return on equity as their main metric of profitability despite the volume of the crisis and the lessons of excessive risk-taking it conveyed. As such, the reliance on ROE had obviously survived the financial crisis. Target ROEs were not only set at the bank level but were also used to drive resource allocation across and even inside divisions. This reliance on ROE emerged through the regulation of bank capital and the belief that equity was costly and should be minimized. However, Ifuero and Chijuka (2014) argued that this belief was a fallacy, submitting that the sole rationality for economizing equity was related to the fact that deposits and debt were subsidized, giving rise to deposit insurance and bailout provisions. They further argued that the strong resistance of banks to deleveraging revealed a real addiction of banks to leverage, which they attributed to a debt overhang effect. It was assumed that if regulation was perfect or risk management strategies were efficient, the level of equity should have been perfectly adjusted upward to any incremental risk taken by the banks. Additionally, if the risks were assessed correctly and the capital constraint was binding, the ROE should not have increased as a result of a riskier portfolio of assets (Danmulki, Agbi, & Mustapha, 2022). Consequently, higher ROE would have signaled more value creation, but it should not have been associated statistically with higher risk. This was the rationale for using ROE to assess bank performance and allocate capital across and inside divisions. Nevertheless, Rajan (2006) argued that evaluating the true nature of bank performance was a very complicated task, as it required disentangling the part of the performance which was the result of genuine value creation from the part which was the result of higher risks. Indeed, higher returns could always be obtained by taking more risks, and if risks were hidden or underestimated, risk-taking might have seemed value-enhancing as long as risks had not materialized. However, the financial crisis revealed the real risks taken by the banks through the huge losses borne by their shareholders. Hence, ROE was employed in this study to measure how well the selected DMBs used investments to generate earnings growth.

2.2. Theoretical Framework

2.2.1. Fraud Triangle Theory (FTT)

The fraud triangle theory as developed by Donald Cressey in 1973 assumed that three (3) things must be present before a fraud can be perpetrated. The three (3) elements are perceived pressure, perceived opportunity and perceived rationalization. Pressure is the desire to be satisfied, opportunity is ineffective control or governance system which makes people to commit organizational fraud (Abdullahi, Mansor, & Nuhu, 2015) while rationalization is the justification and excuses that the immoral conduct is different from criminal activity (Inaya & Isito, 2016).

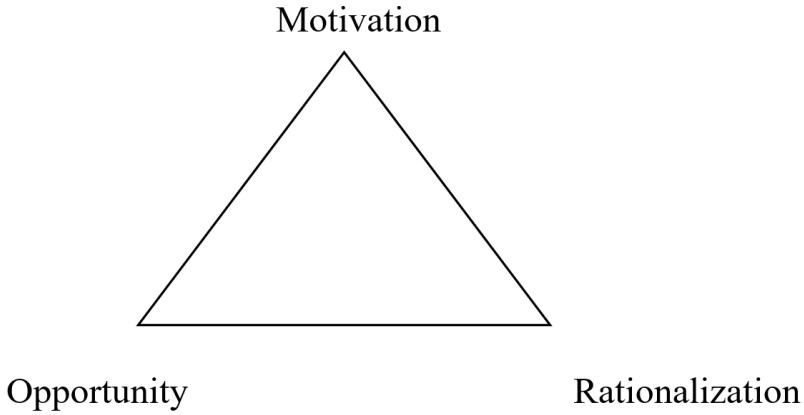

Figure 1. Fraud triangle.

Source: Akers and Matsueda (1989).

In support of fraud triangle theory are Rabiu, Ladan, Usman, and Garba (2019) and Badejo et al. (2018). They argued that the executor of the fraud may believe that he or she can commit the fraud and not got caught by the authority. The theory has been criticized on the ground that fraud can be perpetrated not only for financial reasons and that there may be non-financial factor associated with the fraud (Adeniyi et al., 2016). This theory is very relevant to this study because of negative relationship of tier 1 deposit money bank deposit as a result of reported fraud cases.

