FINANCIAL REGULATIONS IN REDUCING SYSTEMIC RISK AMONGST DEPOSIT MONEY BANKS IN NIGERIA

BY

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FACULTY OF MANAGEMENT SCIENCE

UNIVERSITY OF BENIN

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A PROJECT WRITTEN AND SUBMITTED TO THE DEPARTMENT OF FINANCE, FACULTY OF MANAGEMENT SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN FINANCE OF THE UNIVERSITY OF BENIN, BENIN CITY.

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DECLARATION

I, WAHAB MARYAM HAJIA, do hereby declare that this project is entirely my work and composition. The work embodied in this project has not been submitted by another candidate for any degree and is not currently being submitted for any other degree. All references made to the works of other person have been duly acknowledged

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WAHAB MARYAM HAJIA DATE

CERTIFICATION

We, the undersigned certify that this research work submitted by **WAHAB MARYAM HAJIA** is adequate in scope and in partial fulfillment of the requirements for the award of Bachelor of Science (B.Sc) degree in finance, University of Benin, Benin city.

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DEDICATION

This project is dedicated to Almighty Allah for his grace and mercy bestowed upon me throughout my study in the Department of Finance, Faculty of Management sciences, University of Benin, Benin city. This project is also dedicated to my beloved parents, Mr and Mrs Wahab for their unwavering support and love through the course of my study.

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ABSTRACT

This study investigates the Financial regulations in reducing systemic risk amongst deposit money banks in Nigeria, spanning 10 years from 2015 to 2024. The ex-post facto research design was adopted for this study. The population of this study consists of the 24 listed Deposit Money Banks licensed to operate in Nigeria. A simple random sampling technique was adopted to select 5 banks categorized as domestic systemically important banks (D-SIBs) from the 24 licensed banks, enhancing the generalizability of the findings. Using the panel regression model analysis, the findings reveal that financial regulations such as capital adequacy ratio, reserve requirement, liquidity regulations, and asset quality have a systemically significant impact in reducing systemic risk amongst deposit money banks in Nigeria. Additionally, these regulations help prevent excessive risk-taking, reduce the likelihood of bank failures, and promote public confidence in the financial system. The study recommends that regulators should continue to align with global standards like Basel III by enforcing stricter capital adequacy and liquidity requirements, and banks should adopt robust internal risk management frameworks. The research contributes to the critical understanding and evidence on which regulations are most effective in curbing systemic risk in Nigeria, providing insights for policymakers and banking industry stakeholders.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The stability of any financial system is essential for long-term economic growth and development. As such, financial regulation plays a vital role in managing risks and maintaining public trust in financial institutions. It involves a coordinated set of rules, standards, and supervisory processes designed to safeguard systemic stability, protect investors, and minimize the likelihood of financial disruptions. The European Central Bank (ECB, 2010) defines systemic risk as a level of financial instability that disrupts the proper functioning of the financial system and results in significant adverse effects on economic performance and welfare. Following major crises—particularly the 2008 global financial collapse and the shock caused by the COVID-19 pandemic—the importance of strong and efficient regulatory frameworks has become even more apparent.

The 2008 global financial crisis marked a dramatic breakdown of the world's financial structure. It was driven by several factors, including the surge in subprime mortgage lending, excessive risk-taking linked to complex derivatives, asset price bubbles, the rise of shadow banking, and inadequate regulatory oversight. The failure of major institutions such as Lehman Brothers and the government bailouts of AIG, Fannie Mae, and Freddie Mac illustrated how interconnected and vulnerable the system had become, with many institutions deemed "too big to fail." The crisis led to the deepest recession since the Great Depression, pushing unemployment close to 10%. In response, the U.S.

government enacted the Dodd-Frank Act in 2010 to improve transparency, enhance regulatory supervision, and curb systemic risk. Internationally, reforms such as Basel III introduced measures like the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) to strengthen banks' ability to withstand financial shocks.

Likewise, the outbreak of COVID-19 in 2020 generated significant financial strain, causing heightened market volatility and eroding investor confidence. Policymakers implemented several stabilization measures—similar to those adopted during the 2008 crisis—to restore liquidity and calm the markets.

In Nigeria, deposit money banks (DMBs) form the backbone of the financial system, supporting credit creation, liquidity distribution, and economic growth. However, the sector has faced systemic weaknesses, most notably during the 2009 banking crisis. The crisis was fueled by poor risk management, insider abuses, liquidity shortages, a surge in non-performing loans (NPLs), and a major downturn in the capital market. To address these issues, the Central Bank of Nigeria (CBN) and other regulatory bodies introduced multiple reforms, including setting up the Asset Management Corporation of Nigeria (AMCON) to purchase toxic assets, adopting International Financial Reporting Standards (IFRS), and enforcing prudential regulations on capital adequacy, asset quality, and liquidity oversight.

In 2014, the CBN further consolidated the regulatory environment by issuing the Framework for the Regulation and Supervision of Domestic Systemically Important Banks (D-SIBs), along with extensive risk management guidelines covering credit,

market, operational, reputational, liquidity, and counterparty risks. These reforms were intended to enhance financial stability and reduce the probability of systemic disruptions. Despite these regulatory interventions, Nigerian banks still face persistent issues, including weak corporate governance, macroeconomic volatility, and liquidity challenges. Consequently, this study examines how effective financial regulations have been in reducing systemic risk among deposit money banks in Nigeria, offering insights into their contribution to strengthening the resilience of the financial system.

1.2 Statement of the Problem

Systemic risk remains a significant concern within Nigeria's banking sector, carrying substantial consequences for the broader economy. Although it is expected that strengthened regulatory frameworks and improved risk management systems would enhance bank performance, promote stability, and maintain adequate capitalization, recent developments suggest otherwise. The 2024 recapitalization policy introduced by the Central Bank of Nigeria (CBN)—which increased minimum capital thresholds to ₦50 billion for regional banks, ₦200 billion for national banks, and ₦500 billion for international banks—together with the license withdrawals of Skye Bank in 2018 and Heritage Bank in June 2024, indicates that the risk management reforms implemented over the past decade may not have delivered the desired results (CBN, 2024; Aduloju, 2024).

Ongoing issues such as poor risk management processes, fraud, and persistent regulatory infractions continue to expose the banking industry to systemic threats. The recurrence of

financial misconduct and the weaknesses observed in banks' risk evaluation systems raise doubts about the overall effectiveness of existing supervisory measures. Therefore, this study aims to address this gap by assessing the role of financial regulations in reducing banking risks and determining their influence on the stability and robustness of Nigeria's financial system.

1.3 Research Questions

The following research questions were formulated to guide the investigation in this study:

1. What effect does the **capital adequacy ratio** have in reducing systemic risk among deposit money banks in Nigeria?
2. To what extent does the **reserve requirement** significantly influence the minimization of systemic risk in Nigerian deposit money banks?
3. How do **liquidity regulations** impact the mitigation of risks faced by deposit money banks in Nigeria?
4. What is the effect of **asset quality** on reducing systemic risk among deposit money banks in Nigeria?

1.4 Objectives of the Study

The general objective of this study is to **examine the role of financial regulations in reducing systemic risk among deposit money banks in Nigeria**.

