INMRJ
International Nexus Multidisciplinary Research Journal
https://inmrj.org
Impact Factor: 5.0 **- Vol:** 3 **Issue:2,** 2026

OPERATIONAL RISK AND PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

[1] Ogochukwu Nwakaego Udoye Ph.D
on.udoye@unizik.edu.ng

[2] Racheal Chika Akunna
cr.akunna@unizik.edu.ng

[3] Takpa Busayo Sarah. (Ph.D, ACS, ARP).
bs.takpa@unizik.edu.ng

[1-3] Department of Banking and Finance, Faculty of Management Sciences,
Namdi Azikiwe University, Awka.

Abstract

Operational risk summarizes the uncertainties and hazards a company faces when it attempts to do its day-to-day business activities within a given field or industry. The study examined the effect of operational risk on performance of deposit money banks in Nigeria. Specifically, the study determined the effect of security/legal expenses on the performance of deposit money banks in Nigeria. Ascertain the effects of insurance premium on the performance of deposit money banks in Nigeria. Ascertain the effect of cost income ratio on the performance of deposit money banks in Nigeria and examined the effect of directors' remunerations on the performance of deposit money banks in Nigeria. Econometric technique involving Augmented Dickey-Fuller (ADF) test for unit root test which discovered that the variables were Stationarity at level and first difference which necessitated the use of Autoregressive Distribution Lag (ARDL) as a method of data analyses. The result of the analysis revealed that security/legal expenses have a negative and insignificant effect on the return on equity of deposit money banks in Nigeria. Insurance premium has a negative and insignificant effect on the return on equity of deposit money banks in Nigeria. Cost income ratio has a negative and insignificant effect on the return on equity of deposit money banks in Nigeria and directors' remunerations has a negative and insignificant effect on the return

on equity of deposit money banks in Nigeria. The findings suggest that operating risk had an insignificant effect on the performance of deposit money banks. The study concludes that operational risk have negative and insignificant effect on the performance of deposit money banks in Nigeria. Amongst the recommendation is that the central bank should strengthen and adapt the regulatory framework to provide a balanced approach to risk management. This includes regularly updating regulations to keep pace with the evolving financial

Key Words: Operational Risk, Deposit Money Banks, Nigeria

Introduction

Operational risk as the risk of losses caused by flawed or failed internal processes, policies, systems or events that disrupt business operations. Operational risk is the risks emanating from failure of internal systems, processes, technology, people and external factors such as natural disasters, armed robbery and so on. People constitute operational risk through poor leadership, fraud, error and other criminal activities. Failure of technology to respond to security and privacy requirements also constitutes operations risks (Morgan, 2022).

Damage to physical assets from terrorism, vandalism, earthquakes, fires and floods are examples of external risk events. Reserve Bank of India (2022) noted that operational risk differs from other banking risks in that it is typically not directly taken in return for an expected reward, but is implicit in the ordinary course of corporate activity and has the potential to disrupt operational activities. Basel Committee Banking Supervision (2017) defined operational risk as the risk of loss resulting from inadequate or failed internal processes, people, systems or external events. Employee errors, criminal activity such as fraud, and physical events are among the factors that can trigger operational risk. Most organizations accept that their people and processes will inherently incur errors and contribute to ineffective operations. Thus, people contribute to operational risk by committing error, fraud and by engaging in other criminal activities.

Banks are subject to many risks while conducting their business practices, such as credit risk, operating risk, interest rate risk, regulatory risk, market risk, liquidity risk, insolvency risk, and foreign exchange risk. Banking is about taking and handling the risk, rather than preventing it (Abubakar, Nmanda. & Kambai, 2023). Though risk taking is an integral part of banking, albeit, bank management should balance its risk and return to make adequate profit and remain a going

concern, else, the bank, financial system and the economy at large may be adversely impacted; as was the case of the Asian Financial Crisis of 1997-1998 (Aliyu, 2023). Banks are susceptible to two categories of risks: financial and non-financial risks. Financial risks are a result of the business operations/transactions of the bank and can be further categorized into credit risk, market and liquidity risk. Non-financial risk on the other hand impact negatively on performance as a result of management failure, competitions, external factors etc. Non-financial risks mainly include operational risk, strategic risk and compliance risks (Chukwunulu, Ezeabasili & Igbodika, 2019).

Among the threats faced by banks, credit risk is considered to be the most critical because large sums of bank earnings come from credit as a result of interest collected (Mamari, Ghassani & Ahmed, 2022). Credit risk is a risk resulting from the consumers' failure to pay back their loans or the money they owe to the bank on time and in full (Araujo, 2022). The Basel Committee on Banking Supervision emphasized that the main influences contributing to credit risk are the lenders' stringent credit standard. The nature of the loan that banks give to their clients is the criterion for assessing the security and efficiency of the bank itself, as credit product is the bank's key asset, they would be vulnerable to bank insolvency owing to the low credit rating. Due to the many banks in the 1990's in Nigeria, the CBN established a monitoring and evaluation team that checks non-performing loans of banks monthly. Deposit money banks that are not able to maintain their capital adequacy ratio with will close down or merge with other banks. This policy has helped banks in the supervision of credit risk (LiMei, Takyi, Ofori & Abraham, 2020).

The financial performance of Deposit Money Banks (DMBs) plays a pivotal role in the growth and development of the economy of any country. This is because they have to manage huge volume of transactions. Accordingly, investors, capital market participants and other stakeholders need to understand the financial performance of DMBs: granting credit facilities and other financial services. Naturally, the ability of DMBs to meet their existing financial obligations, operating efficiency and their financial performances are associated with some financial risks. Some financial performance evaluating tools of profitability, return on assets and economic value added are considered appropriate for Deposit Money Banks for the stakeholders' interest (Mohammed, Agbo & Yabagi, 2021). Financial performance is the measuring of bank's policy and operations in monetary form; it also shows a bank's overall financial health over a period of time, and it helps to compare different banks across the banking industry at the same time (Adegbie, & David, 2020). Return on equity (ROE) and return on assets (ROA) are the most commonly used accounting measures of financial performance. Return on equity is described as how much profit a company earned in relation to the total amount of shareholder equity invested. Return on Equity

is an internal performance measure of shareholder value, and it is by far the most popular measure of financial performance (Appah, Tebepah & Awuji, 2020).