2.2.2. Fraud Diamond Theory (FDT)

The fraud diamond theory was formulated by Hermanson (2021). Wolfeand Hermanson added another variable called "capability" to the three (3) variables of fraud triangle theory developed by Akers and Matsueda (1989).

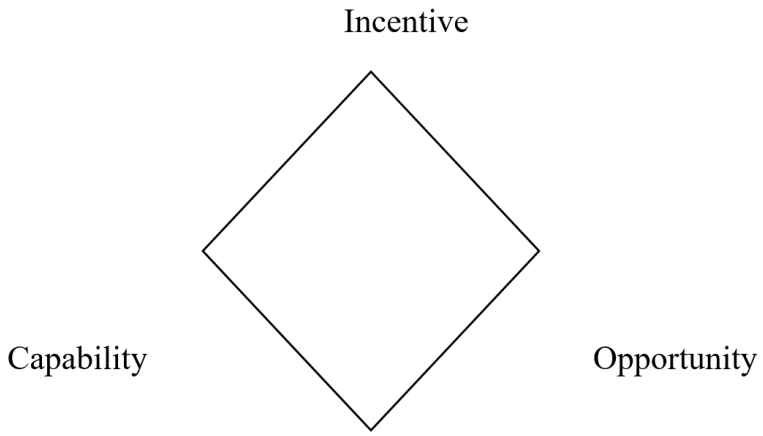

Figure 2. Fraud diamond theory.

Source: Hermanson (2021).

Wolfeand Hermanson believed that a lot of frauds would not have taken place without the right person with right capabilities perpetrating the fraud in other word, the perpetrator of the fraud must have the skills and the ability to carry out the fraud (Andayani & Wuryantoro, 2023). Diamond fraud theory is supported by Udeh and Ugwu (2018). They argued that "capability" enables the fraudstar to recognize the open door way as an opportunity and to take advantage of it by walking through repeatedly. The theory is relevant to this study in that the perpetrator is confident the fraudulent act may not be detected.

2.2.3. Job Dissatisfaction Theory

Job Dissatisfaction Theory was developed in 1935 by Hoppock (1936). The theory assumes that dissatisfaction by employee will motivate him to commit fraud. In support of this theory, Wells et al. (2012) stated that when employees perceive that their jobs or working conditions are unfair, they are likely to justify the unfair treatment by committing fraud. Theory of job dissatisfaction has been criticized on the ground that it is difficult to prove as a result of insufficient information regarding employee theft and besides, the source of the information may not be reliable (el-Nawawy & Elmasry, 2015). The theory is relevant to the current study in that dissatisfaction of employees will affect their productivity which invariably will affect the performance of organization/tier 1 deposit money bank. Its relevance to tier 1 deposit money bank is that fraud in tier 1 deposit money banks affects transaction directly because depositors will have psychological believes that their deposits are not safe.

2.3. Empirical Review

Halm-Laryea (2019) investigated the impact of risk management on the performance of universal banks in Ghana from 2006 to 2016. The findings of the study via the use of a random effect model of regression estimates revealed that bank performance was negatively impacted by credit risk. Explicitly, a positive nexus was established among capital adequacy ratio, bank size, operational risk, and ROA, whereas inflation was statistically negligible. According to the findings, credit risk and capital adequacy were important variables that influenced financial performance and stability. Olulu-Briggs and Sunday-Goya (2023) examined the effect of non-interest income on the profitability of deposit money banks (DMBs) in Nigeria between 2006 and 2015 using a sample of five (5) banks. The outcome of the correlation analysis showed that non-interest income was positively correlated with the profit of DMBs. Meanwhile, the regression result established that non-interest income had a positive effect on the PAT of banks. As a result, involvement in customer analysis and market research were some of the recommendations advanced to the banks. Eyigege (2018) analyzed the influence of firm size on financial performance of quoted banks in Nigeria. The study employed OLS to probe the data obtained from the published reports of the selected banks. The outcomes exhibited a negative but insignificant connection between firm size and financial performance.

