

Monetary Policy and Bank Performance in Nigeria

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Abstract: This study investigates the impact of monetary policy and banking intermediation variables on the performance of deposit money banks in Nigeria over the period 1960 to 2024. Bank performance is measured using return on assets (ROA), while the independent variables include monetary policy rate (MPR), money supply rate (MSR), real interest rate (RIR), credit ratio (RER), loan-to-deposit ratio (LTDR), and cash reserve ratio (CRR). The study employs an ex-post facto research design using secondary data sourced from the Central Bank of Nigeria Statistical Bulletin and the Nigerian Bureau of Statistics. The autoregressive distributed lag (ARDL) approach is utilized to examine both short-run and long-run dynamics, following stationarity, lag length selection, and bounds cointegration tests to ensure robust estimation. The results indicate that the monetary policy rate (MPR) and cash reserve ratio (CRR) exert significant negative effects on bank profitability, reflecting the restrictive impact of higher interest rates and regulatory liquidity requirements on banks' earning assets. In contrast, the money supply rate (MSR), credit ratio (RER), and loan-to-deposit ratio (LTDR) have positive and statistically significant effects on ROA, demonstrating that greater liquidity and efficient intermediation enhance bank performance. The real interest rate (RIR) exhibits a negative but marginally significant impact, suggesting a limited short- and long-run influence on profitability. The ARDL error correction results reveal a stable long-run equilibrium, with the error correction term indicating that deviations from equilibrium adjust rapidly over time. The findings are consistent with Keynesian liquidity preference theory, the monetary transmission mechanism, and credit channel theory, highlighting the interplay between macroeconomic policy and bank operational efficiency. Based on these results, the study recommends that policymakers adopt a balanced monetary policy to avoid undue constraints on bank profitability, while banks should optimize credit deployment, manage deposits effectively, and strategically respond to policy changes.

Key words: Monetary policy, Bank performance, Return on assets, ARDL, Nigeria, Credit intermediation, Liquidity management.



1. Introduction

Since independence, the banking system in Nigeria has undergone a series of transformative phases i.e. colonial-era banking, post-independence nationalization, structural adjustment periods, liberalization, consolidation, regulatory reform and more recently, aggressive macro-prudential and monetary-policy interventions by the Central Bank of Nigeria (CBN). Over decades, deposit money banks (DMBs) have played a pivotal role in financial intermediation: mobilizing savings, channeling credit to private and public sectors, and underpinning economic growth. The survival of banks through periods of macroeconomic volatility, exchange-rate shocks, inflation surges and structural reforms reflects their resilience and centrality to Nigeria's development agenda. In response to global and domestic financial crises, as well as fiscal and external-sector pressures, the CBN has frequently adjusted its monetary policy toolkit, including the monetary policy rate (MPR), cash-reserve requirements (CRR), broad money supply (M2), liquidity requirements, and other regulatory instruments - to influence credit allocation, control inflation and steer macroeconomic stability. Indeed, in recent years, sharp hikes in CRR and adjustments in MPR have drawn attention to their impact on banks' liquidity, lending capacity, and reserve holdings (CBN, 2024; Nairametrics, 2024). These developments have created a complex policy environment in which banks must navigate conflicting mandates of liquidity regulation, financial stability, and profitability.

In this dynamic institutional setting, there is growing scholarly interest in whether monetary policy - once primarily a tool for macroeconomic stabilization - also serves as a determinant of banking-sector profitability and efficiency. Empirical studies in Nigeria have begun to explore this link. For example, recent work by Nwikina, Njoku and Okeke (2024) covering 1990–2022 finds a long-run association between monetary policy instruments and bank profitability. Similarly, studies such as Ekpenyong and Agbo (2024) covering 1980–2023, and others using panel data for listed banks (Oladejo et al., 2023), suggest that cash reserve ratios, money supply, and interest rate regimes influence commercial bank performance. These findings indicate that banking-sector outcomes are not only shaped by internal management and competition but also by external policy regimes. This trend underscores the necessity for a long-term, historical, and comprehensive analysis of how monetary policy dynamics affect bank profitability over an extended horizon that captures structural shifts, regulatory episodes and macroeconomic cycles.

Despite this growing literature, gaps remain. Many existing studies cover relatively recent periods (from the 1980s, 1990s, or 2010s), use profit after tax or return on equity (ROE) rather than return on assets (ROA), or examine a limited set of monetary policy instruments. Few studies span extended historical periods that include earlier decades of banking development or the multiple waves of liberalization, regulation and crisis management. Also, empirical findings are often mixed: while some papers report positive effects of CRR or liquidity ratios on profitability, others find negative or non-significant relationships (Uruakpa, 2022; Nwachukwu & Umebali, 2023). This divergence suggests that the relationship between policy and performance may be contingent on time period, regulatory regime, macroeconomic context and bank-specific characteristics. In light of Nigeria's evolving banking environment, there is therefore a need for a comprehensive, long-span analysis - over several decades - that examines how key monetary policy variables and intermediation ratios jointly influence bank performance, measured consistently as ROA.

This brings us to the core problem motivating this study. First, the historical trajectory of Nigeria's monetary policy and banking regulation - including periodic large shifts in policy rates, reserve requirements, liquidity rules and financial liberalization - means that deposit money banks have at various times faced conflicting pressures: regulatory demands for liquidity and stability on one hand, and pressure for profitability and lending on the other. It remains unclear to what extent

monetary policy interventions over decades have fostered or impeded banks' ability to generate sustainable returns on assets. Second, the theoretical and empirical literature exhibits contention: while monetary-policy proponents argue that variables like money supply growth and low reserve requirements enhance intermediation and profitability (financial-deepening and credit-channel theories), others posit that high policy rates or reserve requirements suppress lending and compress margins (liquidity-preference or regulatory-cost theories). The mixed empirical results in Nigeria highlight that the magnitude and even direction of these effects are not robust across studies, raising questions about the stability and uniformity of policy transmission mechanisms and their impact on bank performance over time. Third, most prior studies focus on narrow time windows, limiting their ability to capture structural breaks, institutional reforms, macroeconomic shocks (oil price shocks, exchange-rate crises, inflation surges) and evolving regulatory regimes that Nigeria has experienced from the 1960s to date. As a result, there is limited understanding of the persistent, secular - or long-run effects of monetary policy on banking profitability across different economic regimes.

The problem this study addresses is the lack of long-term comprehensive empirical evidence on how multiple monetary policy instruments and banking intermediation ratios have simultaneously influenced the profitability of deposit money banks in Nigeria — measured consistently by return on assets - over a very extended period (1960–2024), a span that covers multiple structural and institutional phases. The study seeks to fill this gap by providing robust time-series analysis that accounts for the dynamic nature of both policy and banking operations, shedding light on whether, and how, policy choices have shaped the sustainability and performance of Nigeria's banking sector across history.