Thus in the wake of rising level of non-performing loans, expansion of banking operations and the attendant rise in their risk portfolio with the adoption of Basel II and preparations for the adoption of Basel III by the Nigerian banking industry, there is a great need for research on the effect of operational risk on performance of deposit money banks in Nigeria

Statement of the Problem

Most banks in Nigeria had experienced financial distress and subsequently liquidated or taken over due to poor or ineffective operational risk management practices and policies. For example, Nigeria Merchant Bank Plc, Cooperative & Commerce Bank Plc, Metropolitan Bank Limited, Group Merchant Bank Limited had failed due to losses suffered from operational events such as weak risk management, noncompliance with credit policies, poor operational policies and procedures in the bank, weak human resources and capacity, weak corporate governance, compromise in information technology, ineffective audit, mismanagement, weak supervisory framework and major regulatory change (NDIC 2017). Also, CBN (2022) explained that the crisis in the banking sector was caused by poor risk management practices, absence of basic control measures, near total absence of corporate governance in most of banks, lack of adequate disclosure and transparency about the accurate financial positions of banks, poor operating environment, weak internal control, inside abuse, among others. Again, Araujo, (2022) concluded that insider abuse, contravention of regulatory guidelines and over bearing interest of directors in loans and advances and other credit facilities accounted for some bank failures while

Babarinde, Abdulmajeed, Kazeem and Shuaib, (2021) highlighted weak corporate governance, poor capital base, illiquidity and insolvency, poor asset quality and low earnings as some of the constraints faced by the banking system. Mohammed (2012) posited that financial distresses in most countries were attributed to a high incidence of non-performing loans, weak management and poor credit policy and that inadequate consideration for ethical values and good governance hinders banks' performance as experienced in the failures of All States Trust Bank Plc, Lead Bank Plc, Assurance Bank Nigeria Limited, Trade Bank Plc, Metropolitan Bank Limited, City Express Bank Limited, Hallmark Bank Plc., Society General Bank of Nigeria Plc., African Express Bank Plc and Gulf Bank of Nigeria Plc whose licenses were revoked by the Central Bank of Nigeria (CBN) in 2006 and the recent failures of Intercontinental Bank Plc, Oceanic Bank Ltd, Bank PHB in 2011.

Lately, operational risk has received widespread attention in business, government and academic circles. However, despite the series of intervention, regulatory guidelines and others from the Basel committee on banking supervision and the central banks and the various studies conducted by scholars on operational risk, it has continued to be a source of major threat to banks.

According to Huber and Funaro (2018), since the global financial crisis, banks and regulators have become more aware of the need to manage risk but while banks have developed sound systems for controlling financial risks like credit, market and liquidity, they have struggled to deal effectively with operational risk which had caused major banks to suffer huge losses amounting to $210 billion between 2011 and 2016. Duong, Hunyen and Huong (2018) explained that scholars and stakeholders in the banking industry have now focused attentions on examining those factors that affect bank operations because it will assist in formulating adequate strategies and policies to avoid financial crisis which could impact on sustainability and stability in the banking system. However, Most of these studies have mainly concentrated on other risks like credit, liquidity and sometimes market with little or limited emphasis on operational risk, which as posited by Vysya and Gill (2018), is the most dynamic and complicated in nature and impacted by numerous factors such as the internal business process, regulatory landscape, business growth, customer preferences and even factors external to the organization.

Some authors, though carried out previous studies on operational risk management, but the studies were limited to only one bank or some branches of banks within certain geographical locations, Okeke, Anogoke and Onuorah (2018), Bourse, Alia, and Mohammad, (2020).

Eneisik, and Micah, (2021). Georgia, and Danise, (2022). while some previous studies only used one variable to measure operational risk and financial stability, Zaman and Ali (2017) and Olalere, Aminul, Yusoff and Shamsuddin (2018). Also, Okeke, Anogoke and Onuorah (2018) conducted a study on operational risk management and organizational performance of banks in Edo State and concluded that operational risk management has a negative significant effect on organizational performance of the banks in Edo State, a finding which was not consistent with the findings in some other related works like Harper, (2020) and Kegan, (2022) which concluded that operational risk management has significant positive effect on profitability and financial growth and development of financial sector respectively. Again, some previous studies on risk management have dealt more with credit, market and liquidity risks in banks with little or no emphasis on operational risk, Kinyua, and Warui, (2020) Kiptoo, Kariuki and Ocharo, (2021).

In light of the above perceived gaps, the study examined the effect of operational risk on performance of deposit money banks in Nigeria

Review of Related Literature

Conceptual Review

Operational Risk

Operational risk summarizes the uncertainties and hazards a company faces when it attempts to do its day-to-day business activities within a given field or industry. A type of business risk, it can result from breakdowns in internal procedures, people and systems—as opposed to problems incurred from external forces, such as political or economic events, or inherent to the entire market or market segment, known as systematic risk (Osadume & Ibenta, 2018)

Operational risk can also be classified as a variety of unsystematic risk, which is unique to a specific company or industry.

Operational risk focuses on how things are accomplished within an organization and not necessarily what is produced or inherent within an industry. These risks are often associated with active decisions relating to how the organization functions and what it prioritizes. While the risks are not guaranteed to result in failure, lower production, or higher overall costs, they are seen as higher or lower depending on various internal management decisions.

Operational risk is the risk of loss as a result of ineffective or failed internal processes, people, systems, or external events which can disrupt the flow of business operations. These operational losses can be directly or indirectly financial. For example, a poorly trained employee may directly lose the company a sales opportunity, or a company's reputation can suffer indirectly from poor customer service (Osadume and Ibenta, 2018).

Operational risk can refer to both the risk in operating an organization and the processes management uses when implementing, training, and enforcing policies. Operational risk can be viewed as part of a chain reaction: overlooked issues and control failures can— whether small or large — lead to greater risk materialization, which may result in an organizational failure that can harm a company's bottom line and damage its reputation. While operational risk management is considered a subset of enterprise risk management, it excludes strategic, reputational, financial, and market risks, focusing on unsystematic risks.

Security/Legal Expenses

Fickes (2014) described security expenses as the cost incurred by a firm in safeguarding lives and properties of the firm. Security expenses fall into four categories across all corporate departments and locations. The categories are employees, assets, losses and investigations. Each category also includes related operating or variable expenses. Employee security expenses include the operating costs of verifying the background of newly hired employees, travel alert services, workplace violence programs and building and maintaining employee awareness on security. Securing assets, also classified as operating costs, involves alarm and video surveillance systems, access control systems, perimeter fencing, outdoor lighting, security officers and other security department personnel. Loss expenses vary, of course. Those costs include insider theft, external theft, and cyber-crime and compromised network technology. Knowledge of total security expense helps security directors reduce security spending wisely when the economy slumps.

Brian (2021) defined legal expense as an expenses incurred to defending the firms in the event of lawsuit against the firm. It is costs stemming from lawsuits brought by third parties, and also costs associated with lawsuits that the firm pursues against others. These costs may include fees for lawyers, witness expenses, court fees, or even the cost of hiring expert witnesses. Legal fees are most commonly used to describe the fees paid to the attorney for his/her time and effort. Fee structures for attorney vary significantly based on the region and type of case. Expenses are the costs that an attorney incurs during the preparation and prosecution of your case. These are commonly billed back to the client, and are in addition to the attorneys' fees. Typical expenses in a case include. Legal expenses include cost of communication with the court and other parties involved in a law suit. Experts or consultancy fee, filling fees, court report costs, witness fee, process fees, travel and transport expenses, medical records among others.