Meshesha, Tsunekawa, Tsubo, Haregeweyn, and Adgo (2015) examined the causes of NIM in the banking industry of Ethiopia for a period of seventeen years from 1997-2014, using an unbalanced panel data derived from banks' annual financial statements. The result of the analysis exhibited positive relationships among cost efficiency, interest payment, competition, scale efficiency, and NIM. Meanwhile, the study further noted an inverse relationship among NIM, liquidity risk, and management efficiency.

Akinwumi, Essien, and Adegboyega (2017) investigated Nigerian banks' liquidity management and performance. Between 2007 and 2016, the study was conducted on four deposit money banks in Nigeria, utilizing the Pearson correlation coefficient technique. The findings demonstrated that a statistically significant link existed among banks' liquidity, ROA, and ROE. The study further stated that good control of resources from management could affect the liquidity of DMBs in Nigeria, thereby enhancing their financial performance.

Edem (2017) investigated the effect of liquidity management on the performance of DMBs in Nigeria for twenty-five years from 1986 to 2011, using all the existing twenty-four banks as the population. The empirical findings revealed a notable bond between liquidity management and the performance of Nigerian DMBs. ROE had a favorable impact on LIQ and CRR, meanwhile, LDR exhibited an inverse effect.

Adama Combey & Apelete Togbenou (2017) employed the pool mean group estimator to evaluate the short-run and long-run relationships between macroeconomic indicators and the profitability of the banking industry in Togo from 2006 to 2015. The research findings revealed that ROA and ROE had no connection with macroeconomic variables in the short run. Specifically, bank capital to asset and bank size were favorably related to ROA but exhibited an inverse association with ROE. However, in the long run, real GDP growth and real effective exchange rate had an inverse connection with both ROA and ROE.

Bassey, Tobi, Bassey, and Ekwere (2016) investigated the liquidity management and bank performance in Nigeria from 2000 to 2010. The study employed the OLS regression method of estimation to explore the secondary data gathered from the CBN bulletin. The empirical result showed a positive relationship among bank deposit, cash reserve requirement, bank investment, and cash ratio in relation to bank performance. This implied a substantial connection between liquidity management and banks' performance.

Makram Nouaili et al. (2015) investigated the internal and external determinants of bank performance in Tunisia, using the OLS method of estimation and panel data technique. The empirical findings revealed that capitalization, privatization, and quotation were all favorably associated with bank performance, whereas bank size, concentration index, and efficiency exhibited an inverse association with bank performance as measured by NIM, LIQ, ROA, and ROE. In terms of macroeconomic drivers, GDP, which represented the proxy of the business cycle, displayed a favorable nexus with bank performance while the inflation rate had a negative association.

Isaac (2015) examined the influence of exchange rate risk on bank performance in Nigeria. The study employed an auto-regressive model to evaluate data obtained from the selected banks. The findings revealed a

favorable connection between exchange rate management and performance of banks due to an increase in PAT that gave rise to an increase in exchange rate.

Obidike, Uma, Odionye, and Ogwuru (2015) looked into the effect of interest rate spread on the profitability of banks in Nigeria for sixteen years starting from 1986-2012. The study analyzed the relevant secondary data obtained from the CBN bulletin using the OLS method of estimation. The result of the empirical findings revealed that interest rate spread had an inverse connection with bank profitability both in the long run and short run.

Oleka et al. (2014) examined the impact of inflation on banks' profitability and how the results affected the lending decision of such banks using secondary data. The findings demonstrated a favorable, although not statistically significant, link between inflation, bank performance, and commercial bank investment decisions in Nigeria. This meant that inflation had a favorably significant influence on bank performance when it came to investment decisions.