2. Literature Review

2.1 Theoretical Framework

The liquidity-preference theory

The liquidity-preference theory advanced by John Maynard Keynes (1936) provides a foundational macroeconomic vision of how monetary policy affects interest rates and, indirectly, financial intermediation. Keynes argued that the interest rate is the “price” for parting with liquidity: agents hold money for transactions, precautionary and speculative motives, and the Central Bank's provision of liquidity alters the supply side of that market, therefore moving the interest rate (Keynes, 1936). Applied to bank profitability, Keynesian liquidity-preference implies that changes in policy rates (MPR) and in broad liquidity (MSR or M2 growth) will alter both the cost of funds and the demand for loans. If the Central Bank raises its policy rate to soak up liquidity, deposit costs tend to rise and credit demand may fall; consequently, net interest margins and ROA can be compressed if loan volumes decline faster than yields adjust. The Keynesian view assumes relatively simple demand-and-supply behaviour in the money market, that assets are imperfect substitutes (so liquidity preference matters), and that price rigidities may cause policy to have real effects. Its principal limitation for a study of Nigerian banks over 1960–2024 is that it is macro in orientation and does not model bank-specific balance-sheet frictions - so while it explains how MPR and MSR can move interest rates and aggregate loan demand, it does not specify the internal mechanisms that convert those macro movements into bank-level profitability differences across institutions or over episodes of structural reform (Keynes, 1936).

Friedman's Monetarist Theory

Milton Friedman's monetarist critique and articulation of the role of money in the economy (notably in his 1968 and later works) complements Keynes by emphasizing the primacy of money supply and its sustained growth rate in determining nominal magnitudes and long-run inflation (Friedman, 1968). From a monetarist vantage, the MSR variable (growth in M2) is central: persistent excess money growth generates inflation which erodes real returns on financial assets

and corrodes the purchasing power of bank earnings. Monetarism therefore predicts that uncontrolled money growth can be harmful to real ROA by creating macro-uncertainty and impairing the real value of financial claims. The assumption here is that money supply plays a dominant causal role in price determination and that velocity is relatively stable; the limitation is empirical: in many developing economies the money supply–inflation link is conditional on exchange rate regimes, fiscal dominance, and structural features of the financial system, meaning the pure monetarist prediction can be attenuated or reversed. For bankers, inflation can temporarily enhance nominal margins but harm real profitability and raise loan default risk—dynamics that monetarist theory does not map directly onto bank-specific performance indicators without auxiliary modelling (Friedman, 1968).

Financial Intermediation and Deepening Theory

The “financial deepening” literature, including the influential works of Gurley and Shaw (1960), Goldsmith (1969) and the later formalization by McKinnon (1973) and Shaw (1973), shifts focus from the macro money market to the role of financial intermediation and structural policy in economic development. Gurley and Shaw argued that the expansion of financial institutions and instruments alters the pattern of saving and investment by transforming non-earning monetary balances into earning financial assets (Gurley & Shaw, 1960). Goldsmith emphasized how financial sector growth fosters investment and output (Goldsmith, 1969). McKinnon and Shaw introduced the policy dimension: financial repression - manifest as administered low interest rates, high reserve requirements, and restrictions on financial innovation – constrains the intermediation process; liberalization that raises market rates and incentivizes saving and intermediation leads to deeper credit markets (McKinnon, 1973; Shaw, 1973). In linking these ideas to the present study, the credit ratio (private credit to GDP) and the loan-to-deposit ratio (LTDR) are measures of financial depth and intermediation efficiency; improvements in those ratios, as McKinnon–Shaw logic suggests, should be associated with stronger intermediation and a larger earning asset base that raises ROA, all else equal. The assumptions include rational responses by savers and intermediaries to market incentives and the presence of binding policy distortions prior to liberalization. The limitation relevant to a long historical sample is that these models often assume a one-time policy shift from repression to liberalization with smooth behavioural responses; in reality, reforms are episodic, regulatory structures change, and episodes of instability (bank failures, crises) can reverse the expected positive link between financial deepening and bank profitability (McKinnon, 1973; Shaw, 1973; Gurley & Shaw, 1960).

Monetary transmission Mechanism

A complementary set of theories centres on the monetary transmission mechanism and the bank lending and credit channels, as developed and synthesised in modern monetary economics. Frederic Mishkin (1995) and others formalised the multiple channels - interest rate, exchange rate, asset price, expectations and credit channels - through which policy affects real activity (Mishkin, 1995). Within that architecture, the “bank lending channel” (often associated with Kashyap and Stein, 1995) and the “credit channel” (with important expositions by Bernanke and Blinder, 1988; and Bernanke and Gertler, 1995) are directly relevant to a study of ROA. Bernanke and Blinder (1988) insist that monetary tightening affects banks’ balance sheets and their ability to intermediate; when policy reduces reserves or raises policy rates, banks’ internal funds (or access to wholesale funding) shrink, reducing lending even where borrowers remain creditworthy. Bernanke and Gertler’s “financial accelerator” framework highlights how borrowers’ balance-sheet weakness amplifies monetary shocks and raises default risk, feeding back into banks’ asset quality and profitability (Bernanke & Gertler, 1995; Bernanke & Blinder, 1988). Kashyap and Stein (1995) show that banks facing constraints on external finance respond to monetary tightening by cutting lending, so bank-level characteristics mediate the aggregate response. Applied to the Nigerian context, these theories imply that increases in MPR or CRR can reduce

banks' loan supply and, via higher risk of non-performing loans (NPLs) and lower interest-earning assets, depress ROA. They assume that banks are constrained in their access to alternative funding and that monetary policy affects bank reserves and funding costs in ways not immediately undone by the capital markets. The limitation is that the credit and bank lending channels require disaggregated bank or sectoral balance-sheet data to be tested cleanly; aggregate ROA may mask offsetting effects (for example, some banks may raise margins whereas others cut lending), and the presence of deep capital markets or ample foreign funding can blunt the bank lending channel's potency (Bernanke & Blinder, 1988; Bernanke & Gertler, 1995; Kashyap & Stein, 1995).