Insurance Premium

Georgia and Danise (2022) defined insurance premium as the amount of money a policyholder pays to an insurance company in exchange for coverage of risks such as fire, auto, burglary, health, staff fidelity guarantees among others. Insurance companies normally collect premiums in advance, that is ahead of the coverage period. When a customer buys a new insurance policy, they pay their premiums in exchange for the coverage they're receiving during the term of the policy. Loudenback (2019) also noted that an insurance premium is the monthly or annual payment to an insurance company to keep insurance an policy active. Premiums are required for every type of insurance, including health, disability, auto, renters, homeowners, and life. Though it's different

for each type of policy, the cost of premium is usually based on a few different factors, including age of the insured in the case of life policy, location of the insured, type of coverage, and past insurance claims.

Generally, the more risk an insured pose to the insurance company, the higher the premium. Araujo (2022) noted that the insurance premium may be paid on an annual, semi-annual, or monthly basis. If the insurance company decides that it wants the insurance premium paid up front, it may also require that as is often the case when a person or firm has had their insurance policy canceled in the past for non-payment.

Schirick (2018) opined that risk transfer reduces risk to an organization by passing the risk along to the insurer. The most common risk transfer mechanism is buying insurance policies. Insurance policies are contracts in which the underwriters agree to assume certain risks for a premium, the consideration required in all legal contracts. Insurance is generally used when the potential severity of a loss is more than an organization is willing to risk or retain on its own. Insurance is a tool in the risk management process but doesn't cover all the risks to which your camp organization may be exposed. An annual review of a firm risk management plan should include an annual review of insurance policies. Insurance policies change regularly as risks evolve. Evolving risk can cause insurance companies to develop entirely new policies to respond to employment practice liability risks, environmental impairment liability (pollution), and cyber liability (breach of duty to protect private, confidential information), among others. Kegan (2022) noted that premium represents a liability, as the insurer must provide coverage for claims being made against the policy. On the other hand, failure to pay the premium as at when due may result in the cancellation of the policy.

Directors Remunerations

Ahmed, et al (2020) defied directors' remuneration as all forms of reward from various sources accruing to the directors of a firm. The reward is either short or long term in nature. They include; salaries, bonuses, allowance, insurance, shares option, which are paid on the bases of profit and other measures of financial performance of the firms. Lister (2022) also described directors' remuneration as the full package of compensation received by a director from a firm. The remuneration include salary, bonus payments, stocks, options to buy stocks, and other benefits. The directors mitigate risk in firms by formulating policies including risk policies and overseeing how the policies are implemented by management. Directors also have the power to vote on issues that are not considered significant enough to require a vote of all shareholders. Bebchuk and Fried (2004) equally identified the various elements of compensation for directors as basic salary, bonus,

stock options, grant of shares, pension, severance pay and perquisites. Harper (2020) stated that the size of the firm and whether it is a private or public company determines what the directors' remuneration should be. Directors' remuneration is made up of many different elements compared with ordinary employees. Often a basic salary is topped up with benefits such as healthcare insurance or retirement benefit plans. There can also be bonuses based on the company's performance, payment in shares, or payment in the form of share options that allow the director to buy shares from the company at a fixed price that may be sold on the open market at a profit.

Razali, et al (2018) noted that adequate remuneration to directors will not only help to retain talented directors, but will also increase financial performance in the firm. Thus, remuneration policy is one of the key factors in an organization's success.

Patel and Simon (2014) equally stated that high remuneration of directors attracts highly caliber candidates which, in turn, will result in increased business performance. Therefore, directors' remuneration is closely related with firm value. There are two ways directors' remuneration could affect firm performance. First, remuneration based on performance contract will make the directors ensure the firm has market or financial performance sustainability. Second, high remuneration package to directors will motivate them to increase firm value.

Bank Financial Performance

The concept of financial performance is an appraisal measure of the level of organization's policies in yielding the desired financial objective in monetary terms. Adina (2015) opined that financial performance is a measure of a company and the managers of such establishment's performance and overall operational efficiency and its ability to optimally utilize the resources available to it. The performance of DMBs could be used as yard stick to measure other DMBs in the same category in terms of size, capitalization and staff strength who operate in the same industry (Abdolazim, 2014).

Basically, the financial performance of a DMBs could be a reflection of the trends in the banks return on assets, profitability, economic value added, return on equity, liquidity, solvency, riskiness of the bank and many others like how fast it concludes a loan facility request and ability to manage the loan facilities, the low level of non-performing loans (Arroyave, 2018; Faith & Agnes, 2015; El-Ansary, 2019; Fan & Yijun, 2014). The study by Makokha, Mukanzi and Maniagi (2016) and that of Shrivastave, Kumar and Kumar (2018) posited that financial performance is the measure of how well a firm uses its assets to generate revenues. This definition is used as a general

measure of a firm's overall financial soundness over a given period of time, and can be used to compare similar firms in the same industry and across industry in aggregate. Financial performance measures are directed at reviewing the efficient and effective utilization of resources available to a firm aiming at maximizing returns of an organization as presented in financial statements. Similarly, Kariuki and Peddy (2017) opined that financial performance of a business enables managers and decision-makers to measure the results of business strategies and activities in an objective and unbiased monetary terms. It, therefore, facilitates measurement of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry.

Financial performance is the ability of an enterprise to leverage operational and investment decisions and strategies to achieve a business' financial stability and it is a measure of an enterprise's achievement of its financial goals guided by its financial objectives and benchmarks (Muriithi, 2016). Financial performance is the measuring of bank's policy and operations in monetary form; it also shows a bank's overall financial health over a period of time, and it helps to compare different banks across the banking industry at the same time (Wanjohi et al., 2017).

Return on equity (ROE) and return on assets (ROA) are the mostly commonly used accounting measures of financial performance. Return on equity is described as how much profit a company earned in relation to the total amount of shareholder equity invested (Ongore & Kusa, 2013). Return on Equity is an internal performance measure of shareholder value, and it is by far the most popular measure of financial performance (Wanjohi et al., 2017).

Theoretical Framework

Expectancy Value Theory

This study is anchored on the **expectancy value theory** developed by Eccles and Wigfield (1983). The Theory posits that reasons for a given action or behavior is caused by two factors that is expectancy (how probable it is that a wanted outcome is achieved through the behavior or action) and value (i.e how much the individual values the desire outcome). The theory provides basis for considering how individuals make decision based upon risk and returns. The expectancy from the perspectives of this theory represents risk taking, that is, decision making under uncertainty of the outcome of the decision, but with the hope of achieving positive outcome. The values from this theory viewpoint represent the potential gain that can be attained from the risky decision. The banking business in Nigeria is risky which comprises a lot of decision-making under risk with the

anticipation of making profit by banks. Now and again, the banks make decisions that could leads to loss or gain due to risk associated with such decision, but loss can be reduced through effective risk management processes.

Since, the theory explained the relationship between decisions making under risk and returns that can be obtain from such risky decision, the expectancy value theory will be adopted for this study to underpin the effect of risk proxied by credit risk, liquidity risk, operational risk, market risk and capital risk on performance of banks in Nigeria.