Ogunbiyi (2014) studied how interest rates affected the performance of banks in Nigeria. The research spanned through thirteen years commencing from 1999-2012 using the multivariate regression method of estimation. The empirical result revealed an inverse connection between ROA and interest rates as proxied by maximum lending rate, saving deposit rate, and real interest rate.

Ifuero and Chijuka (2014) evaluated the influence of macroeconomic variables on the performance of DMBs in Nigeria from 1990 to 2013, using the OLS method of estimation. The empirical findings showed an inverse association between profitability (ROE) and macroeconomic variables as represented by interest rate and inflation rate. Meanwhile, ROE was further established to exhibit a favorable link with gross domestic products.

Okoye and Eze (2013) examined the possible connection that existed between bank lending rates and the profitability of banks in Nigeria for ten years, between 2000 and 2010, using regression methods to estimate the secondary data. The study empirically established the existence of a positive influence of lending rate and monetary policy rate on the performance of DMBs.

Okoye and Eze (2013) investigated the relationship between net interest margin (NIM) and return on assets (ROA) of Ghana's publicly traded banks for six years from 2005 to 2011, using regression and correlation analysis for a sample of seven banks to estimate the possible relationship among the variable of interest. According to the empirical findings of the study, net interest margin was positively related to ROA thereby implying a high positive link between NIM and bank performance.

H_0: There is no significant relationship between fraud cases, non-performing loans and financial performance of tier 1 deposit money banks in Nigeria.

3. Research Methodology

This is causal study. A casual study involves an investigation of what causes the other among different variables. Causality approach to this study is most preferred because the study will be investigating whether fraud and non-performing loans is connected to financial performance of tier 1 deposit money bank. This study adopted both descriptive and explanatory research design.

3.1. Data Collection Method

This study utilizes secondary data extracted from respondents used for the study. With the secondary data collected, returns on assets and equity for the relevant years were computed.

3.2. Model Specification

The model for the study comprises of two constructs as described below.

$$ROA = \alpha + \beta_1 \text{FRDCAS} + \beta_2 \text{NPL} + e_i \quad (1)$$

Where

ROA/ROE = Financial Performance.

FRDCAS= Number of fraud cases.

NPL = Non performing loans.

3.3. Method of Data Analysis

Data analysis has been defined as those techniques whereby the investigator extracts from the data, information that was apparent before and which would enable a summary description of the subject studies to be made. In analyzing the data collected for the purpose of carrying out this research, the statistical tool known as the multiple regression analysis.

4. Data Presentation, Analysis and Interpretation

4.1. Data Presentation

This section presents the data employed in examining the effect of non-performing loans and fraud on the financial performance of Tier 1 deposit money banks in Nigeria. The study made use of secondary data extracted from the Central Bank of Nigeria (CBN) Statistical Bulletin and the annual financial statements of

the selected banks. The dataset covered a period of 2010–2024, representing eleven years of observations for each bank.

Table 1. Panel data of Roe, Roa, fraud cases, and non-performing loans from 2010 – 2024.

YEAR	ROE	ROA	FRDCAS	NPL
2010	0.03	0.131	14	10313.3
2011	0.031	0.105	15	11433.3
2012	0.051	0.105	15	9535.5
2013	0.051	0.103	14	9937.5
2014	0.041	0.108	16	13041.1
2015	0.057	0.105	14	15333.7
2016	0.0.52	0.107	19	33018.7
2017	0.054	0.109	22	37749.5
2018	0.051	0.108	23	41038.3
2019	0.052	0.08	27	50358.3
2020	0.052	0.109	29	52581.4
2021	0.071	0.138	32	93797.4
2022	0.078	0.31	33	141338.9
2023	0.135	0.31	37	150783.3
2024	0.333	0.33	41	348758.1

Source: CBN statistical bulletin, 2025.

4.2. Data Analysis and Interpretation

This section presents the results of the empirical analysis carried out to examine the effect of non-performing loans and fraud on the financial performance of Tier 1 deposit money banks in Nigeria. The analysis involved descriptive statistics, correlation analysis, and regression modelling to determine the nature, strength, and significance of the relationships among the study variables.