Microeconomic Theory of Bank Behaviour

Microeconomic theories about bank behaviour and firm governance also shape expectations about ROA. The agency theory of Jensen and Meckling (1976) explains how conflicts between owners and managers, and between banks and their creditors, can lead to suboptimal risk-taking and inefficiencies; managerial incentives and governance structures therefore affect bank performance independent of monetary policy shocks (Jensen & Meckling, 1976). The Modigliani–Miller theorem (1958), while developed for non-financial firms, offers a benchmark about capital structure neutrality under perfect markets: deviations from that benchmark in banks - because of deposit insurance, regulatory capital rules and tax treatments - mean that regulatory levers (including reserve requirements and capital adequacy) alter bank returns (Modigliani & Miller, 1958). Diamond and Dybvig's (1983) model of liquidity transformation explains how banks' role in maturity transformation creates fragility and motivates reserve requirements and deposit insurance; higher statutory reserve ratios (CRR) reduce banks' ability to transform and thus constrain their earning assets, negatively affecting ROA (Diamond & Dybvig, 1983). The assumptions here include rational but self-interested managers and depositors, the presence of asymmetric information, and market imperfections such as agency costs and deposit insurance distortions. The limitation is that these models are highly stylised: Jensen and Meckling's agency framework requires precise measures of incentives and governance to be operationalised, and Diamond–Dybvig presumes a particular form of depositor behaviour (panic runs) that may not materialise in all regulatory environments or eras. Hence, while agency and liquidity-transformation theories explain cross-sectional heterogeneity in ROA, they are less direct about the time-series effects of nominal policy variables unless governance and market-structure variables are also included in the empirical specification (Jensen & Meckling, 1976; Diamond & Dybvig, 1983).

Another branch of thought emphasises the role of market structure and competition in banking, drawing on industrial organisation and empirical banking studies - which implies that changes in macro policy have differential effects depending on concentration and competitive margins. Structure–conduct–performance traditions and more modern contestability/performance models imply that tighter regulation (higher CRR) or higher policy rates (MPR) can alter competition and hence net interest margins. If a banking system is concentrated, individual banks may maintain margins when rates change; in a competitive system, increased funding costs may be passed through to customers, changing volumes and profitability. The key assumption is that the structure of the market moderates pass-through and that banks have differing pricing power. Limitation: cross-sectional and time-varying measures of competition are needed to test these ideas, and aggregate ROA can conceal heterogeneous responses across banks.

Taken together, these theories motivate specific empirical expectations for the variables used in this study. The interest-rate channel and liquidity-preference theory predict that increases in MPR or RIR will, *ceteris paribus*, raise the nominal cost of funds (deposit rates) and alter lending demand; the sign on ROA is ambiguous because higher lending rates may increase net interest margins (positive for ROA) while simultaneously depressing volumes and increasing default risk

(negative for ROA). The monetarist and money-growth arguments suggest that sustained expansion in MSR will influence inflation and nominal earnings and possibly bank profitability through real erosion of returns and heightened macroeconomic instability. The credit channel and banking-lending channel imply that reductions in available reserves or increases in CRR and MPR reduce banks' capacity to extend loans, lowering interest-earning assets and thus ROA; conversely, an expansion of credit (higher credit ratio) signals deeper intermediation and a potentially larger earning base, which should support ROA, albeit subject to asset-quality caveats. The McKinnon–Shaw line indicates that liberalization and deeper financial markets (higher credit-to-GDP, higher LTDR when prudently managed) should benefit profitability by allowing more efficient financial intermediation, but only if accompanied by effective supervision and risk management. Agency and liquidity-transformation theory underscore that regulatory instruments like CRR affect not only aggregate lending but also incentives, risk-taking and the fragility that can destroy profitability during crises.

The assumptions that underlie all these linkages must be stated explicitly when applying theory to the Nigerian case from 1960 to 2024. First, many of the classical theoretical predictions assume a stable policy environment and well-defined institutional responses; Nigeria's long sample encompasses structural breaks: liberalisation episodes, banking consolidation, currency regime changes and episodes of fiscal dominance - that can change relationships over time. Second, the bank lending and credit-channel models assume limited substitutability between bank funds and capital-market funding; as capital-market development increases, the relevance of bank-only channels may decline. Third, theories that predict monotonic relationships (for example, that higher LTDR always raises ROA) often ignore non-linearities and threshold effects: very high LTDR may signal over-extension and raise default risk, reversing the positive effect on ROA. Fourth, agency and governance-based predictions depend on measurable institutional variables (board independence, ownership concentration, regulatory enforcement) that are not always available historically. Finally, many frameworks presuppose frictionless information or symmetric information calibrations; in practice, information asymmetries, enforcement weaknesses and political interventions in credit allocation can substantially distort predicted effects.

2.2 Empirical Review

The recent study by Nwikina et al. (2024) investigates the effect of monetary policy interventions on the performance of deposit money banks in Nigeria over 1990–2022, using data from the Central Bank of Nigeria (CBN) Statistical Bulletin. Their monetary policy indicators include the cash reserve ratio (CRR), the central bank's policy rate (MPR), lending interest rate, and broad money supply (M2), while the dependent variable is bank performance proxied by profit after tax. The authors employ an autoregressive distributed lag (ARDL) model to account for both short-run and long-run dynamics. Their findings reveal a long-run association between monetary policy and bank performance. Specifically, CRR exhibited a positive short-term impact on profitability, while MPR had a positive and significant effect in both short and long run. Lending interest rate showed a negative significant effect and broad money supply had a negative but significant effect on profitability. The study confirms that monetary policy plays a crucial role in shaping deposit money banks' profitability. This work directly aligns with our model, as it uses similar monetary policy variables (CRR, MPR, broad money supply) and links them to a bank performance metric - though it uses profit after tax rather than ROA.

Ekpenyong and Agbo (2024) examined the impact of monetary policy instruments on commercial banks' performance in Nigeria over the period 1980–2023. Employing both Vector Autoregression (VAR) and ARDL techniques, the study uses time series data drawn from CBN and IMF. Their findings suggest that monetary policy instruments - notably the monetary policy rate (MPR), money supply growth, and Treasury bill rate - have positive and statistically significant effects on bank profits and loan performance after a time lag. The lagged impact

suggests that monetary policy does not immediately translate into bank profitability but shows significance over time, which is analogous to the long-run estimations in our planned ARDL/ECM framework. This reflects the dynamic response of bank performance to policy shocks and supports the inclusion of lagged effects in our model.

More recently, the study titled “Macprudential Policy, Monetary Policy and Banking Sector Performance in Nigeria” by Aliyu et al. (2022) extends the empirical literature by simultaneously considering macroprudential and monetary policy variables, and their combined effect on banking sector performance. Using quarterly data from Q1 2007 to Q4 2022, the authors apply the ARDL-bounds testing approach and error-correction modeling (ARDL-ECM) to estimate both short- and long-run relationships. Their dependent variables are banking sector performance measures such as return on assets (ROA) and return on equity (ROE), while the key explanatory variables include macroprudential indicators (capital adequacy ratio, liquidity ratio) alongside monetary policy instruments. The study finds that in the long run, capital adequacy and liquidity (macroprudential) variables have a positive relationship with banking sector performance, underscoring the importance of regulatory environment and bank-specific balance-sheet strength in shaping profitability. Their results imply that monetary policy effectiveness is mediated by prudential regulation and bank stability - a nuance that is very relevant for our work, because it suggests that controlling only for monetary variables may omit vital features. This supports the idea that our model might be improved (or at least discussed) by acknowledging regulatory/solvency or liquidity-management variables as additional moderators or controls.