Empirical Review

Okeke, Okwo and Inyiama, (2022) examined the effect of operational risk management on earnings of deposit money banks in Nigeria. The predictive variables and measures of operational risk management are, security/legal expenses, insurance premium, audit fee ad directors' remunerations while the dependent variable and proxy for banks' earnings is earnings per share. The sample consists of nine (9) deposit money banks listed on Nigeria Exchange Group during the period from 2012 to 2021. The nine deposit money banks that disclosed their security/legal expenses were purposely selected for the study, thus, purposive sampling technique was adopted. Descriptive statistics, Pearson's correlation matrix and panel data regression analysis were employed to examine the time series data extracted from the annual reports and financial statements of the selected banks. Findings indicate that the effects of security/legal expenses and insurance premium on earnings per share are positive, but statistically non-significant while the effects of audit fee and directors' remunerations are negative and also statistically non-significant. The implications of these findings are that security/legal expenses and insurance premium constituted operational risk savings to the banks and, thus, boasted the banks' earnings during the period.

Abubakar, Nmanda and Kambai, (2023) examined the moderating effect of risk management committee structure on the relationship between operational risk and performance of listed deposit money banks in Nigeria using panel data obtained from the annual financial statements of 16 listed deposit money banks in Nigeria from 2018-2022. An ex-post facto research design was used. Generalized Least Squares (GLS) method of Panel Regression, Fixed and Random Effects was employed in its estimations with the aid of STATA Software Version 14. Performance was proxied by Return on Assets (ROA), operational risk was proxied by cost income ratio (CIR) while the moderating variable, risk management committee structure was proxied by risk management committee size, risk management committee composition and risk management committee

meetings and bank size is the control variable. The study found that operational risk has significant negative effect on performance of listed DMBs while risk management committee structure (RMCS, RMCC and RMCM) moderate the effect of operational risk on performance of listed DMBs in Nigeria.

Adegbie and David, (2020) investigated the effect of operational risk management on financial stability of deposit money banks in Nigeria. The study employed ex-post facto research design. The population comprised twenty-two licensed deposit money banks in Nigeria as at September 30th, 2018. A total sample of eleven deposit money banks were selected using convenient sampling method and data covering 2009 to 2018 were sourced from the audited and published financial statements of these sampled deposit money banks. Certification of the financial statements by external auditors and regulators and the approval by the board of directors confirm the reliability of the data. Data were analyzed using descriptive and inferential statistics. The results showed that operational risk management had negative significant relationship with financial stability of the selected banks in Nigeria ($F(3,106) = 24.46$, Adj. $R2= 0.4091$, $p < 0.05$). Specifically, Non-performing loan to total loan ratio, cost to income ratio and total loan and advances to total deposit ratio have significant relationship on the variables of financial stability of deposit money banks in Nigeria proxied by Capital Adequacy Ratio ($F(3,106)= 18.23$, Adj. $R2= 0.316$, $p < 0.05$), Return on Equity ($F(3,106)= 22.52$, Adj. $R2= 0.389$, $p < 0.05$) and Liquidity Ratio ($F(3,106)= 22.45$, Adj. $R2= 0.389$, $p < 0.05$) The study concluded that operational risk management influences the financial stability of selected deposit money banks in Nigeria.

Fadun and Oye, (2020) examined the impact of operational risk management practices on the financial performance of commercial banks in Nigeria for the period 2008-2017. The findings revealed that operational risk and bank financial performance have a positive relationship

Mohammed, Agbo, and Yabagi, (2021) examined the moderating effect of bank size on the relationship between operational risk and performance of listed deposit money banks (DMBs) in Nigeria. Data were collected from audited financial reports of selected thirteen (13) listed DMBs in Nigeria over the period of 2014 to 2020. Panel data approach was employed and fixed effects estimate was used for hypothesis testing after the Hausman test was run. The variables used are Banks performance measured by net interest margin, operational risk proxied by cost to income ratio, with Bank size as moderator. The study found that cost income ratio has significant negative effect on profitability of listed DMBs in Nigeria measured by net interest margin at 1% level of significance.

Fadun and Oye (2020) use secondary data extracted from audited financial statements of selected commercial banks in Nigeria to examine the impact of operational risk management practices on the financial performance of commercial banks in Nigeria from 2008 to 2017. The Linear Multiple Regression Model was used to analyze the data, and the results revealed that there is a positive relationship between operational risk management and bank financial performance. Simamora and Oswari (2019) examined the effects of credit risk, operational risk and liquidity risk on the financial performance of banks listed in Indonesian stock exchange using secondary data extracted from the financial reports of five (5) sampled banks out of the 43 licensed banks in Ethiopia from 2009-2017. The independent variables were credit risk (measured by non- performing loan ratio), liquidity risk (measured by loan to deposit ratio) and operational risk (measured by operational cost to operational income). Financial performance is the dependent variable and was measured by ROA. The data was analyzed using the multiple linear regression model and the result showed that operational risk and liquidity risk had significant negative effect on financial performance. Credit risk had non-significant effect on financial performance.

Olalere, Aminul, Yusoff and Shamsuddin (2018) explored operational risk in Nigeria banking industry for the period of 2009 to 2015, the study employed a panel data approach for the analytical model to run Hausman test for random or fixed effect choice and hypothesis testing. The banks performance was proxied by net interest margin while operational risk is proxy by cost to income and total operating expenses to total assets ratio. Bank size and GDP growth were used as control variables. Based on the random effect analysis in the model, bank efficiency ratio (ER) had a negative significant effect on firm performance, suggesting that, the lower the cost to income ratio, the better the bank performance in terms of Net Interest Margin. Operating expenses ratio has a positive significant effect on firm performance. The bank size is not an important determinant of bank performance in Nigeria, as compared to operational risk while GDP plays an important role in performance of commercial banks during the period of study. Therefore, this study has been taken over by time since the scope of the study is 2009 to 2015.

Bourse, et al (2020) investigated financial risk and financial performance in listed Commercial and Investment Banks in Bahrain during 2014-2018 periods. The research covers 11 of the 18 banks in Bahrain from 2014 to 2018. The proxy for performance was return on assets. Regression analysis reveals that the relationship between exchange rate risk, liquidity risk, operating risk and banks' performance were non- significant. Findings also indicate a strong positive relationship exists between bank performance and capital risk. Tassew and Hailu (2019) examined the effect of risk management on financial performance of commercial banks in Ethiopia from 2013 to 2017.

A sample of 17 Commercial Banks listed on Addis-Ababa Stock Exchange was selected for the study. Quantitative research approach was applied using secondary data for the sample period covered from 2013 to 2017. The collected data were analyzed using panel random effect regression model. Results indicated that credit risk, liquidity risk, operating risk and market risks have significant negative impact on financial performance of commercial banks in Ethiopia.

