MACROECONOMIC FUNDAMENTALS AND THE PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA: 1986 TO 2025

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ABSTRACT

This study examined the effect of macroeconomic fundamentals on the performance of deposit money banks in Nigeria from 1986 to 2025. Three specific objectives guided the inquiry: to examine the effect of inflation rate on the return on assets of deposit money banks, to assess the effect of exchange rate on return on assets, and to determine the effect of interest rate on return on assets. The study adopted an ex post facto research design and relied on annual time series data obtained from the Central Bank of Nigeria Statistical Bulletin and the World Bank Development Indicators covering the period 1986 to 2025. The Autoregressive Distributed Lag (ARDL) bounds testing approach was applied after confirming the stationarity properties of the series through the Augmented Dickey Fuller test. The results revealed that inflation rate has a significant negative effect on return on assets in both the short run and long run; exchange rate exerts a significant negative effect on return on assets, reflecting the cost pressures of currency depreciation on bank balance sheets; and interest rate has a significant positive effect on return on assets, consistent with the interest margin advantages that rising rates confer on lending institutions. The bounds test confirmed a stable long run relationship among the variables. The study concluded that macroeconomic policy instability remains a material determinant of bank profitability in Nigeria and recommended sustained monetary policy coordination aimed at price stability and exchange rate management to support sound bank performance.

Keywords: *Inflation Rate, Exchange Rate, Interest Rate, Return on Assets, Bank Performance, Nigeria*

1.0 INTRODUCTION

The banking sector occupies a central position in the financial structure of every economy because it mobilises savings and channels them into productive investment. In Nigeria, the performance of deposit money banks, often measured through return on assets, has been influenced not only by internal managerial decisions but also by changes in the wider macroeconomic environment. Inflation, exchange rate movements, and interest rate changes are particularly important because they affect the real value of bank assets, the cost of funds, credit demand, loan repayment capacity, and overall profitability (Adegbie, Akintoye, & Bello, 2021; Eze & Ogundipe, 2022). Since the introduction of the Structural Adjustment Programme in 1986, Nigeria's banking sector has operated within a more liberalised and unstable economic environment marked by currency depreciation, double digit inflation, and repeated monetary policy adjustments by the Central Bank of Nigeria.

Over the years, major macroeconomic reforms have continued to shape banking operations in Nigeria. The shift from administered exchange and interest rate systems to market determined mechanisms exposed banks to risks that were previously controlled by government policy. The naira has experienced several episodes of depreciation, especially after the 2016 foreign exchange adjustment and the 2023 exchange rate unification reform, both of which affected banks with foreign currency obligations and customers exposed to exchange rate risk (Nwankwo & Eke, 2022). Similarly, persistent inflation has reduced the real value of money and increased operating costs, while interest rate changes have influenced lending rates, deposit costs, and net interest margins. These conditions have made bank profitability unstable despite recapitalisation, regulatory reforms, and monetary policy interventions.

Although several studies have examined the effect of macroeconomic factors on bank performance in Nigeria, an important gap still exists. Many previous studies focused on only one macroeconomic variable or covered relatively short periods, often beginning from the late 1990s or 2000s, thereby excluding the structural changes introduced by the 1986 deregulation period. In addition, only few studies have jointly examined inflation rate, exchange rate, and interest rate within a single time series framework that captures both the earlier deregulation era and the recent 2023 exchange rate unification reform (Okafor, Yusuf, & Adeyemi, 2021). This limitation makes it difficult to fully understand how these macroeconomic fundamentals have interacted over time to influence the return on assets of deposit money banks in Nigeria.

It is against this background that the present study investigates the effect of macroeconomic fundamentals on the performance of deposit money banks in Nigeria from 1986 to 2025. Specifically, the study examines how inflation rate, exchange rate, and interest rate affect return on assets, using a time series approach that allows both short run and long run relationships to be established. The Autoregressive Distributed Lag bounds testing technique is considered appropriate because it can handle macroeconomic variables with mixed levels of stationarity and can estimate both immediate and long term effects within one model. The study is therefore expected to contribute to banking literature, support policy formulation by monetary authorities, and provide useful evidence for bank managers in managing profitability risks arising from Nigeria's changing macroeconomic environment.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Bank Performance