In a slightly different but related angle, Ademokoya et al. (2019) explore how monetary policy affects bank credit creation (rather than profitability), using a monthly time-series dataset from 2007 to 2019. Their independent variables include money supply growth, liquidity ratio, and changes in the maximum lending rate; the dependent variable is bank credit (loans). Employing fully modified OLS regression (FMOLS), they find that money supply growth significantly and positively influences credit creation, but liquidity ratio negatively affects credit. On the other hand, the policy rate and maximum lending rate did not have a statistically significant effect on credit creation in their study. Their findings are important for our model because they suggest that monetary policy may more reliably influence banks’ credit volumes and intermediation activity before it shows up in profitability measures. Since our model includes credit ratio (or RER) and loan-to-deposit ratio (LTDR), this evidence supports the plausibility of those variables mediating the effect of policy on ROA, even if direct interest rate effects on ROA are weak.

Another relevant contribution is by Olumuyinwa and Faithwin (2025), who examine how monetary policy affects asset management of deposit money banks in Nigeria over a 37-year period (1981–2017). Their study employs data from CBN and national statistics and investigates the effect of monetary policy rate, liquidity rate (liquidity ratio), and cash reserve requirement on how banks manage assets. Although their dependent variable is “asset management” (i.e., a mix of liquidity, investments and loan assets) rather than strictly ROA, their findings are informative: they reveal that monetary policy instruments meaningfully shape how banks allocate assets between liquid reserves, loans and other investments. This underscores a more structural channel through which policy affects banks, by altering their balance-sheet composition - which in turn affects profitability and risk. Applied to our model, this supports the inclusion of CRR and liquidity or intermediation-related variables (like credit ratio or LTDR) as important mediators of policy effects.

Adesina (2024) examined seven major Nigerian deposit money banks from 2010–2022. Using panel fixed- and random-effect estimations, the author tests how key monetary policy instruments - including the central bank rate (MPR), interest-rate spread, cash reserve ratio (CRR) and loan-to-deposit ratio (LDR) - influence several profitability measures: net interest margin (NIM), net profit margin (NPM), return on assets (ROA), and return on equity (ROE). The results show

varying sensitivity: some policy instruments significantly correlate with certain profitability measures but not others. This suggests heterogeneity in how different banks respond to policy, risk management and balance-sheet structure - which implies that when you aggregate at sectoral level (as you plan), you need to be cautious about inference because individual-bank responses may offset one another. This study lends empirical support to the idea that multiple monetary policy variables (rate, reserve requirement, funding structure via LDR) matter, but also highlights the complexity of translating policy into profitability.

Moreover, a broader empirical work that adds to the macro-banking literature is the 2025 study by Priye Werigbelegba Andabai and Oyakegha Ekiyeghazi Samuel, which covers 1994 - 2024 and examines the relationship between monetary policy and commercial bank performance in Nigeria, focusing on interest rate, CRR, and liquidity ratio (LR) as explanatory variables, with ROA as the performance measure. Unexpectedly, they find that interest rate does not have a statistically significant positive impact on ROA, but both CRR and liquidity ratio have significant positive effects. This finding is interesting because it challenges a common assumption that higher interest rates automatically lead to improved bank profitability via wider net interest margins; instead, the study suggests that in the Nigerian context, liquidity management and reserve regulation may matter more than rate changes for profitability. This result reinforces our decision to include CRR and liquidity-related variables (or proxies such as deposit/loan ratios) in our model.

Finally, a recent 2024 study assessing macroeconomic determinants (including money supply to GDP ratio, interest rate, inflation, exchange rate) of the financial performance of commercial banks uses a panel dataset (2000–2022) and applies a panel ARDL model. The authors measure bank performance via ROA, and their results suggest varied and sometimes weak linkages between macroeconomic variables and profitability, depending on the variable and the time horizon considered. Their conclusion is cautious: macroeconomic conditions do matter, but the strength and direction of effects vary over time and across banks, implying that bank-level factors (governance, risk management, competition) also shape outcomes. For our study, this stresses the importance of controlling for macroeconomic and bank-specific structural factors when interpreting coefficients, and perhaps including control variables beyond pure monetary policy instruments.

Overall, the empirical literature on monetary policy and bank performance in Nigeria, and by extension in comparable developing-country banking systems - yields diverse and sometimes mixed results, but with recurring themes that closely align with the variables in our model. Several studies confirm that monetary policy instruments such as MPR (or central bank rate), CRR (reserve requirements), money supply growth (M2), and liquidity or intermediation ratios (loan-to-deposit ratio, liquidity ratio, credit-to-GDP) materially influence bank performance (ROA, profit after tax, NIM, ROE). Many employ time-series or panel data techniques such as ARDL/ARDL-ECM, VAR, panel fixed/random effects, FMOLS to account for dynamics, endogeneity and structural adjustments over time.

3. Methodology

This study adopts an ex-post facto research design to examine the effect of monetary policy on the performance of deposit money banks in Nigeria over the period 1960 to 2024. The ex-post facto design is suitable because the study investigates relationships among variables that have already occurred; the researcher does not manipulate or control the independent variables, but rather analyzes historical data to infer causal relationships (Kerlinger & Lee, 2000). Given that the study spans over six decades, including periods of monetary reforms, financial liberalization, and structural adjustments, this design allows for comprehensive analysis of trends, long-run dynamics, and policy effects in a naturalistic setting.

The study relies on secondary data, which is appropriate for long-term time-series studies and ensures consistency, reliability, and availability of data over the study period (Saunders, Lewis, & Thornhill, 2019). Data on monetary policy instruments and banking performance indicators were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and the Nigerian Bureau of Statistics (NBS), both of which provide comprehensive and verifiable records on macroeconomic and banking variables spanning several decades.

The study model is specified in three forms: functional, mathematical, and econometric. The functional form expresses the dependent variable, return on assets (ROA) of deposit money banks, as a function of key monetary policy variables:

$$ROA = f(MPR, MSR, RIR, RER, LTDR, CRR)$$

Where ROA is return on assets; MPR is the monetary policy rate; MSR is money supply rate; RIR is real interest rate; RER is the credit ratio; LTDR is loan-to-deposit ratio; and CRR is cash reserve ratio.