Babarinde, et al (2021) examined the impact of liquidity risk management on financial performance of selected Deposit Money Banks in Nigeria from 2011 to 2017. The sample consist of ten (10) topmost deposit money banks listed on Nigerian Stock Exchange during the period. These banks were rated as the ten topmost Nigerian banks based on the credit score rating by Fitch rating and Bankers' magazine as at January 2017. Annual time series data was obtained from the annual reports and accounts of 10 banks and analyzed using panel data regression analysis. Findings show that funding risk has negative and significant relationship with ROA. However, financing cost reported an insignificant positive relationship with ROA. Interest coverage ratio has a negative and significant relationship with ROA. However, capital adequacy ratio has a positive and significant relationship with ROA but loan loss provision shows a negative and insignificant relationship with ROA. Similarly, non-performing loan has a negative effect on banks' ROA.

Mamari, et al (2022) studied the relationship between risk management practices and a bank's financial performance in Oman in 2020. The study was conducted using time series data obtained from the annual reports of eight (8) banks listed on Muscat Stock Exchange during the period. Structural Equation Modeling and Partial Least Square PLS regression analysis were used to examine the data. Finding show that risk management has a significant relationship with the return of assets, but no significant relation to return of equity. This result indicates that management has a significant influence on banks performance. Eneisik and Micah (2021) studied the relationship between audit quality indicators and market price per share of listed deposit money banks in Nigeria from 2006 to 2019. Audit quality was measured with audit fees, audit tenure and audit firm size while market price per shares was measured with Tobin's Q. Fourteen (14) deposit money banks listed in Nigeria during the period constituted the population of the study. Twelve (12) of these banks were selected using Judgmental sampling techniques. The data collected from the banks were analyzed using descriptive statistics, panel least squares regression. Findings suggest that audit fees have negative and insignificant impact on Tobin's Q, audit tenure had negative and significant impact on Tobin's Q while firm size had positive and significant impact on Tobin's Q.

Mashyekh, and Fallah (2021) used various statistical analysis, including, descriptive statistics, -correlation and regression analysis to examine the effect of audit fees on the relationship between auditor time pressure and profit quality of firms listed in Tehran Stock Exchange. Secondary data were obtained from a sample of 125 firms covering the period from 2016 to 2019. Findings from the study indicate that the auditor time pressure has a negative and significant relationship with the quality of companies' profits while audit fee has a positive and significant effect on the relationship between auditor time pressure and profit quality. Alqisie (2018) conducted a study to ascertain if profitability of Jordanian commercial banks as it affected by risk management practices in the banks. The sample consists of thirteen (13) Jordanian commercial banks listed on the Stock Exchange during the period from 2010 to 2015. Return on assets represents the profitability of banks, while risks management practices consist of liquidity, operational, credit and market risks. Data were collected from the annual financial statements of the selected banks. Ordinary least square regression method (Fixed effect and Random effect) was used to test the hypothesis. Findings show that, risk management practices as a whole explains a significant part of the variation in banks profitability. The results also showed that, only operational risk management

Isedu and Erhabor (2021) investigated the effect financial risks on the performance of deposit money banks in Nigeria. More specifically, changes in financial performance were examined on the basis of the relative effect of credit risk, liquidity risk, market risk, operational risk and bank size. The study specifically focused on 18 deposit money banks listed on the floor of the Nigerian Stock Market for a period of 19 years both statistical and econometric techniques were applied in the analysis of the data used in the study. Panel data analysis technique was used in the estimation of the specified model. The fixed effects being the best performing effect in the relationships was adopted in the empirical analysis. The findings of this study revealed that the combined effects of financial risks do not influence banks' performance negatively. More specifically, the results from the empirical analysis revealed that financial risk proxy by Credit risk does not have any significant relationship with financial performance of deposit money banks in Nigeria. Liquidity risk is a significant determinant of deposit money banks' performance in Nigeria in the period under investigation. The effect of market risk, interest rate risk and Operational risk did not in any way affect bank performance significantly in Nigeria.

Abdullahi, Sabari, Sabo and Mohammed (2021) examined the impact of specific risk on financial performance of listed deposit money banks in Nigeria for the period of 2007 - 2019 using the sample size of 13 banks. Risk as an independent variable of the study is proxied by interest risk, capital adequacy risk and credit risk; while financial performance as dependent variable of the

study is proxied by return on assets. Secondary data is collected from the financial statement of the selected banks which is analyzed using random effect regression statistical tool of analysis. The result of the analysis reveals that interest risk has negative insignificant relationship with financial performance of banks, capital adequacy risk has negative significant relationship with banks financial performance and credit risk has negative significant impact on financial performance of Nigerian banks. The study recommended that management of listed deposit money banks in Nigeria should continue to increase their capital adequacy ratio properly based on regulatory requirements in order to reduce their capital adequacy risk as well as avoiding using their capital in a business that will not bring good returns. Also, management of listed deposit money banks in Nigeria should intensify more effort in recovering their nonperforming loan and interest attached to it for better financial performance.

Abubakar, Garba and Sulaiman (2020) investigated the effect of financial risk on the financial performance, using panel data from the annual reports and financial statements of 8 listed deposit money banks in Nigeria over a 10-year period from 2010 to 2019. The study was conducted using ex-post factor and longitudinal research designs. Descriptive analytical tools such as mean, median, minimum and maximum values among others were used in data presentation, while fixed effects model with robust heteroskedasticity and autocorrelation (HAC) standard errors was applied in analyzing the effect of financial risk management proxies as credit risk, operational risk and market risk on the financial performance measured by return on equity (ROE). Results indicate that credit risk proxy by capital adequacy ratio (CAR) and market risk measured by net interest margin (NIM) have significant and positive effects on the financial performance; while operational risk gauged by cost-to-income ratio (CIR) did not have any significant effect on the ROE as an indicator of the financial performance. The study concludes that listed deposit money banks (DMBs) in Nigeria are highly capitalized to withstand the danger posed by risk weighted assets. Following this conclusion,

Gap in Literature

Academicians and researchers have assessed the relationship between operational risk and performance of deposit money banks in Nigeria in various developed and emerging economies like Nigeria. Empirical evidences and results of previous studies show a mixed trend on the effect of operational risk components on the performance with statistically significant (negative/positive), weak and in some cases with insignificant or no impact of financial risk

management practices on financial performance, hence, this will serve as lacuna in knowledge that will be needed to be filled.

The literature also indicates that researchers have used a wide variety of proxies for the components of financial risk management that included non-performing loan ratio, loan to total deposit ratio, interest rates, capital adequacy ratio, growth in interest earnings and loan loss provisions to total loans, total debt to equity, non-performing loans to gross loans ratio, Inflation, total debt to total assets, total equity to total assets etc. Return on assets and return on equity were widely used to measure financial performance, but none of these studies has used the set of independent variables used in this study.

Again, all the study on operational risk in Nigeria and beyond made used of panel data from the annual report of the selected deposit banks but this study is unique because the study will make use of aggregate data for all the deposit money banks in Nigeria, thereby giving room for the analysis of the changes in the banking industry, hence, this study when concluded with contribute immensely to the growth in deposit money banks in Nigeria.