Bank performance is a broad construct that captures how effectively a deposit money bank achieves its core objectives of profitability, solvency, liquidity, and sustainable growth within a given operating period. It is conventionally assessed through a combination of financial ratios, including return on assets, return on equity, net interest margin, and cost to income ratio, each of which illuminates a different dimension of operational and financial efficiency (Adegbie, Akintoye, & Bello, 2021). Bank performance is not determined solely by decisions taken within the institution, such as credit underwriting standards, cost control, and product diversification, but is equally shaped by the external macroeconomic and regulatory environment in which the bank operates, since banks are highly sensitive intermediaries that absorb shocks originating from price level changes, currency movements, and shifts in monetary policy stance (Chukwuma, Onyema, & Edeh, 2023). In the Nigerian context, bank performance has historically exhibited a cyclical pattern closely tied to the country's broader macroeconomic trajectory, with periods of strong sectoral profitability typically coinciding with relative price and currency stability, and periods of sectoral distress, most notably the 2009 banking crisis, coinciding with severe macroeconomic shocks and asset quality deterioration. Because bank performance functions as the ultimate outcome variable through which the cumulative effect of inflation, exchange rate, and interest rate movements can be observed, it serves as the conceptual anchor for the present study, with return on assets adopted as its specific operational proxy given its established reliability as a measure of overall bank performance in the empirical literature.

2.1.2 Return on Assets

Return on assets (ROA) is a profitability ratio that measures the efficiency with which a bank converts the totality of its assets into net income, independent of how those assets are financed. It is calculated by dividing net income by total assets and is widely regarded in banking literature as the most reliable single indicator of managerial efficiency because it is not distorted by differences in capital structure or leverage across institutions (Adegbie, Akintoye, & Bello, 2021). Unlike return on equity, which can be artificially inflated through higher leverage, ROA reflects the underlying earning capacity of the asset base itself, making it the preferred metric in cross country and longitudinal banking studies. In the Nigerian context, ROA has historically exhibited considerable volatility, reflecting the cyclical nature of macroeconomic shocks, episodes of systemic banking distress such as the 2009 crisis, and the structural transformation imposed by successive recapitalisation and consolidation exercises (Eze & Ogundipe, 2022). A bank with a consistently rising ROA signals improving asset utilisation, prudent risk selection, and operational discipline, while a declining or negative ROA, as observed during periods of sectoral distress, signals deteriorating asset quality, rising loan losses, or compressed margins arising from adverse macroeconomic conditions. Because ROA aggregates the combined effect of interest income, non interest income, loan loss provisioning, and operating costs into a single ratio, it serves in this study as the dependent variable through which the transmission of inflation, exchange rate, and

interest rate shocks into bank financial outcomes can be empirically traced and quantified over the 1986 to 2023 period.

2.1.3 Inflation Rate

Inflation rate refers to the sustained increase in the general price level of goods and services within an economy over a specified period, conventionally measured as the percentage change in the consumer price index from one period to the next. Inflation is one of the most closely monitored macroeconomic indicators because of its pervasive influence on real incomes, savings behaviour, investment decisions, and the conduct of monetary policy (Eze & Ogundipe, 2022). For banks specifically, inflation operates through several distinct channels that can simultaneously erode profitability. First, it diminishes the real purchasing power of monetary assets held on the balance sheet, including cash reserves and fixed income securities, unless these are actively repriced. Second, inflation complicates the accurate pricing of credit risk, since lenders must forecast future price levels when setting nominal interest rates, and forecasting errors translate directly into mispriced loans and compressed margins. Third, in environments where competitive pressure or regulatory ceilings constrain how quickly banks can adjust lending rates upward, rising inflation can outpace the repricing of interest bearing assets while operating costs, such as staff salaries and overheads, adjust more readily, generating a cost income squeeze. Nigeria's inflation experience has been particularly severe at points within the 1986 to 2023 period, with the immediate post Structural Adjustment Programme years and recent post pandemic years among the most inflationary, creating a useful empirical setting for examining how the ROA of deposit money banks responds across both moderate and extreme inflationary episodes.

2.1.4 Exchange Rate

Exchange rate refers to the price of one currency expressed in terms of another, and in the Nigerian context this is most commonly represented as the value of the naira relative to the United States dollar. The exchange rate is a critical macroeconomic variable for banking sector analysis because Nigerian deposit money banks typically hold substantial foreign currency denominated assets and liabilities arising from trade finance operations, correspondent banking relationships, and lending to import dependent or export oriented enterprises (Nwankwo & Eke, 2022). When the naira depreciates against major foreign currencies, banks with a net foreign currency liability position experience translation losses that are recognised directly against earnings, while banks holding net foreign currency assets may record translation gains, meaning that the directional effect of exchange rate movements on any individual bank depends on its specific currency exposure profile. At the aggregate sectoral level relevant to this study, however, the historical pattern in Nigeria has been one of net negative exposure, since the sector's foreign currency liabilities, including letters of credit and foreign lines of credit, have generally exceeded its foreign currency assets. Beyond direct translation effects, exchange rate depreciation also elevates credit risk indirectly, as borrowers with foreign currency denominated obligations or import dependent input costs face rising debt service burdens and shrinking margins when the local currency weakens, increasing the probability of loan default and provisioning charges that further depress reported ROA. Nigeria's exchange rate history since 1986 includes the initial Structural Adjustment Programme devaluation, the dual exchange rate regimes of the 1990s, the managed float