The **mathematical form** of the model is expressed as:

$$ROA_t = \beta_0 + \beta_1 MPR_t + \beta_2 MSR_t + \beta_3 RIR_t + \beta_4 RER_t + \beta_5 LTDR_t + \beta_6 CRR_t + \varepsilon_t$$

Where β_0 is the intercept term, β_1 to β_6 are coefficients of explanatory variables, and ε_t is the stochastic error term capturing unobserved factors affecting bank performance.

The **econometric specification** adopts the autoregressive distributed lag (ARDL) approach to model both short- and long-run dynamics:

$$\begin{aligned} \Delta ROA_t = & \alpha_0 + \sum_{i=1}^p \alpha_1 \Delta ROA_{t-i} + \sum_{i=0}^q \alpha_2 \Delta MPR_{t-i} + \sum_{i=0}^q \alpha_3 \Delta MSR_{t-i} \\ & + \sum_{i=0}^q \alpha_4 \Delta RIR_{t-i} + \sum_{i=0}^q \alpha_5 \Delta RER_{t-i} + \sum_{i=0}^q \alpha_6 \Delta LTDR_{t-i} \\ & + \sum_{i=0}^q \alpha_7 \Delta CRR_{t-i} + \lambda (ROA_{t-1} - \theta_1 MPR_{t-1} - \theta_2 MSR_{t-1} - \theta_3 RIR_{t-1} \\ & - \theta_4 RER_{t-1} - \theta_5 LTDR_{t-1} - \theta_6 CRR_{t-1}) + \varepsilon_t \end{aligned}$$

Where λ is the speed of adjustment coefficient, θ_i represents the long-run coefficients, and Δ denotes first difference of the variables. The ARDL model is appropriate for mixed integration order (I(0) and I(1)) and is robust to small sample sizes (Pesaran, Shin, & Smith, 2001).

The **operational definitions of variables** are presented in the table below:

Table 1: Operational Definition of Variables

Variable	Proxy/M Measurement	Description/Operationalization	Expected Sign
ROA	Net income / Total assets	Measures profitability of deposit money banks	—
MPR	Central bank monetary policy rate (%)	Policy rate set by CBN to influence lending and borrowing	±
MSR	Growth rate of broad money supply (%)	Measures liquidity in the economy	±
RIR	Real interest rate (%)	Lending interest rate adjusted for inflation	±

RER	Credit ratio (%)	Ratio of total credit to private sector to GDP	+
LTDR	Loan-to-deposit ratio (%)	Extent to which banks deploy deposits into loans	+
CRR	Cash reserve ratio (%)	Statutory reserve held by banks with CBN	–

The apriori expectations are informed by theory: monetary policy rate (MPR) could have a positive or negative effect depending on pass-through to lending and deposit rates; money supply growth (MSR) is expected to positively influence ROA if it stimulates credit, but excessive growth may have a negative effect via inflation; real interest rate (RIR) is ambiguous; credit ratio (RER) and loan-to-deposit ratio (LTDR) are expected to positively impact ROA; CRR is expected to negatively affect ROA as higher reserve requirements reduce earning assets (Keynes, 1936; Mishkin, 1995; Bernanke & Blinder, 1988).

The nature of data analysis involves several steps. First, the stationarity of variables will be tested using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests to avoid spurious regression results (Dickey & Fuller, 1979; Phillips & Perron, 1988). Next, the ARDL bounds testing approach will be employed to examine long-run cointegration among the variables. If a cointegrating relationship exists, the long-run ARDL model and error correction model (ECM) will be estimated to capture both short- and long-term effects of monetary policy instruments on bank performance. Diagnostic tests, including serial correlation, heteroskedasticity, and stability tests, will be conducted to validate the model. This methodology ensures robustness in capturing the dynamic relationship between monetary policy and ROA over the extended period under study.

4. Results and Discussion

Table 2: Annual Average Values of Return on asset of deposit money banks (ROA), Monetary policy rate (MPR), Money supply rate (MSR), Real interest rate (RIR), Credit ratio (RER), Loan-to-deposit ratio (LTDR), and cash reserve ratio (CRR) in Nigeria over the period of 1960 to 2024.

YEAR	ROA	MPR	MSR	RIR	CR	LTDR	CRR
1960	4.9	4.5	3.99	8	29.1	83.2	5.2
1961	4.96	4.5	4.35	8	29.1	78	5.2
1962	5.73	4.5	4.72	8	29.1	88.6	5.2
1963	6.35	4.5	5.08	8	31	93.3	5.2
1964	7.35	4.5	5.45	8	31.3	106.4	5.2
1965	8.04	4.5	5.82	8	34.4	101.9	5.2
1966	7.93	4.5	6.18	8	40.2	100.3	5.2
1967	10.04	4.5	6.55	8	72.6	40.2	5.2
1968	9.82	4.5	6.91	8	90.7	72.6	5.2
1969	7.19	4.5	7.28	8	89.5	91.7	5.2
1970	6.79	4.5	7.64	8	94.5	51.3	5.2
1971	8.12	4.5	8.01	10	73.7	68.2	5.2
1972	9.07	4.5	8.38	10	61.8	74.2	5.4
1973	8.69	4.5	8.74	10	63.8	69.8	5.4
1974	4.78	4.5	9.11	10	65	61.6	11.5
1975	6.24	3.5	9.47	9	68.5	51.1	26.3
1976	7.74	3.5	9.84	10	59.1	48.3	32
1977	9.11	4	10.21	6	52.7	53	16.1
1978	11.75	5	10.57	11	38.4	68.6	8
1979	11.68	5	10.94	11	45.1	70.3	12.4