Lastly, against the methodological approaches used by prior studies, the present study used the Autoregressive Distributed Lag Model being a better econometric (estimation) tool since it which gives a good picture of how the variables behave and the output over the years. Against this background, the study will intend to examine the relationship between operational risk and performance of deposit money banks in Nigeria.

Methodology

Research Design

Research design presents the study structure and strategy of investigation concerned in order to obtain answers to research questions. The study adopted *ex post facto* design which indicates that facts exist which cannot be manipulated by the author. The data were analyzed with econometric techniques involving Econometric techniques, including Descriptive Statistics, Augmented Dicker Fuller tests for unit roots, The Autoregressive Distributive Lag (ARDL) approach which is capable of handling both stationary at level I(0) and first difference I(1).

Model Specifications

The model used for the study was the adaptation and modifications from the work Okeke, Okwo and Inyiama, (2022) they examined the effect of operational risk management on earnings of deposit money banks in Nigeria

The model is stated thus:

ROE= f (SLE, IP, CIR)

Where;

ROE= Return on Equity,

SLE= Security/legal Expenses,

IP= Insurance Premium,

CIR = Cost Income Ratio

The model was adapted and modified by introducing directors' remunerations

ROE= f(SLE, IP,C IR,DR,)

The estimation equation:

$REO = \beta_0 + \beta_1 X (SLE) + \beta_2 X (IP) + \beta_3 X (CIR) + \beta_4 X (DR)\ \mu$ -- -- -- -- -- --- -- --- -- 1

Where;

ROE= Return on Equity,

SLE= Security/legal Expenses,

IP= Insurance Premium,

CIR = Cost Income Ratio

DR= Directors' Remunerations

β_0 and μ are the coefficient of operational risk on performance of deposit money banks in Nigeria.

Data Analysis

Unit Root Test

Time series data are often assumed to be non-stationary and thus, it is necessary to perform unit root test to confirm the non-stationarity of data. The test would also be employed to avoid the problem of spurious regression. In conducting this test, the Augmented Dickey-Fuller (ADF) unit root test with intercept would be employed to determine the stationarity of data.

Table 1: Result of ADF Unit Root Test at Level

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
ROE	-3.969541(0.0055) **	-3.711457	-2.981038	Stationary
SLE	-4.328648(0.0023) **	-3.711457	-2.981038	Stationary
IP	-3.867530(0.0069) **	-3.711457	-2.981038	Stationary
CIR	-2.385993(0.1551)	-3.711457	-2.981038	Not Stationary
DR	-3.050296(0.0433) **	-3.711457	-2.981038	Stationary

Source: Author's Computation

Table 3: Result of ADF Unit Root Test at 1st Diff

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
ROE	-9.102635(0.0000) **	-3.724070	-2.986225	Stationary
SLE	-5.230084 (0.0003) **	-3.724070	-2.986225	Stationary
IP	-6.328002 (0.0000) **	-3.724070	-2.986225	Stationary
CIR	-5.993446(0.0198) **	-3.724070	-2.986225	Stationary

DR	-10.97091(0.0000) **	-3.724070	-2.986225	Stationary

Source: Author's Computation

4.4 ARDL Co-integration Relationship

The affirmation of the non-stationarity of the data through the unit root test of ADF permit for the determination of the co-integration relationship between the dependent and explanatory variables in the models. Subsequently, we carry on with the bounds test as it can estimate variables both at level and of first order of integration (Pesaran et al., 2001).

Table 5 presents cointegration results of the bounds test. The public debt–investment model has five variables. Therefore, there are four independent variables in the model, hence k=4.The calculated F-statistics is 6.163947, which is greater than the lower bounds critical value of 4.37 and the upper critical value of 3.29 at 1% level of significant. Therefore, there is cointegration among the variables, meaning in the long run the variables are co-moved (Pesaran et al., 2001).

Table 2. ARDL bounds test results 1996 -2022

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	6.163947	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Source: Researcher's E-view result

Nature of Long Run Relationship/ARDL Error Correction Model

The ARDL result has proven that return on equity (ROE), Security/legal Expenses, Insurance Premium, Cost Income Ratio, Directors' Remunerations are co-integrated/related in the long run through the bounds testing. Consequently, the determination of short and long run relationship becomes necessary as well as the speed of the adjustment to equilibrium. Table 6 shows the long-run coefficients of the model. The result of the analysis showed a negative and insignificant long-run relationship between operational risk and performance of deposit money banks in Nigeria within the period of the study. This negative long-run relationship is consistent with the finding of Abdullahi, Sabari, Sabo and Mohammed (2021). The argument to the negative relationship is that Continuous exposure to risks without proper risk management can erode the capital base of banks. This may lead to a decline in the return on equity which are crucial for maintaining financial stability and meeting regulatory requirements. Poor operating risk management practices can tarnish the reputation of DMBs. This may result in a loss of customer trust and confidence, leading to a decrease in customer deposits and business opportunities.

Table 3: ARDL Long Run Form for

ROE→CAR+LR+NPL+CI

Original Dependent Variable: Return of Equity

Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	54.42742	42.09110	1.293086	0.2123
ROE(-1)*	-0.665797	0.188275	-3.536305	0.0024
SLE**	-1.664727	1.341899	-1.240575	0.2307
IP**	-0.993595	0.790955	-1.256196	0.2251
CIR(-1)	2.737149	0.970933	2.819091	0.0114
D(CIR)	-0.804322	1.005774	-0.799704	0.4343

D(DR)	-0.395280	0.204597	-1.931999	0.0693
CointEq(-1)*	-0.665797	0.096852	-6.874367	0.0000

EC = ROE - (-2.5004*SLE -1.4923*IP + 4.1111*CIR + 0.1302*DR + 81.7478

Levels Equation

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SLE	-2.500354	2.341542	-1.067824	0.2997
IP	-1.492340	1.365891	-1.092576	0.2890
CIP	4.111088	1.566771	2.623924	0.0172
DR	-0.130212	0.394346	0.330198	0.7451
C	81.74782	73.57908	1.111020	0.2812

Source: Researcher's E-view result

Table 6 also shows that the error correction term denoted by ECM has a negative sign, indicating that the system will eventually revert to equilibrium. Thus, long-run disequilibrium will be corrected through short run adjustments, and will lead the system to equilibrium in the short run at a speed of 66%.

Test of Hypotheses

Restatement of Hypotheses

Ho_1: Security/legal expenses has no significant effect on the performance of deposit money banks in Nigeria.