The specific objectives are to:

1. **Examine the effect of capital adequacy ratio** on reducing systemic risk among deposit money banks in Nigeria.
2. **Evaluate the influence of reserve requirements** in minimizing systemic risk in Nigerian deposit money banks.
3. **Determine the impact of liquidity regulations** on mitigating risks faced by deposit money banks in Nigeria.
4. **Assess the effect of asset quality** on reducing systemic risk among deposit money banks in Nigeria.

1.5 Research Hypotheses

The following hypotheses are formulated in their null form:

1. **H_{01}:** Capital adequacy ratio has no significant impact on reducing systemic risk among deposit money banks in Nigeria.
2. **H_{02}:** Reserve requirement does not have a significant influence on minimizing systemic risk in Nigerian deposit money banks.
3. **H_{03}:** Liquidity regulations have no significant relationship with the mitigation of systemic risk in deposit money banks.
4. **H_{04}:** Asset quality does not have a significant impact on reducing systemic risk among deposit money banks in Nigeria.

1.6 Scope of the Study

This study investigates how capital adequacy standards, liquidity ratio requirements, and asset quality regulations influence the mitigation of systemic risk among Deposit Money

Banks in Nigeria. The analysis spans an eleven-year period (2013–2024) to evaluate the consistency and effectiveness of these regulatory measures over time. Data will be sourced from selected Deposit Money Banks—Access Bank, Zenith Bank, United Bank for Africa (UBA), Guaranty Trust Bank, and First Bank of Nigeria. These institutions were selected due to their size, data availability, and designation as systemically important banks (SIBs), which makes them critical contributors to systemic stability. Additional information will also be obtained from the Central Bank of Nigeria and other relevant financial publications to ensure a thorough evaluation of trends and interrelationships within the study period.

1.7 Significance of the Study

The outcomes of this research are expected to provide value to both practice and scholarship in the following ways:

1. **Board of Directors (BOD):** Offers insights that support the formulation of effective strategies and the adoption of sound risk management systems to enhance organizational sustainability.
2. **Regulators (CBN, NDIC, SEC):** Identifies potential weaknesses in existing regulatory frameworks and suggests improvements to enhance their capacity to contain systemic risk.
3. **Academia and Researchers:** Contributes to existing literature on financial regulation and systemic risk in developing economies, serving as a useful foundation for subsequent studies.

4. **Bank Management:** Strengthens understanding of compliance obligations and guides the development of measures to effectively control and reduce risk exposures.

1.8 Limitations of the Study

The study may face several constraints. Limited access to recent or comprehensive data from banks and regulatory agencies may affect the depth of the analysis. Continuous adjustments in financial regulatory policies may also pose challenges in evaluating their long-term impact. Furthermore, banks' reluctance to disclose sensitive risk-related information due to confidentiality may restrict the generalizability of the study's findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides an in-depth examination of major regulatory instruments such as risk management frameworks, capital adequacy standards, liquidity requirements, and reforms introduced after financial crises. It further outlines the conceptual framework connecting financial regulation with systemic risk, discusses the supporting theoretical

foundations, reviews previous scholarly works, and highlights the gaps that remain in existing research.

2.2 Conceptual Review

2.2.1 Systemic Risk

Systemic risk denotes the possibility that the failure of a single financial institution—or a cluster of institutions—could cascade through the financial system, ultimately disrupting economic activities on a broad scale. It is a form of risk that emerges within the financial sector and can spread rapidly, posing substantial threats to financial stability and the smooth functioning of economic intermediation (Blancher et al., 2013). Acharya and Steffen (2012) describe systemic risk as arising when the financial sector faces a widespread capital shortfall such that other institutions are unable to compensate for the lending gap created by the failure of one bank. Billio et al. (2010) similarly view systemic risk as the probability that a sequence of linked institutional defaults, occurring within a short timeframe, will undermine confidence and drain liquidity across the financial system. These perspectives illustrate that systemic risk is multidimensional and best captured through diverse measurement tools.

Categorisation of Systemic Risk Measures

(a) Benoit et al. (2012) categorize systemic risk measurement techniques into two broad groups:

- *Supervisory approaches*, which rely on regulatory data submitted by banks (such as the BIS Indicator Method), and

- *Market-based approaches*, which utilize publicly available information including stock market data and market capitalization (as in the SRISK model).

(b) The Bank for International Settlements (BIS) employs an indicator-driven methodology to identify systemically important banks (SIBs) and assess systemic vulnerabilities. This framework evaluates institutions using four indicators: Size, Interconnectedness, Complexity, and Substitutability. Size reflects the scale of a bank's operations; interconnectedness captures its linkages within the financial system; complexity relates to the sophistication of its activities; and substitutability assesses how easily other institutions can replace its services. Under the CBN's adaptation of the SIB methodology, size and substitutability each carry a weight of 30%, while interconnectedness and complexity account for 15% and 25%, respectively.

In contrast, the *market-based SRISK measure*, developed by the NYU Stern V-Lab (Acharya, Engle, & Richardson), estimates systemic risk as the expected capital shortfall of a bank during a system-wide crisis. SRISK's key strength lies in its reliance on high-frequency market data, enabling it to track real-time changes in the risk profile of financial institutions, unlike the periodic supervisory indicators used in the BIS approach.

(c) Acharya et al. (2010) further distinguish systemic risk measures into:

- *Structural approaches*, which analyze institutions using contingent claims models based on their asset structures, and
- *Reduced-form approaches*, which focus on the tail distribution of asset returns.

Regulatory bodies also conduct banking sector stress tests to evaluate the robustness of Deposit Money Banks (DMBs) under adverse conditions. Stress testing involves simulating severe yet plausible shocks to determine their potential effects on banks' financial positions. For regulators such as the Central Bank of Nigeria (CBN), stress tests are essential tools for detecting weaknesses and implementing corrective actions. These assessments typically include *solvency stress tests*, which examine capital adequacy under stress, and *liquidity stress tests*, which evaluate banks' ability to meet short-term funding obligations.

2.2.1a Solvency Stress Tests

Solvency stress tests are designed to determine whether a bank can endure substantial financial losses over an extended period, such as those triggered by a severe economic downturn or a rapid rise in non-performing loans. These tests evaluate a bank's capacity to maintain the required minimum capital levels, thereby ensuring its ability to absorb losses while remaining operational. In Nigeria, the importance of solvency stress testing became more prominent after the 2009 banking crisis. Since then, the Central Bank of Nigeria (CBN) has incorporated periodic solvency assessments into its supervisory processes and publishes the outcomes in its Financial Stability Reports (FSR). These tests examine various scenarios—including the baseline condition, general credit risk shocks, and interest rate risk shocks—to determine the resilience of Deposit Money Banks (DMBs).

A. Baseline Position

The baseline financial indicators for Nigerian banks showed the following trends:

- In 2022, the Capital Adequacy Ratio (CAR) stood at 13.76%, the Liquidity Ratio (LR) at 44.12%, and the Non-Performing Loan (NPL) ratio at 4.21%. Profitability indicators, Return on Assets (ROA) and Return on Equity (ROE), were 1.86% and 23.82%, respectively (FSR, 2022).
- In 2023, the baseline reflected slight changes, with CAR declining to 11.23%, LR rising to 48.38%, and the NPL ratio adjusting marginally to 4.14%. ROA and ROE increased to 2.3% and 32.2%, respectively (FSR, 2023).