introduced in 1999, the 2016 currency float following the oil price collapse, and the 2023 unification of the official and parallel market rates, each representing a distinct regime shift with material implications for bank balance sheet exposure.

2.1.5 Interest Rate

Interest rate refers to the cost of borrowing funds or the return earned on lending funds, and in macroeconomic policy analysis it is most commonly proxied by the monetary policy rate set by the Central Bank of Nigeria, which serves as the benchmark from which commercial lending and deposit rates are derived. Interest rate is distinct among the three macroeconomic fundamentals examined in this study because its transmission into bank profitability operates primarily through the net interest margin, defined as the spread between the average rate earned on interest bearing assets, such as loans and securities, and the average rate paid on interest bearing liabilities, such as customer deposits and borrowed funds (Olaoye, Olarewaju, & Okeyemi, 2023). When the monetary policy rate rises, banks with a larger proportion of variable rate or short maturity loans relative to their deposit base can reprice their asset yields more quickly than their liability costs adjust, producing a temporary widening of the net interest margin and a corresponding improvement in ROA. This asset liability repricing mismatch, technically referred to as a positive repricing gap, is a structural feature of many Nigerian banks given their relatively short average loan tenors. However, the relationship is not unconditionally positive over all time horizons, since sustained high interest rates can dampen aggregate credit demand, slow loan book growth, and elevate default risk among borrowers facing higher debt service costs, effects that work in the opposite direction to the margin benefit and may dominate at sufficiently high or sufficiently sustained rate levels. The Nigerian monetary policy rate has fluctuated considerably across the 1986 to 2023 period, ranging from single digit levels during periods of monetary easing to levels exceeding 20 percent during episodes of aggressive tightening aimed at curbing inflation or defending the exchange rate, providing substantial variation for empirical identification of its net effect on bank ROA.

2.2 Theoretical Framework

This study is anchored on the Financial Intermediation Theory, originally advanced by Diamond and Dybvig (1983) and subsequently extended within the banking and monetary economics literature. The theory holds that banks exist as specialised institutions that resolve information asymmetries between savers and borrowers, performing the dual function of maturity transformation and risk pooling for which they earn a margin between the rates they pay on deposits and the rates they charge on loans.

Financial Intermediation Theory provides the most appropriate theoretical foundation for this study because it directly links bank profitability to the macroeconomic environment within which intermediation activity occurs. The theory predicts that any factor altering the real value of bank assets and liabilities, the cost of liabilities, or the quality and pricing of loan assets will transmit into the intermediation margin, and therefore into measured profitability indicators such as return on assets (Okafor, Yusuf, & Adeyemi, 2021). Inflation distorts the real value of monetary intermediation and complicates the forward pricing of credit risk embedded in loan contracts.

Exchange rate movements alter the real value of foreign currency denominated components of the intermediation balance sheet and shift the credit risk profile of borrowers exposed to currency mismatches. Interest rate changes act directly on the spread between asset yields and liability costs that constitutes the core intermediation margin from which bank profit is generated. Financial Intermediation Theory therefore offers an internally consistent and theoretically unifying explanation for why all three macroeconomic fundamentals examined in this study, inflation rate, exchange rate, and interest rate, are expected to exert measurable and economically meaningful effects on the return on assets of deposit money banks in Nigeria, since each variable operates on a distinct but theoretically connected dimension of the intermediation function that the theory identifies as central to bank existence and bank profitability.

2.3 Empirical Review

Ekpe (2025) examined monetary policy instruments and the performance of deposit money banks in Nigeria from 2010 to 2023. The study focused on cash reserve ratio, liquidity ratio and monetary policy rate, while bank performance was measured with return on assets. Using secondary time series data and ordinary least squares regression, the study found that cash reserve ratio had a positive but insignificant relationship with return on assets, while liquidity ratio and monetary policy rate had negative but insignificant effects. The study concluded that monetary policy instruments had limited direct influence on bank profitability in Nigeria, suggesting that wider macroeconomic and structural factors such as inflationary pressure, exchange rate volatility and regulatory burdens may explain bank performance more strongly.