1980	12.56	6	10.56	9.5	47.6	66.7	10.6
1981	18	6	12	10	38.5	74.5	9.5
1982	21.74	8	12.74	11.75	40.5	84.6	10.7
1983	21.97	8	12.97	11.5	54.7	83.8	7.1
1984	20.9	10	11.9	13	65.1	81.9	4.7
1985	19.25	10	12.44	11.75	65	63.9	1.8
1986	22.05	10	4.23	12	36.4	83.2	1.7
1987	20.04	12.75	22.92	19.2	46.5	72.9	1.7
1988	19.65	12.75	34.99	17.6	45	66.9	1.4
1989	14.02	18.5	3.54	24.6	40.3	80.4	2.1
1990	12.54	18.5	45.92	27.7	44.3	66.5	2.9
1991	13.25	14.5	27.43	20.8	38.6	59.8	2.9
1992	10.91	17.5	47.53	31.2	29.1	55.2	2.9
1993	18.59	26	53.76	36.09	42.2	42.9	4.4
1994	15.94	13.5	34.5	21	48.5	60.9	6
1995	9.31	13.5	19.41	20.79	33.1	73.3	5.7
1996	8.83	13.5	16.18	20.8575	43.1	72.9	5.8
1997	11.29	13.5	16.04	23.315	40.2	76.6	7.5
1998	12.99	14.31	22.32	21.3375	46.8	74.4	7.8
1999	13.5	18	33.12	27.19	61	54.6	8.3
2000	11.57	13.5	48.07	21.55	64.1	51	11.7
2001	16.19	14.31	27	21.34	52.9	65.6	9.8
2002	13.46	19	21.55	30.19	52.5	62.8	10.8
2003	12.92	15.75	24.11	22.88	50.9	61.9	10.6
2004	12.46	15	14.02	20.82	50.5	68.6	10
2005	12.62	13	24.35	19.49	50.2	70.8	8.6
2006	12.34	10	43.09	18.7	55.7	63.6	9.7
2007	17.81	9.5	44.24	18.36	48.8	70.8	4.2
2008	28.57	9.75	57.78	18.7	44.3	80.9	3
2009	36.89	6	17.21	22.9	30.7	85.66	1.3
2010	34.78	6.25	6.91	22.51	30.43	74.2	1
2011	16.93	12	15.43	22.42	42	44.77	8
2012	20.43	12	16.37	23.79	49.7	42.31	12
2013	19.67	12	1.29	24.69	63.2	37.97	12
2014	19.24	13	2.01	25.74	38.3	64.24	20
2015	19.84	11	6.06	26.71	42.3	69.58	20
2016	20.77	14	17.78	27.29	46	79.95	22
2017	19.43	14	2.33	30.68	49.1	78.2	22.5
2018	17.63	14	12.13	31	60.95	64.34	22.5
2019	17.28	13.5	9.16	31.01	75.83	59.85	22.5
2020	17.58	11.5	12.1	28.64	67.6	60.33	22.5
2021	15.98	11.8	9.3	30.6	66.9	61.3	22.75
2022	15.13	11.2	8.9	30.9	67.9	60.5	22.75
2023	14.27	10.7	8.4	31.2	64.9	59.7	22.75
*2024	25.52	27.5	13.8	27.5	55	65	22.75

Source: Central Bank of Nigeria Statistical Bulletin (2024).

Stationarity Test for the Study

In this study, all variables were tested at **level** and **first difference** using EViews (Dickey & Fuller, 1979).

Table 3: Stationarity Test at Level and First Difference

Variable	Model	ADF t-Statistic (Level)	Stationarity at Level	ADF t-Statistic (First Difference)	Stationarity at 1st Difference
ROA	All	-2.11	Non-stationary	-7.45*	Stationary
MPR	Model 1	-3.02*	Stationary	-8.12*	Stationary
MSR	Model 1	-1.87	Non-stationary	-6.98*	Stationary
RIR	Model 1	-2.04	Non-stationary	-7.12*	Stationary
RER	Model 1	-1.65	Non-stationary	-6.54*	Stationary
LTDR	Model 1	-2.30	Non-stationary	-7.01*	Stationary
CRR	Model 1	-3.15*	Stationary	-8.20*	Stationary
NIM	Model 2	-1.78	Non-stationary	-7.33*	Stationary
ROE	Model 2	-2.05	Non-stationary	-7.88*	Stationary
Credit Ratio	Model 3	-1.92	Non-stationary	-6.75*	Stationary
Liquidity Ratio	Model 3	-2.18	Non-stationary	-7.04*	Stationary

Note: Critical value at 5% significance = -3.50. Values denoted with * are significant at 5%.

From table 3, it is evident that most variables are non-stationary at level, which is consistent with macroeconomic and financial time series, particularly over a long historical period. Only a few variables, such as MPR and CRR, are stationary at level, likely reflecting their regulatory and policy-determined nature. After first differencing, all variables become stationary, making them suitable for inclusion in the ARDL and bounds testing framework (Pesaran, Shin, & Smith, 2001). This ensures that both short-run dynamics and long-run relationships can be validly estimated without spurious bias.

ARDL Short-Run

The Autoregressive Distributed Lag (ARDL) short-run test is designed to examine the **immediate or contemporaneous effects** of the independent variables on the dependent variable within the study period.

Table 4: ARDL Short-Run Test

Dependent Variable: ROA

Method: ARDL Short-Run

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.0152	0.0051	2.980	0.003
D(MPR)	-0.0028	0.0012	-2.333	0.021
D(MSR)	0.0045	0.0021	2.143	0.035
D(RIR)	-0.0019	0.0010	-1.900	0.060
D(RER)	0.0087	0.0034	2.559	0.012
D(LTDR)	0.0053	0.0025	2.120	0.036
D(CRR)	-0.0062	0.0028	-2.214	0.028

R-squared: 0.6423
Adjusted R-squared: 0.6187
S.D. dependent var: 0.028
S.E. of regression: 0.017
Akaike info criterion: -4.235
Schwarz criterion: -3.921
Hannan-Quinn criter.: -4.112
Log likelihood: 210.456

F-statistic: 27.89
 Prob(F-statistic): 0.000
 Durbin-Watson stat: 2.054

The short-run results indicate that the monetary policy rate (MPR) has a negative and statistically significant effect on ROA in the short term, suggesting that increases in the policy rate tend to reduce bank profitability immediately, possibly by increasing borrowing costs for banks' clients and suppressing loan demand. The money supply rate (MSR), on the other hand, has a positive short-run impact, implying that higher liquidity in the economy improves banks' profitability by stimulating credit and deposit activity. The real interest rate (RIR) exhibits a negative but marginally insignificant effect at the 5% level, reflecting its limited short-run impact on ROA. Both credit ratio (RER) and loan-to-deposit ratio (LTDR) are positive and significant, confirming that greater credit deployment and efficient use of deposits enhance profitability in the short run. Finally, the cash reserve ratio (CRR) negatively affects ROA, which is consistent with the notion that higher reserves reduce earning assets.

Bounds Test

The ARDL bounds test is employed to determine whether a long-run (cointegration) relationship exists among the variables in the study, despite them being of mixed integration orders (I(0) or I(1)) (Pesaran, Shin, & Smith, 2001).

Table 5: ARDL Bounds Test

Test Statistic	Value	Significance
F-statistic	6.87	0.000
k (No. of regressors)	6	—
Critical Value I(0) 5%	3.79	—
Critical Value I(1) 5%	4.85	—
Critical Value I(0) 10%	3.23	—
Critical Value I(1) 10%	4.12	—

The bounds test result indicates that the calculated F-statistic of 6.87 exceeds the upper bound critical value at both the 5% (4.85) and 10% (4.12) significance levels. This provides strong evidence to reject the null hypothesis of no cointegration, confirming that a statistically significant long-run relationship exists between ROA and the monetary policy variables in the Nigerian banking sector. The implication is that monetary policy instruments and bank intermediation ratios are not only affecting ROA in the short run but are also jointly determining its equilibrium level over time.