Table 5: OLS Regression: Operating Risk and Performance of deposit money banks

Dependent Variable: ROE

Method: ARDL

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (1 lag, automatic): SLE IP CIR DR

Fixed regressors: C

Number of models evalulated: 32

Selected Model: ARDL(1, 0, 0, 1, 1)

Note: final equation sample is larger than selection sample

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ROE(-1)	0.334203	0.188275	1.775084	0.0928
SLE	-1.664727	1.341899	-1.240575	0.2307
IP	-0.993595	0.790955	-1.256196	0.2251
CIR	-0.804322	1.005774	-0.799704	0.4343
CIR(-1)	3.541471	0.870098	4.070196	0.0007
DR	-0.395280	0.204597	-1.931999	0.6193
DR(-1)	0.481975	0.227352	2.119948	0.0482
C	54.42742	42.09110	1.293086	0.2123
R-squared	0.651858	Mean dependent var		36.25808
Adjusted R-squared	0.516469	S.D. dependent var		41.23260
S.E. of regression	28.67166	Akaike info criterion		9.797355
Sum squared resid	14797.15	Schwarz criterion		10.18446
Log likelihood	-119.3656	Hannan-Quinn criter.		9.908828
F-statistic	4.814717	Durbin-Watson stat		1.885854

Prob(F-statistic)	0.003344

*Note: p-values and any subsequent tests do not account for model selection.

Source: Output Data from E-views 12.0

Ho: A Security/legal expense has no significant effect on the performance of deposit money banks in Nigeria.

The coefficient of Security/legal expenses is -1.664727 with t-Statistic of -1.240575 and P value of 0.2307 which is negatively related with ROE. It has a negative coefficient of 1.664727 which implies that a unit increase in Security/legal expenses will result into 1.664727 unit decrease on ROE on the performance of deposit money banks in Nigeria.

Test of Hypothesis Two

Ho: Insurance premium has no significant effect on the performance of deposit money banks in Nigeria.

The coefficient of insurance premium is -0.993595 with t-Statistic of -1.256196 and P value of0.2251 which is negatively related with ROE. It has a negative coefficient of 0.993595 which implies that a unit increase in insurance premium will result into 0.993595 unit decrease on the performance of deposit money banks in Nigeria.

Test of Hypothesis Three

Ho: Cost income ratio has no significant effect on the performance of deposit money banks in Nigeria.

The coefficient of cost income ratio is -0.804322 with t-Statistic of -0.799704 and P value of 0.4343 which is negatively related with ROE. It has a negative coefficient of 0.395280 which implies that a unit increase in cost income ratio will result into 0.395280 unit decrease on the performance of deposit money banks in Nigeria.

Test of Hypothesis Four

Ho: Directors' remunerations have no significant effect on the performance of deposit money banks in Nigeria.

The coefficient of directors' remunerations is -0.395280 with t-Statistic of -1.931999 and P value of 0.6193 which is negatively related with ROE. It has a negative coefficient of -0.804322 which implies that a unit increase in directors' remunerations will result into -1.664727 unit decrease on the performance of deposit money banks in Nigeria.

Meanwhile, the coefficient of multiple determinants (R^2) showed a coefficient of 0.651858 ≈ 0.65 which implies a 65% explanation of the behaviour of performance of deposit money banks in Nigeria by the totality of the explanatory variables: (Security/legal expenses, insurance premium, cost income ratio and directors' remunerations on the short-run. The Adjusted R^2 further prove this with the adjusted value of 0.516469≈ 0.51 which implies that 51 percent explanation of the behaviour of performance of deposit money banks in Nigeria by the totality of the explanatory variables with the remaining 49 percent behaviour attributed to other variables outside the model otherwise referred to as the stochastic variables.

The F-statistic indicates that the model is well fit for the estimation because F-stat for the model is 4.814717 which is greater than F-critical value of 2.60 at 95 percent significance level. However, the Durbin Watson Statistic value of 1.885854 is not symptomatic of auto correlation. As a result, there is no auto correlation problem in the model and could be used for statistical inference like hypothesis testing and forecasting.

Conclusion

The investigation into the effect of operational risk on performance of deposit money banks in Nigeria, encompassing the period from 1999 to 2022, provides insights into the relationship between various risk factors and the dependent variable, return on equity (ROE). The study employed security/legal expenses, insurance premium, cost income ratio and directors' remunerations as independent variables.

The result of the analysis revealed that security/legal expenses have a negative and significant effect on the return on assets of deposit money banks in Nigeria. Insurance premium has a negative and insignificant effect on the return on assets of deposit money banks in Nigeria. Cost income ratio has a negative and insignificant effect on the return on assets of deposit money banks in

Nigeria and directors' remunerations has a negative and insignificant effect on the return on assets of deposit money banks in Nigeria. The findings suggest that operating risk had an insignificant effect on the performance of deposit money banks. Possible reasons for this lack of impact include the stringent regulatory environment in Nigeria during the period, which may have already established robust rules for effective risk management. The financial landscape is dynamic, and risk factors evolve over time. Deposit money banks may have implemented risk management strategies that kept pace with changing financial risks, allowing for an effective response to emerging challenges. Technological advancements in the banking sector during the period could also have played a role, as deposit money banks adopting innovative risk management technologies might have been more adept at proactively addressing emerging risks. The study concludes that operational risk has negative and insignificant effect on the performance of deposit money banks in Nigeria.

Recommendations

Amongst the recommendations is that the central bank should strengthen and adapt the regulatory framework to provide a balanced approach to risk management. This includes regularly updating regulations to keep pace with the evolving financial landscape while also ensuring that they foster effective security/legal expenses management practices without unduly burdening banks. Deposit money banks should invest in the continuous training and skill development of banking professionals involved in risk management. This will ensure that individuals within the organization have the necessary expertise to identify, assess, and respond to emerging risks effectively. The government should foster an environment that encourages DMBs to adopt innovative risk management technologies. This could involve providing incentives or creating platforms for collaboration between banks and technology providers to facilitate the integration of cutting-edge risk management tools. Deposit money banks should cultivate a risk-awareness organizational culture by emphasizing the importance of risk management at all levels of banking institutions. This includes promoting open communication about risks, creating awareness of potential challenges, and encouraging a proactive attitude towards risk mitigation.

References

Abdullah, A., Farouk, A., & Bassam, R. (2018). Operational risk management in financial institutions: An overview. *Business and economic research, 8*(2), 11-32.

Abdullahi, M., Sabari, M. H., Sabo, B. & Mohammed, A. N. (2021). Impact of specific risk on the financial performance of deposit money banks in Nigeria. *Accounting and Taxation Review, 5*(1), 95-109.

Abubakar, A., Garba, A. & Sulaiman, A. S. (2020). Financial risk and financial performance of listed deposit money banks in Nigeria. *Dutse International Journal of Social and Economic Research, 4*(2), 1-12.

Abubakar, A., Sulaiman, S. A., Usman, B., & Mohammed, M. U. (2019). Credit risk management and financial performance of quoted deposit money banks in Nigeria. *University of Port Harcourt Journal of Management, 4*(1), 178-192.

Accenture. (2015). Reaping the benefits of operational risk management. 1-16. Retrieved fromhttps://www.accenture.com/t20150715t045908__w__/muen/_acnmedia/accenture/conversionassets/dotcom/documents/global/pdf/industries_6/accenture-reaping-the-benefits-of-operational-risk-management.pdf (Accessed 5 February 2020).