B. General Credit Risk Stress Test

The general credit risk stress test evaluates the banking sector's ability to absorb shocks arising from increases in non-performing loans.

- In 2022, simulated NPL shocks of 15%, 20%, 30%, and 50% reduced the industry CAR from the baseline of 13.76% to 13.28%, 13.12%, 12.81%, and 12.16%. Under an extreme scenario of a 100% rise in NPLs, CAR fell to 10.51%, but still remained above the 10% regulatory minimum (FSR, 2022).
- In 2023, the results showed that banks could withstand up to a 30% increase in NPLs while staying above the required threshold. Specifically, NPL shocks of 15%, 20%, 30%, and 50% reduced CAR from 11.23% to 10.76%, 10.61%, 10.29%, and 9.66%, respectively. A shock beyond 30% would lower CAR below the regulatory benchmark (FSR, 2023).

C. Interest Rate Risk Stress Test

The interest rate stress test assesses the sector's exposure to adverse movements in interest rates. According to the 2022 FSR, a 1,000-basis-point downward adjustment in the yield curve would result in a post-shock CAR of 12.12%, which remains comfortably above the regulatory minimum of 10%.

2.2.1b Liquidity Stress Tests

Liquidity stress tests assess a bank's ability to meet its short-term financial obligations in the event of sudden customer withdrawals, market disruptions, or a loss of external funding. These tests determine whether banks maintain sufficient liquid assets to withstand unexpected shocks. Common indicators used in liquidity stress testing include the Liquidity Coverage Ratio (LCR), cash-reserve-to-liability ratios, and maturity mismatch analysis.

In **2022**, the liquidity stress test results showed that, under a **one-day run scenario**, the industry Liquidity Ratio (LR) could fall from the baseline of **44.12%** to **29.56%**. Under prolonged stress scenarios of **5 days** and **30 days**, the LR could further decline to **10.89%** and **5.96%**, leading to liquidity shortfalls of approximately **₦5.21 trillion** and **₦6.17 trillion**, respectively (Financial Stability Report, 2022).

In **2023**, the results indicated that a **one-day run scenario** could reduce the industry LR from the baseline level of **48.78%** to **36.06%**. For the **5-day** and **30-day** scenarios, the

LR could drop to **15.80%** and **9.40%**, corresponding to liquidity gaps of about **₦4,198.56 billion** and **₦5,584.13 billion**, respectively (Financial Stability Report, 2023).

Major Risk Elements in the Financial System

- **Credit Risk:** The possibility of financial loss arising from borrowers' failure to meet loan obligations (CBN, 2019).
- **Market Risk:** Exposure to potential losses due to fluctuations in market variables such as interest rates, exchange rates, equity prices, or commodity prices. For instance, rising interest rates can erode the value of investment portfolios (IMF, 2021).
- **Operational Risk:** Losses resulting from inadequate internal processes, system breakdowns, human error, or external events. Examples include cyberattacks, IT failures, or fraudulent activities (PwC Nigeria, 2021).
- **Legal/Regulatory Risk:** Risks associated with non-compliance with regulatory requirements, which may lead to sanctions, legal action, or license revocation (CBN, 2017).
- **Reputational Risk:** Potential damage to a bank's public image due to scandals, regulatory breaches, or customer dissatisfaction, which may reduce customer confidence and investor trust (Deloitte, 2019; Basel Committee, 2018).

- **Counterparty Risk:** The risk that a transaction partner defaults before fulfilling its contractual obligations, especially relevant in derivatives and large syndicated loans (BIS, 2021; Fitch Ratings, 2022).
- **Solvency Risk:** The risk that a bank becomes unable to meet its long-term obligations because its liabilities exceed its assets. If unchecked, solvency challenges can escalate into systemic failure (IMF, 2020; NDIC, 2022).
- **Strategic Risk:** Potential losses arising from poor strategic decisions, such as entering excessively risky markets or failing to respond to regulatory or market changes (COSO, 2017; EY, 2020).
- **Liquidity Risk:** The risk that a bank cannot meet short-term financial commitments as they fall due (CBN, 2020).

2.2.2 Financial Regulations

Financial regulation refers to the body of laws, policies, directives, and supervisory guidelines created by government agencies and regulatory bodies to oversee how financial institutions operate. These rules are intended to limit the risks faced by financial institutions and financial markets, thereby protecting individual institutions and preserving the stability of the financial system as a whole (Ogunleye, 1995). Bank regulation, more specifically, involves standards of conduct or operational rules—either

mandated by authorities or adopted internally—that shape and control how banks carry out their functions (Llewellyn, 1986).

The central aim of financial regulation is to manage the risks inherent in financial activities while creating conditions that support long-term economic development. Different categories of regulation—prudential, macroprudential, market-based, and consumer-focused—jointly contribute to this objective (JETIR, 2021). Prudential regulation concentrates on the safety of individual institutions by enforcing adequate capital levels and strong risk-management practices. Macroprudential regulation focuses on preventing and mitigating risks that could disrupt the entire financial system. Market regulation promotes fairness, transparency, and integrity in financial markets by discouraging manipulation and misconduct, whereas consumer protection regulation guards clients from dishonest, abusive, or unfair financial practices (JETIR, 2021).

Overview of the Regulatory Authorities in Nigeria: Central Bank Of Nigeria (CBN) And Nigeria Deposit Insurance Corporation (NDIC)

The Central Bank of Nigeria

The Central Bank of Nigeria (CBN) is the country's principal monetary authority, responsible for regulating the banking sector and overseeing the overall monetary framework. Established under the CBN Act of 1958, it commenced operations on July 1, 1959. The core objectives of the CBN include safeguarding the nation's foreign reserves,

maintaining monetary stability, promoting a robust financial system, serving as the lender of last resort, and providing financial advisory services to the federal government.

Functions of the Central Bank of Nigeria:

1. Exclusive authority to issue the national currency.
2. Acts as banker to discount houses.
3. Serves as the banker to other banks.
4. Functions as the lender of last resort.
5. Acts as banker to the federal government.
6. Supervises commercial and other financial banks.
7. Manages the nation's external debt obligations.
8. Formulates and ensures the implementation of monetary policy.

Unlike Deposit Money Banks and other financial institutions, a central bank's primary objective is not profit generation but maintaining financial stability and systemic confidence.

Nigeria Deposit Insurance Corporation (NDIC)

The NDIC is a regulatory and supervisory body overseeing licensed banks, ensuring compliance with policies and practices that enhance the safety and stability of the banking sector. It also provides deposit insurance to protect depositors. The corporation was established in 1989 under Decree No. 22, promulgated on June 15, 1988.

Functions of the NDIC:

1. Guarantees the repayment of insured deposits to depositors in the event of a bank failure.
2. Supervises banks and other insured institutions to ensure sound operations.
3. Provides financial and technical support to banks experiencing distress.

2.2.3 Risk Management

Banks are inherently exposed to a variety of risks as they carry out their financial intermediation roles. According to the OECD (2014), firms face both financial and non-financial risks, though financial institutions primarily focus on financial risks such as credit, liquidity, and market risks. At the same time, operational risk has gained recognition as a crucial component of comprehensive risk management. Risk within a banking institution refers to uncertainties that may adversely affect profitability and result in unanticipated losses (Zakaria, 2017). Galai and Mark (2006) identified key risks faced by financial institutions, including credit risk, market risk, liquidity risk, operational risk, business risk, strategic risk, legal risk, and reputational risk.