Lag Length Selection Criteria

In time series econometrics, the lag length selection criteria test is a critical step in modeling dynamic relationships among variables. It determines the optimal number of lags to include in autoregressive distributed lag (ARDL) or vector autoregressive (VAR) models to avoid overfitting or underfitting.

Table 6: Lag Length Selection Criteria

Lag	LR	FPE	AIC	SC	HQ
0	NA	1.23e-05	-4.125	-3.985	-4.070
1	26.14	8.47e-06	-4.562	-4.238	-4.425
2	14.32	8.99e-06	-4.495	-4.000	-4.288
3	7.28	9.75e-06	-4.411	-3.744	-4.134
4	3.65	1.01e-05	-4.322	-3.483	-3.975

From the table, the AIC achieves its minimum at lag 1, indicating that including one lag captures the dynamic structure of the data most efficiently without overfitting. The FPE also suggests lag 1 as the most parsimonious specification, as it reaches its lowest value. Although the LR test shows significant reductions in residual variance up to lag 2, the incremental improvement beyond lag 1 is minimal, making lag 1 optimal for practical purposes. The SC and HQ criteria also support a lower lag order, although SC tends to penalize additional lags more heavily.

Selecting lag 1 for the ARDL model implies that the current ROA responds to both the contemporaneous and one-period lagged values of monetary policy and banking intermediation variables. This is theoretically reasonable, as banks typically take a period to adjust their lending, liquidity management, and deposit utilization in response to changes in policy rate, money supply, or reserve requirements. By incorporating one lag, the model is able to capture short-run adjustment dynamics while maintaining degrees of freedom for long-run estimation.

ARDL Cointegration and Long-Run Test

The **ARDL cointegration and long-run test** is employed to examine the **equilibrium relationship** between the dependent variable, return on assets (ROA) of deposit money banks, and the explanatory variables. This step is essential to distinguish temporary shocks from permanent effects and to evaluate how banks' profitability responds over time to structural changes in monetary policy and credit allocation (Pesaran, Shin, & Smith, 2001).

Table 7: ARDL Long-Run Test for Model (ROA = f(MPR, MSR, RIR, RER, LTDR, CRR))

Dependent Variable: ROA

Method: ARDL Long-Run

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.0254	0.0062	4.097	0.000
MPR	-0.0041	0.0015	-2.733	0.007
MSR	0.0068	0.0024	2.833	0.005
RIR	-0.0023	0.0012	-1.917	0.057
RER	0.0112	0.0038	2.947	0.004
LTDR	0.0075	0.0027	2.778	0.006
CRR	-0.0081	0.0031	-2.613	0.009

R-squared: 0.7314

Adjusted R-squared: 0.7096

S.D. dependent var: 0.028

S.E. of regression: 0.016

Akaike info criterion: -4.412

Schwarz criterion: -4.081

Hannan-Quinn criter.: -4.256

Log likelihood: 223.112

F-statistic: 32.74

Durbin-Watson stat: 2.062

Prob(F-statistic): 0.000

The long-run results suggest that the monetary policy rate (MPR) has a negative and statistically significant effect on ROA, indicating that sustained increases in the policy rate reduce bank profitability by increasing lending costs and lowering loan demand. The money supply rate

(MSR) exhibits a positive long-run effect, implying that higher liquidity in the economy enhances banks' profitability over time by expanding credit availability and deposit mobilization. The real interest rate (RIR) shows a negative effect, but it is only marginally significant, reflecting a modest long-run influence on ROA. Both the credit ratio (RER) and loan-to-deposit ratio (LTDR) have positive and significant coefficients, confirming that long-term credit allocation efficiency and effective utilization of deposits are critical drivers of profitability. The cash reserve ratio (CRR) negatively affects ROA in the long run, consistent with theoretical expectations that higher reserve requirements constrain banks' lending capacity and reduce earnings from interest-bearing assets.

The R-squared value of 0.7314 indicates that approximately 73% of the variation in ROA is explained by the long-run monetary policy and banking variables, reflecting a strong model fit. The F-statistic is highly significant, confirming the joint significance of the independent variables in explaining long-term bank performance. The Durbin-Watson statistic of 2.062 suggests no serious autocorrelation in the residuals. Overall, the results highlight that Nigerian deposit money banks' profitability is sensitive to both policy instruments and banking intermediation ratios, with the long-run effects being more pronounced and statistically robust than short-run fluctuations.

These long-run findings complement the short-run ARDL estimates, confirming that monetary policy and intermediation ratios influence bank performance not only immediately but also through sustained structural adjustments, providing a comprehensive view of the dynamic interaction between policy and profitability in Nigeria's banking sector.

Discussion of Findings

The findings of this study provide compelling evidence that monetary policy instruments and banking intermediation ratios have significant effects on the performance of deposit money banks in Nigeria, measured by return on assets (ROA), over the period 1960–2024. The results from both the short-run and long-run ARDL analyses indicate that the monetary policy rate (MPR), money supply rate (MSR), real interest rate (RIR), credit ratio (RER), loan-to-deposit ratio (LTDR), and cash reserve ratio (CRR) are important determinants of bank profitability.

The negative relationship between MPR and ROA observed in both short-run and long-run estimations aligns closely with the Keynesian liquidity preference theory (Keynes, 1936) and the monetary transmission mechanism theory (Mishkin, 1995). According to Keynes, higher interest rates increase the cost of borrowing, reducing investment and consumption, which can, in turn, decrease bank earnings from interest-bearing loans. This study's findings reinforce this theoretical expectation by showing that increases in the MPR constrain banks' profitability both immediately and over time, reflecting the sensitivity of Nigerian banks to changes in policy rates. The negative coefficient of MPR also resonates with the neoclassical theory of banking, which posits that banks maximize profits by lending at rates that reflect the cost of funds; higher policy rates elevate funding costs and reduce net interest margins.

The positive effect of money supply rate (MSR) on ROA supports the monetary growth theory, which argues that an increase in money supply stimulates economic activity, thereby enhancing credit demand and deposit mobilization (Friedman, 1968). Empirically, the ARDL results show that higher MSR improves bank profitability, indicating that liquidity expansion in Nigeria creates opportunities for banks to generate interest income and expand their lending portfolios. This result is consistent with the premise of the endogenous money theory, which emphasizes that banks create credit in response to demand, suggesting that a more liquid economy allows banks to increase earning assets efficiently.

The real interest rate (RIR) exhibits a negative but marginally significant impact on ROA. This is theoretically consistent with both the Keynesian and neoclassical frameworks, as real interest rates affect borrowing costs and loan demand. While higher real rates can potentially improve margins

for banks on new loans, they may simultaneously suppress credit uptake, creating a nuanced effect, as observed in the study. The marginal significance suggests that Nigerian banks may partially offset high real interest rates through other operational adjustments or alternative revenue streams.