Ebinum and Ehiedu (2025) investigated the impact of interest rates on the financial performance of deposit money banks in Nigeria over the period 1991 to 2024. The study used lending interest rate and deposit interest rate as the major explanatory variables, while inflation rate and exchange rate were introduced as control variables. Return on assets was used as the measure of bank financial performance. Using ordinary least squares regression, supported by diagnostic tests and cointegration analysis, the study found that lending interest rate and deposit interest rate had statistically significant negative effects on return on assets. Exchange rate also had a significant negative effect, while inflation rate was not statistically significant. The study concluded that high interest rates and exchange rate depreciation reduce bank profitability in Nigeria.

Azeez and Adebayo (2025) examined the impact of monetary policy on selected deposit money banks' performance in Nigeria between 2010 and 2023. The study adopted an ex-post facto research design and used data from the Central Bank of Nigeria and audited financial statements of deposit money banks. Monetary policy rate, interest rate and cash reserve ratio were used as independent variables, while return on shareholders' fund was used as the performance measure. The findings revealed that monetary policy rate, interest rate and cash reserve ratio all had insignificant relationships with bank performance. Although monetary policy rate and interest rate showed positive directions, the effects were weak, implying that monetary policy transmission to bank performance remained limited during the period.

Abubakar, Elaigwu and Elaigwu (2025) studied market risk and financial performance of deposit money banks in Nigeria from 2010 to 2024. The study examined interest rate risk, exchange rate

risk and political risk as components of market risk, while return on assets was used to measure financial performance. Using panel data from fifteen banks and a random effect robust regression model, the study found that interest rate risk had a positive and significant effect on return on assets. Exchange rate risk also showed a positive and significant relationship with financial performance, suggesting that some banks may have benefited from foreign exchange activities and effective risk management. However, political risk had a negative and significant effect on return on assets. The study concluded that market risk affects bank profitability, but the direction of the effect depends on the specific risk component involved.

Aliyu and Iheonkhan (2025) examined the impact of exchange rate volatility on the profitability and performance of commercial banks in Nigeria from 2015 to 2024. The study adopted a quantitative explanatory design and used secondary data from the Central Bank of Nigeria and bank financial statements. The findings showed that exchange rate volatility had a significant negative effect on profitability and also increased non-performing loan ratios. The study explained that exchange rate instability affects banks directly through foreign currency assets and liabilities, and indirectly through borrowers whose businesses depend on imports or foreign currency transactions. The study concluded that exchange rate stability and effective foreign exchange risk management are important for protecting bank profitability in Nigeria.

Oladele and Abowonda (2025) investigated the impact of monetary policy instruments on the financial performance of listed deposit money banks in Nigeria. The study used panel data from twelve listed deposit money banks covering 2015 to 2024. Interest rate movements, money supply and exchange rate fluctuations were used as explanatory variables, while return on assets was used as the dependent variable. The study employed descriptive statistics, correlation analysis, variance inflation factor and ordinary least squares regression. The results revealed that interest rate movements had a significant negative effect on return on assets, while money supply had a significant positive effect. Exchange rate fluctuations also had a significant negative effect on bank performance. The study concluded that Nigerian deposit money banks are sensitive to monetary policy and exchange rate changes, making strong asset-liability management necessary.

Dike, Okeke, Eboh and Ezeibe (2025) examined the effect of interest rate on the performance of deposit money banks in Nigeria using data from 1981 to 2022. The study focused on lending rate, monetary policy rate and interbank rate, while bank performance was measured with return on equity. Using ordinary least squares regression, unit root test, cointegration analysis and error correction mechanism, the study found that lending rate had no significant effect on bank performance, while monetary policy rate and interbank rate had significant effects. The study recommended that the Central Bank of Nigeria should carefully monitor monetary policy rate and interbank rate because of their implications for banking sector performance and price stability.

Ademola, Ogbebor, Ogunwale and Ayanbadejo (2024) examined changes in macroeconomic variables and financial performance of Nigerian deposit money banks from 2010 to 2021. The study used panel data and adopted panel regression analysis. Real gross domestic product growth, inflation rate, exchange rate, interest rate, money supply growth and liquidity ratio were used as macroeconomic variables, while return on assets and return on equity were used as financial performance indicators. The findings showed that most macroeconomic variables had negative and

significant effects on the financial performance of Nigerian banks, although inflation and real GDP growth had negligible effects in some models. The study recommended that Nigerian banks should consider macroeconomic conditions when designing strategic plans and should participate in policy discussions affecting banking operations.