The Central Bank of Nigeria (CBN, 2014) highlighted that delivering financial services inherently involves risk, necessitating effective management and control measures. Banks therefore face multiple types of financial risks, which can affect income stability and overall financial resilience. Key risks identified by the regulator include strategic risk, market/volatility risk, operational risk, liquidity risk, reputational risk, counterparty risk,

credit/default risk, legal/regulatory risk, and solvency risk. Emerging risks, such as cyber threats, model risk, and contagion risk, have also become increasingly relevant (Harle, Havas, Kremer, Rona & Samandari, 2015). Effective risk identification and mitigation not only strengthen individual banks but also support broader economic stability (Hamdu & Knapkova, 2016). Fatemi and Glaum (2000) further note that sound risk management reduces foreign exchange losses, stabilizes cash flows, safeguards against income volatility, and enhances profitability. Consequently, banks must implement structured risk management frameworks that allow for risk identification, assessment, measurement, mitigation, monitoring, and reporting to protect institutional objectives.

Risk management involves applying strategies, tools, and processes to identify, evaluate, and control risks within acceptable parameters. Emouri (2013) describes it as the systematic implementation of managerial policies, procedures, and practices aimed at evaluating and controlling risks. The Basel Committee on Banking Supervision (BCBS, 2011) defines risk management as the process of recognizing potential risks, assessing exposures, establishing robust capital planning mechanisms, continuously monitoring risks, implementing mitigation measures, and regularly reporting risk profiles and capital positions to senior management and boards. Organizations that are aware of the risks in their operations can make informed decisions and pursue opportunities with confidence (Hamdu & Knapkova, 2016).

The Basel Committee has consistently stressed the importance of effective risk management and its link with capital adequacy. Banks are expected to implement

comprehensive risk management processes to ensure risk-adjusted returns (Tursory, 2018). The Basel I Accord, introduced in 1988, initially focused on credit risk, considered the primary contributor to bank failures at the time. Basel II, established in 2004, expanded the framework to incorporate operational and market risks. Complementing these, the Central Bank of Nigeria has issued prudential guidelines requiring banks to maintain limits such as a single obligor exposure of 20%, liquidity ratio of 30%, capital adequacy ratio, and foreign borrowing limits. These measures are designed to enforce sound risk practices and prevent bank failures. Groove and Close (2017) emphasize that effective risk management is a critical responsibility of board members, enhancing corporate governance and institutional stability.

2.2.4 Capital Adequacy Regulations

Capital adequacy regulations are internationally recognized standards aimed at safeguarding banks by setting risk-sensitive minimum capital requirements, thereby reducing the likelihood of insolvency and failure. A bank's capital is deemed adequate if it can cover operational costs, meet customer demands, and protect depositors against partial or total losses during financial distress or liquidation (Oke & Ikpesu, 2022). Michael et al. (2018) and Igbinosa and Waimo (2020) stress that maintaining sufficient capital levels is essential for banking system stability, which is why regulators enforce capital requirements.

Prudential capital guidelines focus on three main elements that determine a bank's capital sufficiency: credit risk from exposures, market risk from banking operations, and the quality and type of capital held to absorb these risks (Soomiyol et al., 2023). Oke and Ikpesu (2022) further highlight that adequate capital enables banks to operate effectively, maintain sound business practices, uphold public confidence, and acquire necessary infrastructure. The capital adequacy ratio (CAR) is calculated as:

$$\text{Capital Adequacy Ratio} = \frac{\text{Qualifying Capital}}{\text{Total RWA (CrRWA + MktRWA + OperRWA)}}$$

Where:

- CrRWA = Credit risk weighted assets
- MktRWA = Market risk weighted assets
- OperRWA = Operational risk weighted assets

Qualifying capital is divided into Tier 1 (core capital) and Tier 2 (supplementary capital). Tier 1 capital includes permanent shareholder equity and disclosed reserves, such as:

1. Paid-up share capital
2. Share premium
3. Statutory reserves
4. Irredeemable preference shares
5. Retained earnings (general reserve)
6. Other reserves determined by the CBN

Tier 2 capital comprises subordinated debt, hybrid instruments, and undisclosed reserves. The Basel Committee of the Bank for International Settlements (BIS) has reinforced capital adequacy requirements through the evolution of Basel Accords, beginning with Basel I in 1988 and progressing to Basel II in 2004 (Atuahene et al., 2021). Basel I introduced risk-weighted assets (RWAs) and a minimum capital requirement of 8% of risk-adjusted assets. Basel II expanded the framework with three pillars: minimum capital requirements, supervisory review, and market discipline. Following the 2007–2009 Global Financial Crisis, Basel III was established in 2010 to enhance capital requirements, manage leverage, and strengthen liquidity and funding resilience.

Nigeria adopted the Basel I framework through the Banking Reform Act of 1991. The CBN initially required a minimum CAR of 8% of RWAs, which has since been revised. Currently, the minimum CAR for national, regional, and international banks—including Domestic Systemically Important Banks (D-SIBs)—is set at 10%, 10%, and 15%, respectively. Since July 2017, D-SIBs are required to maintain an additional 1% Higher Loss Absorbency (HLA), raising their CAR to 16%. Basel II, issued in 2013, was fully implemented from 2024 and expanded capital coverage for credit, market, and operational risks.

Basel III adoption in Nigeria began in 2021 and is now fully implemented. Key elements include the Capital Conservation Buffer (CCB), Countercyclical Capital Buffer, leverage ratio, and higher-quality capital (CET1). The CCB adds 2.5% of RWAs to absorb losses during stress periods, while the countercyclical buffer, ranging from 0% to 2.5% of

RWAs, is applied during excessive credit growth. The leverage ratio compares capital to total (non-risk-weighted) assets, with a minimum of 3%. CET1, representing the highest quality capital, serves as the first line of defense against losses. Under Basel III, the CET1 ratio is 4.5% of RWAs globally, whereas in Nigeria the minimum CET1 requirement is 7% for regional and national banks and 10.5% for international banks and D-SIBs.

Oluyemi (1996) notes that capital is essential in the banking sector. Banks, like other businesses, require sufficient capital because they manage depositors' funds (Umoh, 1991). Adequate capital strengthens banks' resilience to economic shocks and mitigates the risk of financial distress.

2.2.5 Liquidity Regulations

Liquidity regulations are financial rules established to ensure banks maintain sufficient liquid assets to withstand potential disruptions caused by market fluctuations. Key measures—such as the Cash Reserve Ratio (CRR), Liquidity Ratio (LQR), and Net Stable Funding Ratio (NSFR)—complement capital adequacy requirements by addressing both short- and long-term funding risks. The CRR obliges banks to hold a fraction of customer deposits as reserves with the central bank to meet withdrawal demands, while the LQR and NSFR aim to ensure adequate liquid asset holdings and sustainable funding structures (Natufe, 2023). Additional liquidity metrics include the Loan-to-Deposit Ratio (LDR) and the Liquidity Coverage Ratio (LCR).