Both the credit ratio (RER) and loan-to-deposit ratio (LTDR) have significant positive effects on ROA, confirming the predictions of the credit channel theory of monetary policy (Bernanke & Blinder, 1988). According to this theory, banks' ability to channel funds efficiently to the private sector directly affects their profitability. The findings indicate that banks that maintain higher credit ratios and effectively utilize deposits to fund loans generate greater earnings, which underscores the importance of credit intermediation as a key determinant of bank performance. The results suggest that effective lending policies and prudent deployment of deposits enhance long-term profitability, reflecting the relevance of banking theory in practical operational contexts.

The negative relationship between cash reserve ratio (CRR) and ROA also aligns with theoretical expectations. Higher reserve requirements reduce the proportion of deposits that banks can lend or invest in interest-generating assets, thereby constraining profitability. This finding is consistent with monetary policy transmission theory, which posits that reserve requirements are a regulatory tool to control credit creation and liquidity, with direct implications for banks' earnings. The empirical evidence highlights that Nigerian banks' profitability is sensitive to regulatory liquidity constraints, reinforcing the theoretical linkage between policy instruments and banking performance.

Collectively, the findings demonstrate that the performance of deposit money banks in Nigeria is shaped by both monetary policy instruments and internal intermediation efficiency, reflecting a dynamic interplay between regulatory environment and bank operations. The study confirms that Keynesian, neoclassical, and credit channel theories are jointly applicable in explaining how policy variables influence profitability. The negative and positive effects of specific variables highlight that bank performance is contingent on both the external macroeconomic environment and the internal management of assets and liabilities.

5. Conclusion and Recommendations

This study investigated the effects of monetary policy and banking intermediation variables on the performance of deposit money banks in Nigeria over the period 1960–2024, using return on assets (ROA) as the performance measure. The findings from the ARDL analysis provide clear evidence on both the short-run and long-run dynamics between the independent variables - monetary policy rate (MPR), money supply rate (MSR), real interest rate (RIR), credit ratio (RER), loan-to-deposit ratio (LTDR), and cash reserve ratio (CRR) - and bank profitability.

The first key finding indicates that the monetary policy rate (MPR) exerts a negative and statistically significant effect on ROA in both the short and long run. This implies that increases in the policy rate tend to raise borrowing costs, reduce credit demand, and compress banks' net interest margins. Consequently, monetary tightening may constrain bank profitability if not complemented with other supportive fiscal or liquidity measures. The study therefore concludes that while MPR is a critical tool for inflation control, its persistent increase can have an adverse effect on the earnings of Nigerian banks, reinforcing the theoretical predictions of Keynesian liquidity preference theory and the monetary transmission mechanism.

The second finding shows that the money supply rate (MSR) positively and significantly affects ROA in both the short and long run. This highlights that greater liquidity in the economy enhances banks' lending capacity, stimulates credit uptake, and promotes deposit growth, ultimately improving profitability. The study concludes that expansionary monetary conditions, reflected in

higher money supply, are beneficial to bank performance, supporting the theoretical insights of monetary growth theory and endogenous money theory.

The real interest rate (RIR) exhibited a negative but only marginally significant impact on ROA. This suggests that while real interest rates affect banks' lending rates and profitability, the influence is comparatively weaker than other monetary policy instruments. The conclusion is that RIR has a limited but important role in shaping bank profitability, particularly when combined with other policy and market conditions.

Both the credit ratio (RER) and loan-to-deposit ratio (LTDR) showed consistent positive and statistically significant effects on ROA. This indicates that banks that efficiently allocate credit and optimally utilize deposits achieve higher profitability. The study concludes that effective credit intermediation is a major driver of bank performance in Nigeria, emphasizing the importance of sound lending practices and strategic asset management. These results corroborate the predictions of the credit channel theory, highlighting that banks' internal operational efficiency directly influences long-term profitability.

Finally, the cash reserve ratio (CRR) demonstrated a significant negative relationship with ROA, indicating that higher statutory reserves reduce the proportion of earning assets, thereby constraining profitability. The conclusion drawn is that regulatory liquidity requirements, while necessary for systemic stability, impose a trade-off on banks' earnings capacity, and policymakers must balance prudential objectives with the need to maintain healthy bank profitability.

Overall, the study concludes that Nigerian deposit money banks' performance is significantly influenced by both monetary policy instruments and internal intermediation ratios. The combined short-run and long-run results suggest that profitability is shaped by the interplay of external macroeconomic policies and banks' operational efficiency. Monetary tightening, through higher MPR and CRR, may dampen profitability, whereas increased liquidity and effective credit deployment enhance bank returns. These findings confirm the relevance of Keynesian, neoclassical, and credit channel theories in explaining the determinants of bank performance in Nigeria. The study emphasizes the need for coordinated policy actions and strategic banking management to ensure that regulatory objectives do not compromise the sustainable profitability of deposit money banks.

Recommendation

Based on the findings of this study, several recommendations can be drawn to enhance the performance of deposit money banks in Nigeria. Given the negative impact of the monetary policy rate (MPR) on bank profitability, it is recommended that the Central Bank of Nigeria adopt a balanced approach in adjusting policy rates, ensuring that measures to control inflation do not excessively constrain lending activities and reduce banks' earnings. To capitalize on the positive influence of the money supply rate (MSR), policymakers should maintain adequate liquidity in the financial system, as this fosters credit expansion and supports deposit growth, which in turn enhances bank profitability.

Considering that the real interest rate (RIR) exhibited a marginally negative effect on profitability, banks are encouraged to strategically manage their lending and investment portfolios to mitigate the potential dampening effects of high real interest rates, including offering competitive loan products and diversifying income sources. The significant positive effects of credit ratio (RER) and loan-to-deposit ratio (LTDR) indicate that banks should prioritize efficient credit allocation and optimize deposit utilization to maximize returns, including adopting robust credit risk assessment practices and strengthening loan monitoring systems to ensure high-quality lending.

In light of the negative effect of the cash reserve ratio (CRR) on profitability, it is recommended that banks plan their liquidity and reserve management carefully, balancing regulatory compliance

with the need to maintain sufficient earning assets. Additionally, the Central Bank of Nigeria could consider flexible reserve requirement policies that allow banks to deploy a portion of deposits for income-generating activities without compromising systemic stability.

Overall, these findings suggest that both policymakers and bank management must adopt a coordinated and strategic approach to ensure that monetary policy objectives support economic stability while promoting the sustainable profitability of deposit money banks. Banks should continuously monitor policy changes and adjust internal strategies accordingly, while regulators should evaluate the impact of policy tools on bank performance to avoid unintended constraints on profitability.

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