Table 2. Model summary for the regression analysis of (Dependent variable) on fraud cases and non-performing loans.

Model summary				
Model	**R**	**R square**	**Adjusted R square**	**Std. Error of the estimate**
1	0.914[a]	0.836	0.803	0.2304

Note: a. Predictors: (Constant), ROA

Interpretation

From Table 2 we can see that the multiple correlation coefficient R=0.914, which implies that there is a strong correlation between non-performing loans, fraud and financial performance of tier 1 deposit money banks in Nigeria.

Table 3. Coefficient estimates for the effect of fraud cases and non-performing loans on return on assets.

Coefficients						
Model		**Unstandardized coefficients**		**Standardized coefficients**	**t**	**Sig.**
		B	**Std. error**	**Beta**		
1	(Constant)	0.681	0.131		5.182	0.000
	FRDCAS	-3.432	0.000	4.273	4.431	0.001
	NPL	-2.140	0.000	4.951	5.135	0.000

Note: a. Dependent Variable: ROA.

Interpretation

Based on Table 3 , it can be seen that the financial performance (ROA) of tier 1 deposit money bank would decrease by 3.432 for very increase in the cases of fraud (FRDCAS). One would therefore conclude that there is a opposite relationship between fraud cases, and financial performance (ROA) of tier 1 deposit money bank. The value of β_2 of -2.140 shows that there is a negative relationship between non-performing loans (NPL) and financial performance of tier 1 deposit money banks in Nigeria. That is to say a unit increase in non-performing loans (NPL) will cause a 2.140 decrease in financial performance of tier 1 deposit money banks in Nigeria

4.3. Hypothesis to Be Tested

H_0: There is no significant relationship between fraud cases, non-performing loans and financial performance of tier 1 deposit money banks in Nigeria.

H_1: There is a significant relationship between fraud cases, non-performing loans and financial performance of tier 1 deposit money banks in Nigeria.

Level of significance: 0.05.

Decision rule: reject the null hypothesis if the p-value is less than the level of significance, accept if otherwise.

Table 4. Analysis of variance showing the overall significance of the regression model.

ANOVA[a]						
Model		**Sum of squares**	**df**	**Mean square**	**F**	**Sig.**
1	Regression	10564881343225.232	3	3521627114408.411	0.429	0.033[b]
	Residual	3364409931168 35.940	41	8205877880898.438		
	Total	347005874460061.200	44			

Note: a. Dependent Variable: ROA.
b. Predictors: (Constant), FRDCAS, NPL.

4.4. Conclusion based on the Correlation Table Above

Since the p-value 0.000 is less than the level of significance, we reject the null hypothesis and accept the alternative thereby concluding that there is a significant relationship between fraud cases, non-performing loans and financial performance of tier 1 deposit money banks in Nigeria

5. Conclusion and Recommendation

5.1. Conclusion

In conclusion there is a significant relationship between fraud cases, non-performing loans and financial performance of tier 1 deposit money banks in Nigeria.

5.2. Recommendation

Based on the conclusions reached, the following recommendations are suggested.

i. Tier 1 banks should enhance their risk management frameworks to effectively address non-performing loans and fraud. This includes implementing stricter credit controls, conducting regular loan portfolio reviews, and investing in advanced fraud detection technologies.
ii. Given the varying impacts of NPL and FRD across different banks, Tier 1 banks should develop customized risk management approaches that account for their unique operational characteristics. This may involve adopting bank-specific risk mitigation strategies, conducting detailed risk assessments, and regularly updating risk management policies to align with the evolving financial environment.
iii. Larger banks should leverage their scale to enhance operational efficiency and financial performance. They should focus on optimizing resource allocation, leveraging economies of scale, and improving operational processes. Smaller banks should explore strategic partnerships or technology investments to enhance their competitive edge and financial stability.

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