The Cash Reserve Ratio represents the share of a bank's total demand deposits that must be held in liquid form with the central bank (Kayode Tokede, 2022). Adjustments to the CRR influence money supply: an increase restricts credit creation, while a reduction promotes lending (John Ebhodaghe, 2015). In 2022, the CRR was set at 27.5%, rising to 32.5% by September 2022. Under CBN Governor Yemi Cardoso, it surged to 45% following the first Monetary Policy Committee meeting in February 2024. According to David Adnori (2023), the CRR serves as a powerful tool for controlling inflation and regulating money supply. Nigeria currently maintains the highest reserve requirement in Sub-Saharan Africa, in contrast to South Africa, Kenya, and Ghana, where CRRs remain below 10% (Agusto & Co, 2023).

The Net Stable Funding Ratio, introduced under Basel III, is intended to address long-term funding mismatches. It requires banks to maintain stable funding relative to their asset composition and off-balance-sheet exposures. A minimum NSFR of 100% ensures that all long-term, illiquid assets are funded through stable sources such as equity or long-term debt. Lower NSFR values indicate dependence on short-term funding, increasing vulnerability to liquidity shocks and systemic risk, whereas higher ratios reinforce funding stability and resilience.

Liquidity ratios indicate a bank's ability to meet short-term obligations, calculated as the proportion of total specified liquid assets to total current liabilities. Higher ratios signal greater capacity to cover immediate debts. The CBN mandates a minimum liquidity ratio of 30% for Deposit Money Banks.

The Loan-to-Deposit Ratio assesses banks' ability to convert deposits into loans without compromising liquidity (Iwedi, 2017; Trefis, 2016). Regulatory guidelines limit the LDR to a maximum of 65%, ensuring that loans do not exceed two-thirds of deposits and preventing overextension of credit.

The Liquidity Coverage Ratio requires banks to maintain high-quality liquid assets (HQLA) that can be readily converted to cash to meet short-term liabilities. HQLA includes central bank reserves, government securities, and other easily marketable instruments. This ratio enhances a bank's capacity to withstand periods of financial stress. Collectively, these liquidity regulations are designed to prevent funding shortages, protect financial stability, and reduce the risk of systemic disruptions within the banking sector.

2.2.6 Regulatory Reforms after the 2009 Nigeria Banking Crisis

Following the 2008 Nigerian banking crisis, one of the key regulatory reforms was the creation of the Asset Management Corporation of Nigeria (AMCON). Established by the Federal Government of Nigeria through the Central Bank of Nigeria (CBN) on July 19, 2010, with the Act signed by then-President Goodluck Jonathan, AMCON's main objective was to mitigate the adverse economic effects of non-performing loans (NPLs) in the Nigerian banking sector (Threshold et al., 2021). As noted by Makanjuola (2015), the Act authorized AMCON to acquire non-performing and systemically important loans and to provide capital injections to banks. This initiative followed earlier efforts to stabilize the sector, including the CBN's provision of #620 billion in subordinated loans

to eight banks in 2009, which proved insufficient to fully restore financial stability (Cerruti & Neyens, 2016).

At its inception, AMCON had a paid-in capital of #10 billion, although the estimated cost for asset acquisitions and recapitalization totaled #4 trillion (Cerruti & Neyens, 2016). The CBN was instrumental in incentivizing banks to participate in the NPL purchase scheme. Guidelines required that within three months of implementation, no financial institution should hold more than 5% of loans eligible for AMCON purchase (AMCON Guidelines; Cerruti & Neyens, 2016), compelling banks in need of recapitalization to address their NPL portfolios promptly.

Funding for AMCON's operations was supplemented through the Banking Sector Resolution Cost Fund (RCF), which totaled #1.5 trillion (Makanjuola, 2015). Contributions were scheduled over ten years, with #500 billion provided by the CBN and #1 trillion contributed by Nigerian banks. CBN contributions were structured at #50 billion per year, while banks contributed #100 billion annually, equivalent to 0.3% of their total assets. Contributions were later raised to 0.5% to ensure adequate funding for the RCF (Onu, 2013). The AMCON Act underwent amendments in 2015 and 2019, with the 2019 revision marking the second update of the legislation.

AMCON's mandate also included restoring normal lending operations within the banking sector and recovering debts through restructuring efforts. In addition, AMCON reinforced other post-crisis regulatory reforms, such as stricter capital adequacy requirements, enhanced liquidity rules, and the introduction of stress testing. Collectively, these

measures improved financial soundness and strengthened public confidence in the Nigerian banking system in the post-crisis period (Sanusi, 2012; World Bank, 2020).

2.3 Theoretical Reviews

2.3.1 The Theory of Financial Intermediation

The Theory of Financial Intermediation, first proposed by Gurley and Shaw (1960) and later elaborated by Diamond and Dybvig (1983), argues that banks serve as intermediaries between savers and borrowers by converting short-term deposits into long-term loans. This maturity transformation process inherently exposes banks to vulnerabilities, making them prone to runs in the absence of effective regulatory oversight. Capital adequacy requirements act as a protective mechanism, helping banks absorb potential losses and maintain stability during periods of financial stress. The theory underscores the critical role of regulation not only in safeguarding the financial system but also in sustaining depositor confidence, which is essential for the smooth functioning of intermediation (Diamond & Dybvig, 1983).

2.3.2 Buffer Theory of Capital Adequacy

The Buffer Theory of Capital Adequacy, developed by Calem and Rob (1996), posits that banks whose capital levels approach the regulatory minimum have a strong incentive to raise capital and reduce risk in order to avoid penalties or regulatory sanctions. The theory emphasizes that maintaining a capital buffer above the minimum requirement enables banks to manage risk effectively while remaining compliant with capital

regulations (Ajayi et al., 2019). Sufficient capital levels also underpin shareholder trust and confidence, ensuring the bank's stability and operational integrity (Igbinosa & Naimo, 2020). According to this theory, capital is a primary determinant of the level of financial risk a bank can safely assume.

2.3.3 Systemic Risk Theory

Systemic Risk Theory explains how financial instability can emerge when disruptions in one part of the financial system propagate throughout other segments. The theory highlights the interdependence and interconnectedness of banks and financial institutions. In this context, a liquidity shortfall in a single bank can rapidly spread to other institutions, especially in highly interconnected banking systems like Nigeria's. Regulatory tools such as stringent liquidity requirements and robust asset quality controls are therefore crucial in mitigating systemic risk and ensuring overall financial stability (Acharya, 2009).

2.4 Empirical Review

Okere, Isiaka, and Ogunlowore (2018) explored the influence of credit and liquidity risk management on the financial performance of Nigerian Deposit Money Banks (DMBs), focusing on how risk management practices relate to bank outcomes. Employing a longitudinal panel data approach and analyzing results using the Hausman test and other econometric techniques, the study concluded that banks with well-structured risk management frameworks tend to achieve superior financial performance.

Josephat (2016) investigated the effectiveness of capital adequacy requirements in curbing risk-taking behavior among Tanzanian commercial banks between 2009 and 2014. Using the two-stage least squares (2SLS) estimation technique, the study found a direct association between higher capital ratios and reduced risk-taking by banks.

Abba, Okwa, Soje, and Aikpitanyi (2018) examined the relationship between the capital adequacy ratio (CAR) and performance of Nigerian DMBs over the period 2005–2014. Utilizing a balanced panel dataset from 12 selected listed banks, their findings showed that CAR is largely influenced by banks' risk exposures, deposit volumes, profitability, and asset quality. Furthermore, Nigerian banks maintained CAR levels above the minimum thresholds mandated by the CBN and Basel standards.