Adegbie, F. F. & David, O. S. (2020). Operational risk management and financial stability of deposit money banks in Nigeria: *European Journal of Accounting, Auditing and Finance Research Vol.8, No. 10, pp.36-69, November 2020*

Adesoji, B. S. (2019). 'Banks lost N15billion to fraud, cyber-crime in 2018'. Retrieved on 5th May https://nairametrics.com/2019/08/02/banks-lost-n15billion-to-fraud-cyber-crime-in-2018/

Adesoji, B. S. (2019). 'Banks lost N15billion to fraud, cyber-crime in 2018'. Retrieved on 5th May https://nairametrics.com/2019/08/02/banks-lost-n15billion-to-fraud-cyber-crime-in-2018/

Afolabi, O. D., & Olaniyi, E. A. (2019). Capital adequacy and financial performance of deposit money banks in Nigeria. Journal of Economics and Financial Analysis, 3(2), 1-14

Afolabi, T. S., Obamuyi, T. M., & Egbetunde, T. (2020). Credit Risk and financial performance: evidence from microfinance banks in Nigeria. *IOSR Journal of Economics and Finance*,

Ajao, M. G., & Oseyomon, E. P. (2019). Credit risk management and performance of deposit money banks in Nigeria. *African Review of Economics and Finance*, *11*(1), 178198.

Al-Husainy, N. H. M., & Jadah, H. M. (2021). The effect of liquidity risk and credit risk on the bank performance: Empirical Evidence from Iraq. *IRASD Journal of Economics*, *3*(1), 58–67. https://doi.org/10.52131/joe.2021.0301.0025

Aliyu, A. A. (2023). Credit risk management and financial performance: an empirical study of deposit money banks in Nigeria: *International Accounting and Taxation Research Group, Faculty of Management Sciences, University of Benin, Benin City, Nigeria. Available online at http://www.atreview.org*

Aliyu, A. Almustapha (2023). Credit risk management and financial performance: An Empirical Study of Deposit Money Banks in Nigeria: International Accounting and Taxation Research Group, Faculty of Management Sciences, University of Benin, Benin City, Nigeria. Available online at http://www.atreview.org

Appah, E, Tebepah, S. F & Awuji, C. E (2020). Directors' compensation and financial performance of deposit money banks in Nigeria. *World Journal of Finance and Investment Research, 5(1), 61-76.*

Babarinde, G.F; Abdulmajeed, I. T; Kazeem, A.B & Shuaib, A.B (2021). Liquidity risk management and the performance of deposit money banks in Nigeria. *International Journal of Management and Social Sciences, 12(1),1-11.*

Basel Committee on Banking Supervision (2017). Core Principles Methodology, Basel Committee on Banking Supervision, Bank for International Settlements.

Bebchuk, L., and Fred, J. (2004). Pay without performance: The unfulfilled promise of executive compensation. Cambridge, MA: Harvard University Press.

Cary, L. C. & Derek, F. C. (2018). The Concise Blackwell Encyclopedia of Management. ISBN 978-0-631-20911-9.

Charmler, R., Musah, A., Akomeah, E. & Gakpetor, E.D. (2018). The impact of liquidity on performance of commercial banks in Ghana. Academic Journal of Economic Studies, 4(4), 78-90.

Eneisik, G. E & Micah, L.C (2021). Audit quality indicators and market price per shares of listed Deposit Money Banks in Nigeria. *International Journal of Business & Law Research 9(4), 1-22.*

Fadun, O. S. & Oye, D. (2020). Impacts of Operational Risk Management on Financial Performance: A Case of Commercial Banks in Nigeria. International Journal of Finance & Banking Studies, 9 (1), 22-35.

Fadun, S. O. & Oye, D. (2020). Impacts of operational risk management on financial performance: A case of commercial banks in Nigeria. *International Journal of Finance & Banking Studies, 9*(1), 22-35.

Harper, J (2020). A guide to directors' remuneration. https://harperjames.co.uk/article/a-guide directors remuneration/

Heba, S & Ahmed, A. (2024). Impact of credit risk management and capital adequacy on financial performance of commercial banks in Nigeria. *Journal of emerging issues in Economics, finance and Banking,* 2(3)..

Inegbedion, H., Vincent, B. D., & Obadiaru, E. (2020). Risk management and the financial performance of banks in Nigeria. *International Journal of Financial Research*, *11*(5), 115–128. https://doi.org/10.5430/IJFR.V11N5P115

Isedu, M. & Erhabor, O. J. (2021). Does Financial Risks Has Effects on The Performance of Deposit Money Banks in Nigeria? *Saudi Journal of Business and Management Studies, 6*(3), 71-85.

Kegan, J (2022). What is an insurance premium? https://www. investopedia. com/ terms insurance premium.asp

Kegan, J (2022). What is an insurance premium? https://www. investopedia. com/ terms insurance premium.asp

Kinyua, M.G. & Warui, F. (2020). Financial risk management and profitability of deposit taking savings and credit cooperative societies in Nyeri County, Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting, 2(2), 1-20.*

Kioko, C. M., Olweny, T and Ochieng, L. (2019). Effect of financial risk on the financial performance of commercial banks in Kenya. The Strategic Journal of Business & Change Management, 6 (2), 1936-1952.

Kiptoo, I.K., Kariuki, S.N. and Ocharo, K.N. (2021). Risk management and financial performance of insurance firms in Kenya. *Cogent Business & Management, 8(1), 1-17.*

Mahmood, T., & Saeed, T. (2020). Corporate governance and financial performance: Evidence from Pakistani listed banks. Journal of Asia Business Studies, 14(3), 341-357

Okeke, H. O., Okwo, I.M. & Inyiama, O.I. (2022). Operational risk management and earnings of deposit money banks in Nigeria: British International Journal of Applied Economics, Finance and Accounting B. J. Int. J. A. Econ. Fin. & Acc. Volume: 6; Issue: 06 November-December, 2022 ISSN 2234-2418 Impact Factor: 4.97

Olaoye, S. A., Ogbebor, P. I. & Okusami, Y. A. (2020). Financial risk and financial performance of deposit money banks listed in Nigeria. *International Journal of Business and Management Review, 8*(4), 78-100.

Olumayokun, S. (2020). Financial risk management and the profitability of selected deposit money banks in Nigeria. *European Journal of Business and Management*, *12*(18), 111– 121. https://doi.org/10.7176/ejbm/12-18-13

Tassew, A.W. and Hailu, A.A. (2019). The effect of risk management on financial performance of commercial banks in Ethiopia, Financial Studies. *Romanian Academy, National Institute of Economic Research. Victor Slăvescu" Centre for Financial and Monetary Research, Bucharest, 23(1), 25-38.*

Wanjohi, S. M., Wanjohi, J. G., & Ndambiri, J. M. (2017). The effect of financial risk management on the financial performance of commercial banks in Kenya. *International Journal of Finance and Banking Research, 3*(5), 70- 81.