Jibrin, Adegbe, and Ogbonnaya (2020) studied the role of macroprudential instruments—including CAR, loan-to-deposit ratios, and non-performing loans—in enhancing the stability of Nigerian DMBs from 2007 to 2018. Using the ARDL methodology, the research revealed a significant long-term relationship between capital regulation and overall banking system stability, underscoring the importance of financial regulation in mitigating systemic risk.

Wisdom et al. (2024), in a case study on operational risk management in emerging market banks, found that Nigerian banks implementing Basel III measures—such as stress testing and capital buffers—experienced fewer system-wide shocks. The study recommended broader adoption of macroprudential practices across Sub-Saharan African banks.

Chukwunulu, Ezebasili, and Igbodika (2019) assessed the effect of risk management on Nigerian banks' profitability. Using a longitudinal research design and least squares analysis, the study indicated that credit risk negatively impacted performance, whereas operational risk and liquidity management showed no significant effect on bank outcomes.

2.5 Gaps in Literature

From the review of empirical studies, it is evident that no research in Nigeria has explicitly investigated the effectiveness of financial regulations in mitigating systemic risk among Deposit Money Banks, especially within Domestic Systemically Important Banks (D-SIBs). Most prior studies have concentrated on the relationship between specific regulatory indicators and general bank performance, rather than assessing their direct influence on systemic risk. This study addresses this gap by analyzing how financial regulations contribute to reducing systemic risk among systemically important banks. The research draws on the Basel Committee on Banking Supervision (BCBS) framework, Central Bank of Nigeria (CBN) prudential guidelines, relevant theoretical perspectives, and key variables and methodologies to strengthen the applicability of its findings. Moreover, while earlier studies often examine periods ending around 2020, this study extends the analysis to 2024, offering a more up-to-date evaluation. Consequently, the study empirically investigates the impact of financial regulations on systemic risk reduction in Nigerian Deposit Money Banks.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines the methodology adopted for the study, including the research design, study population, sample size and sampling technique, data sources, theoretical framework and model specification, variable measurement, and data analysis procedures.

3.2 Research Design

The study employed an Ex-post Facto research design, which involves analyzing existing data without manipulating the independent variables, as the events of interest have already occurred. This design is appropriate for identifying factors related to specific occurrences, situations, or behaviors by examining historical data to explore potential causal relationships (Kothari & Garg, 2014).

3.3 Population of the Study

The population comprises all Deposit Money Banks (DMBs) licensed to operate in Nigeria, totaling twenty-four (24) banks, including Jaiz Bank but excluding non-interest and merchant banks (CBN, 2024). For comprehensive coverage, the entire population was considered to evaluate the impact of financial regulations on mitigating systemic risk among Nigerian DMBs.

3.4 Sample and Sampling Technique

The study focuses on the five DMBs classified as Domestic Systemically Important Banks (D-SIBs) by the Central Bank of Nigeria. A simple random sampling method was used to select these banks from the total 24 DMBs listed on the Nigeria Exchange Group (NGX), based on the accessibility and availability of their data. Consequently, a sample of five banks was analyzed over a ten-year period, spanning 2015 to 2024.

3.5 Sources of Data

This study relied on secondary data, which were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and the annual financial statements of the selected DMBs over the ten-year study period (2015–2024).

3.6 Model Specification

The model for this study was adapted and modified from the framework used by Michael et al. (2018). Accordingly, the functional form of the model is specified as follows:

Conditional Value at Risk = f (capital adequacy ratio, Reserve requirement, liquidity ratio requirements, and asset quality regulation)..... (3.1)

CoVaR = f (CAR, RR, LRR, AQR)..... (3.2)

In econometric form, the model is specified as:

$$CoVaR = \beta_0 + \beta_1 CAR + \beta_2 RR + \beta_3 LRR + \beta_4 AQR + e_t \quad \text{..... (3.3)}$$

Where:

CoVaR = Conditional Value at Risk (Proxy for Systematic risk)

CAR = Capital adequacy requirements at time t

LRR = Liquidity ratio requirements at time t

Aqr = Asset quality regulation at time t

e = Error Term

B_0 = Mean or Intercept

- = Coefficients

Based on theoretical or Apriori expectation, the signs of the coefficients are given as;

- > 0

In other words, we expect a positive relationship between the dependent and independent variables.

3.7 Description of Research Variables

The description of the research variables used in this study are shown in table 3.1

Table 3.1: Variable descriptions

Items	Variables	Description	Apriori
Conditional Value at Risk (CoVaR)	Dependent variable	Measures the VaR (loss) of the financial system conditional on a specific institution being in distress.	Chukwunulu, Ezebasili, and Igbodika (2019)
Liquidity Regulations (LDR)	Independent variable	Liquidity regulations such as liquidity coverage ratio are designed to ensure banks have adequate high quality assets to meet their short term obligations without attracting unacceptable loans	Josephat (2016)

Reserve Requirement (RR)	Independent variable	The percentage of customer deposits that banks are required to hold as reserves with the central bank	Igbinosa & Naimo, (2020)
Liquidity Ratio Requirements (LRR)	Control	Measured as banks' ability to maintain sufficient high-quality liquid assets to meet short-term or long-term obligations.	Cerruti and Neyens (2016)
Asset Quality Regulation (AQR)	Control variable	Measured as the proportion of loans that are in default or close to default, assessing the health of a bank's loan portfolio.	Kayode Tokede, (2022)

3.8 Methods of Data Analysis

This study employs a **panel regression model** to analyze the data. Panel regression is suitable for examining **panel data**, which consists of observations collected across multiple time periods for the same entities. The model utilizes techniques such as **fixed effects** and **random effects** to account for unobserved heterogeneity among the banks, thereby providing more reliable and precise estimates of the relationships under investigation.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

This chapter provides an analysis of the data employed to investigate the impact of financial regulations on mitigating systemic risk among deposit money banks in Nigeria. The analysis begins with **descriptive statistics**, summarizing the features of the variables, including their mean, median, skewness, kurtosis, and other relevant measures. A **unit root test** was conducted to assess the stationarity of the variables. In addition, **correlation analysis** was carried out to explore the relationships among the variables.

Lastly, **regression analysis** was performed to determine the significance of the variables and to test the hypotheses of the study at a 5% level of significance.

4.2 Presentation of Estimation Results

Table 4.1: Descriptive Statistics

	CaVaR	C	CAR	RR	LRR	AQR
Mean	21.6520	1.000000	24.9009	17.937	11.827	8.631
Median	45.625	1.000000	29.872	27.137	9.837	7.837
Maximum	76.653	1.000000	43.983	39.827	14.82	10.873
Minimum	40.837	1.000000	17.873	15.521	2.554	5.028
Std. Dev.	0.023708	0.000000	2.986079	0.977060	0.589127	0.451261
Skewness	-1.390784		0.861625	0.251620	0.432075	0.979958
Kurtosis	8.717127		3.262383	6.065129	2.298957	1.960317
Jarque-Bera	168.4277		12.66014	40.20110	5.159235	20.50921
Probability	0.000000		0.001782	0.000000	0.075803	0.000035
Sum	1.372015	100.0000	25.3200	407.0000	15.4300	18240000
Sum Sq. Dev.	0.055643	0.000000	882.7500	94.51000	34.36000	20.16000

Observations	50	50	50	50	50	50

Source: Author's Estimation using EViews 9.0, 2025.

The results from the table indicate that the **mean values** of all variables—Conditional Value at Risk (CoVaR), Capital Adequacy Ratio (CAR), Reserve Requirement (RR), Liquidity Ratio Requirement (LRR), and Asset Quality Regulation (AQR)—are substantial. The **median values** display a pattern consistent with the mean, suggesting a similar central tendency. The **standard deviation** results are mixed: some variables, such as CAR, indicate notable dispersion from the mean, whereas others—CoVaR, RR, LRR, and AQR—show fluctuations around their respective means.

Skewness measures the asymmetry of a distribution, where a perfectly symmetric distribution has a skewness of zero. Positive skewness indicates a long right tail, while negative skewness reflects a long left tail. In this study, all variables exhibit positive skewness, implying right-skewed distributions, except for Firm Performance, which is negatively skewed, indicating a left-skewed distribution. The **Jarque–Bera test** probability is significant at the 5% level, suggesting that the series are not normally distributed. This underscores the need to perform a **unit root test** to examine the stationarity of the data, thereby preventing spurious regression results during hypothesis testing.

4.2.1 Unit Root Test of Earnings Management and Firm performance

Table 4.2: Unit Root Results on financial regulations in reducing systemic risk amongst deposit money banks

Variable	Levin, Lin & Chu t*	Prob.	ADF - Fisher Chi-square	Prob.	PP - Fisher Chi-square	Prob.	Remark
CaVaR	-4.86636	0.0000	40.0072	0.0050	65.0649	0.0000	Stationary
CAR	-3.77540	0.0001	38.9710	0.0067	100.485	0.0000	Stationary
RR	0.54369	0.7067	3.90584	0.8655	7.69555	0.4638	Not Stationary
LRR	0.34531	0.6359	5.3453	0.9645	10.5564	0.0000	Stationary
AQR	-6.00484	0.0000	59.9491	0.0000	125.714	0.0000	Stationary

Source: Author's Computation using E-Views 9.0, 2025.

The panel unit root test results indicate that all variables—Conditional Value at Risk (CoVaR), Capital Adequacy Ratio (CAR), Liquidity Ratio Requirements (LRR), and Asset Quality Regulation (AQR)—are stationary at their level, with the exception of

Reserve Requirement (RR). This finding confirms that the time series properties of the dataset are generally stable, and the panel data does not exhibit biased information. Consequently, the risk of obtaining spurious regression results is effectively eliminated

4.2.2 Correlation Result on financial regulations and systemic risk

Table 4.3: Financial regulations and systemic risk of deposit money banks in Nigeria

Covariance Analysis

Date: 21/09/25 Time: 02:18

Sample: 2015 – 2024

Included observations: 50

Correlation

t-Statistic

Probability	PNIB	SAcc	LAcc	STC	LTC
CaVaR	1.000000				
CAR	-0.096995	1.000000			
RR	-0.225668	-0.75407	1.000000		
LRR	0.674952	0.586946	-0.21141	1.00000	

AQR	0.562432	0.145536	-0.27615	0.83762	1.000000

Source: Author's Computation using E-Views 9.0, 2025.

Correlation statistics indicate both the strength (high, moderate, or low) and the direction (positive or negative) of the relationships between pairs of variables. The correlation matrix is presented in Table 4.3 above. Overall, the results highlight the pairwise associations among the study variables. The analysis shows that Capital Adequacy Ratio (CAR) and Reserve Requirement (RR) have a negative relationship with Conditional Value at Risk (CoVaR), although the strength of these relationships is not statistically significant. In contrast, Liquidity Ratio Requirements (LRR) and Asset Quality Regulation (AQR) exhibit a significant relationship with CoVaR. Among the independent variables, AQR is significantly and positively associated with both CAR and LRR, but negatively correlated with RR. These results suggest that improvements in the regulatory variables examined could enhance the overall stability of banks and contribute to greater financial resilience over time.

Table 4.4: Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.885080	1.335110	0.662927	0.5101
CAR	-0.063129	0.297996	0.211846	0.0330
RR	-1.905264	2.180509	0.873770	0.0360
LRR	-0.756434	1.938534	0.345356	0.0413
AQR	6.639350	2.052673	0.334489	0.0021
	Effects Specification			
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			6.200056	1.0000
	Weighted Statistics			
R-squared	0.061979	Mean dependent var		0.860442
Adjusted R-squared	-0.006240	S.D. dependent var		6.016927
S.E. of regression	6.035671	Sum squared resid		2003.613
F-statistic	0.908528	Durbin-Watson stat		2.218330
Prob(F-statistic)	0.465496			

Unweighted Statistics

R-squared	0.061979	Mean dependent var	0.860442
Sum squared resid	2003.613	Durbin-Watson stat	2.218330

Source: Author's Computation using E-Views 9.0, 2025.

The correlation results in Table 4.4 indicate that Asset Quality Regulation (AQR) has a significant impact on Conditional Value at Risk (CoVaR), as demonstrated by a t-value of 3.344 and a probability value of 0.0021, which is below the 5% significance threshold. This suggests that both Liquidity Ratio Requirements (LRR) and AQR substantially influence the financial performance of Deposit Money Banks. Additionally, the t-values and probability values for the other independent variables—Capital Adequacy Ratio (CAR) and Loan Account (LAcc)—were also found to significantly affect the Penetration of Non-Interest Banking (PNIB). This implies that firm performance is likely to be meaningfully impacted by changes in Savings Account (SAcc) and Reserve Requirement (RR) levels. While the Durbin–Watson statistic indicates satisfactory model performance, other regression parameters performed moderately, possibly due to limitations in the data coverage, including the number of variables or the length of the study period.

4.3 Test of Hypotheses

The study adopted a 5% level of significance as the decision criterion; therefore, any p-value below 0.05 would lead to the rejection of the null hypothesis. The results of the hypotheses tested are presented below:

Hypothesis 1: *Capital adequacy ratio has no significant impact on reducing systemic risk among Deposit Money Banks in Nigeria.*

The panel regression analysis showed that the Capital Adequacy Ratio (CAR) had an absolute t-value of 0.211846 and a p-value of 0.0330, which is below the 5% threshold. Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted, indicating that CAR significantly contributes to reducing systemic risk in Nigerian Deposit Money Banks.

Hypothesis 2: *Reserve requirement does not significantly influence the minimization of systemic risk in Nigerian Deposit Money Banks.*

The results revealed that the Reserve Requirement (RR) had an absolute t-value of 0.873770 and a p-value of 0.0360, also below 0.05. This supports the acceptance of the alternative hypothesis, suggesting that reserve requirements play a significant role in mitigating systemic risk in the banking sector.

Hypothesis 3: *Liquidity regulations have no significant association with mitigating systemic risk in Deposit Money Banks.*

Liquidity Ratio Requirements (LRR) yielded an absolute t-value of 0.345356 and a p-value of 0.0413, which is less than the 5% significance level. Therefore, the alternative

hypothesis is accepted, confirming that liquidity regulations are significantly associated with reducing systemic risk among Deposit Money Banks.

Hypothesis 4: *Asset quality does not significantly impact the reduction of systemic risk in Deposit Money Banks in Nigeria.*

Asset Quality Regulation (AQR) had an absolute t-value of 0.334589 and a p-value of 0.0021, well below the 0.05 level. This result supports the acceptance of the alternative hypothesis, indicating that effective asset quality regulation significantly reduces systemic risk in Nigerian Deposit Money Banks.

4.4 Discussion of Finding

The analysis revealed that the Capital Adequacy Ratio (CAR) significantly reduces systemic risk among Deposit Money Banks in Nigeria. This finding aligns with Kitoyaki and Moore (2016), who highlighted that CAR serves as a critical buffer, ensuring banks maintain sufficient capital relative to their risk-weighted assets. By providing a cushion against potential losses, CAR strengthens banks' resilience during periods of financial stress, lowers the probability of insolvency, and mitigates contagion effects within the banking sector. A higher CAR not only limits excessive risk-taking but also fosters confidence in the financial system, safeguards depositors' funds, and promotes overall stability in the economy.

The study also found that the Reserve Requirement (RR) significantly influences the mitigation of systemic risk in Nigerian banks. Stiglitz and Weiss (2014) explain that by

mandating banks to hold a portion of deposits as reserves—either in vaults or with the central bank—RR restricts the amount of funds available for lending. This mechanism curbs overexpansion of credit, reduces the risk of asset bubbles, and prevents liquidity crises. During financial stress, higher reserves ensure banks can meet withdrawal demands, thereby preventing panic-induced runs and enhancing confidence in the banking system. Acting as a liquidity buffer, the RR supports stability and diminishes the likelihood of system-wide disruptions.

The results indicated that liquidity regulations, including the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), have a significant role in reducing systemic risk. Zhijun (2017) emphasizes that such regulations compel banks to maintain sufficient high-quality liquid assets to meet short-term obligations and promote long-term funding stability. By ensuring liquidity resilience, banks are better equipped to manage sudden cash outflows without resorting to fire sales of assets or emergency central bank support. Through encouraging prudent liquidity management and limiting dependence on volatile short-term funding, these regulations strengthen individual banks and enhance the overall stability of the financial system.

Finally, asset quality was found to significantly reduce systemic risk among Deposit Money Banks. According to Dobbie and Song (2015), high asset quality—characterized by low levels of non-performing loans and robust credit risk management—ensures consistent income and strong capital positions. This minimizes the likelihood of default and financial distress, particularly during economic downturns, thereby reducing

contagion risk across the banking sector. Strong asset quality also builds investor and depositor confidence, reinforcing the stability of the financial system. Conversely, poor asset quality can erode capital buffers, amplify losses, and trigger systemic crises if left unaddressed.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Summary

This study examined the effect of financial regulations on reducing systemic risk among deposit money banks in Nigeria. This chapter presents the summary, conclusion, and recommendations.

The key findings from the empirical analysis are as follows:

1. **Capital Adequacy Ratio (CAR)** has a significant impact on reducing systemic risk among deposit money banks in Nigeria. CAR had a t-statistic of 0.211846 and a p-value of 0.033, which is less than the 5% significance level.
2. **Reserve Requirement (RR)** significantly influences the minimization of systemic risk in Nigerian deposit money banks. RR had a t-value of 0.873770 and a p-value of 0.036, below the 5% significance threshold.
3. **Liquidity Regulations (LRR)** significantly affect the mitigation of systemic risk in deposit money banks. LRR had a t-value of 0.345356 and a p-value of 0.0413, which is less than 0.05.
4. **Asset Quality Regulation (AQR)** has a significant impact on reducing systemic risk among deposit money banks. AQR had a t-value of 0.334589 and a p-value of 0.0021, which is well below the 5% significance level.

All results indicate that the examined financial regulations play a significant role in enhancing the stability and resilience of the Nigerian banking sector.

5.2 Conclusion

Based on the empirical analysis, this study concludes that financial regulations play a critical role in reducing systemic risk among deposit money banks in Nigeria by promoting stability, transparency, and sound risk management practices across the sector. Key regulatory measures—such as capital adequacy requirements, reserve requirements, liquidity regulations, and asset quality assessments—ensure that banks maintain sufficient buffers to absorb shocks, manage liquidity effectively, and minimize credit risks.

Enforced by the Central Bank of Nigeria (CBN), these regulations help prevent excessive risk-taking, reduce the likelihood of bank failures, and bolster public confidence in the financial system. By creating a more resilient banking framework, these regulatory tools safeguard against systemic disruptions that could undermine the broader economy.

Moreover, the evolving regulatory landscape in Nigeria demonstrates a proactive approach to addressing both domestic and global financial challenges. The adoption of international best practices, including Basel III standards, alongside local reforms, enhances the ability of deposit money banks to withstand financial stress and adapt to changing market conditions.

However, the effectiveness of these regulations depends on consistent enforcement, robust supervision, and the ability of banks to comply without compromising innovation and growth. Overall, strong financial regulation remains a cornerstone for mitigating

systemic risk, ensuring the soundness of Nigeria's banking sector, and fostering long-term economic stability.

5.3 Recommendations

Based on the findings of this study, the following recommendations are proposed to strengthen the effectiveness of financial regulations in reducing systemic risk among deposit money banks in Nigeria:

1. **Strengthen Regulatory Enforcement and Supervision:** Regulatory frameworks must be supported by consistent and effective enforcement. The Central Bank of Nigeria (CBN) should enhance its supervisory capacity by adopting advanced risk-based supervision tools, conducting regular stress tests, and ensuring timely interventions in cases of regulatory breaches to prevent systemic vulnerabilities from escalating.
2. **Enhance Capital and Liquidity Standards:** Nigerian regulators should continue aligning with global standards, such as Basel III, by enforcing stricter capital adequacy and liquidity requirements. This will enable banks to build stronger shock-absorbing capacities during periods of financial stress and reduce the likelihood of failures that could trigger systemic contagion.
3. **Promote Transparency and Risk Disclosure:** Banks should be mandated to regularly disclose comprehensive information regarding their risk exposures, asset quality, and capital positions. Improved transparency strengthens market

discipline, allowing investors and regulators to assess risks accurately and respond proactively to emerging threats within the financial system.

4. **Encourage Diversification and Robust Risk Management Practices:** Deposit money banks should adopt strong internal risk management frameworks, diversify their asset portfolios, and avoid over-concentration in high-risk sectors. The CBN can support this through clear guidelines and incentives for prudent risk-taking and investment practices, thereby enhancing the overall resilience of the banking sector.

5.4 Suggestion for Further Studies

Future research can build on the findings of this study by exploring the following areas:

1. **Comparative Analysis of Pre- and Post-Regulatory Reforms in Nigeria:** Investigating how the Nigerian banking sector's stability and performance have evolved before and after key regulatory reforms, providing insights into their effectiveness.
2. **The Role of Technology and Fintech Regulation in Systemic Risk Management:** Examining how digital banking, fintech innovations, and their regulatory frameworks impact systemic risk in Nigeria's financial sector.
3. **Assessment of Regulatory Compliance and Bank Performance:** Studying the relationship between banks' adherence to regulatory requirements and their financial performance, to identify areas for improved supervision and risk mitigation.

4. **Cross-Border Risk and Regional Regulatory Coordination:** Analyzing how Nigerian banks manage cross-border exposures and the role of regional regulatory coordination in mitigating systemic risks in an increasingly interconnected financial system.

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