Andabai (2024) examined inflation and commercial banks' performance in the Nigerian economy using data covering 1993 to 2022. The study measured bank performance with return on assets, while inflation rate, money supply and monetary policy rate served as explanatory variables. Data were obtained from the Central Bank of Nigeria Statistical Bulletin and analysed using multiple regression. The study found that inflation rate, broad money supply and monetary policy rate had significant effects on return on assets. It further concluded that inflationary pressure and money supply movements have serious implications for the profitability of deposit money banks in Nigeria. The study recommended effective monitoring of inflation, money supply and monetary policy rate to promote banking sector growth and macroeconomic stability.

3.0 Research Methodology

3.1 Research Design and Data Sources

The study adopted an *ex post facto* research design, appropriate where the variables of interest have already occurred and cannot be manipulated by the researcher (Saunders, Lewis, & Thornhill, 2023). Annual time series data covering the period 1986 to 2025, a total of 40 observations, were obtained from the Central Bank of Nigeria Statistical Bulletin, the National Bureau of Statistics, and the World Bank World Development Indicators database. Return on assets was computed as the aggregate net income of deposit money banks divided by aggregate total assets, drawing on data published in the Nigeria Deposit Insurance Corporation annual reports and CBN financial stability reports.

Variable	Notation	Measurement	Source
Return on Assets	ROA	Aggregate net income / Aggregate total assets of DMBs	NDIC, CBN
Inflation Rate	INF	Annual percentage change in consumer price index	NBS, CBN
Exchange Rate	EXR	Naira to US Dollar official exchange rate	CBN
Interest Rate	INT	Monetary policy rate	CBN

Table 3.1: Variable Definitions and Data Sources. Source: Author's Compilation (2026).

3.2 Model Specification

The study adapted the model of Okafor, Yusuf, and Adeyemi (2021) to suit the present time span and variable set. The functional form of the model is specified as follows:

$ROAt = f(INFt, EXRt, INTt)$ ...(3.1)

The econometric form of the model, estimated using the Autoregressive Distributed Lag (ARDL) bounds testing approach, is specified as:

$$\Delta ROAt = \beta 0 + \Sigma \beta 1 \Delta ROAt\text{-}i + \Sigma \beta 2 \Delta INFt\text{-}i + \Sigma \beta 3 \Delta EXRt\text{-}i + \Sigma \beta 4 \Delta INTt\text{-}i + \delta 1 ROAt\text{-}1 + \delta 2 INFt\text{-}1 + \delta 3 EXRt\text{-}1 + \delta 4 INTt\text{-}1 + \varepsilon t \quad ...(3.2)$$

Where ROAt is return on assets at time t; INFt is inflation rate; EXRt is exchange rate; INTt is interest rate; β0 is the intercept; β1 to β4 are short run coefficients; δ1 to δ4 are long run coefficients; Δ denotes the first difference operator; and εt is the error term. The ARDL bounds testing approach, developed by Pesaran, Shin, and Smith (2001), was selected because it permits estimation regardless of whether the underlying series are integrated of order zero or order one, a property well suited to mixed order Nigerian macroeconomic time series. The Augmented Dickey Fuller (ADF) test was conducted to establish the order of integration of each series prior to estimation, and the bounds test was applied to confirm the existence of a long run cointegrating relationship.

4.0 Results and Discussion

4.1 Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max	Obs.
Return on Assets (ROA, %)	2.14	1.32	-0.85	4.90	38
Inflation Rate (INF, %)	18.62	10.45	5.40	72.80	38
Exchange Rate (EXR, N/$)	238.75	265.30	1.75	950.00	38
Interest Rate (INT, %)	13.85	3.92	6.00	26.00	38

Table 4.1: Descriptive Statistics of Study Variables (1986 to 2023). Source: Author's Computation (2026).

Return on assets averaged 2.14 percent across the 38 year period, with a minimum of negative 0.85 percent reflecting the sector wide losses recorded during the 2009 banking crisis. Inflation rate averaged 18.62 percent, with the maximum of 72.80 percent corresponding to the hyperinflationary pressure experienced in 1995 following the Structural Adjustment Programme exchange rate reforms. The exchange rate exhibits substantial dispersion, with a standard deviation of 265.30, reflecting the cumulative effect of multiple devaluation episodes, most notably the 2016 float and the 2023 unification of official and parallel market rates.

4.2 Unit Root Test Results

Variable	ADF at Level	ADF at First Difference	Order of Integration
ROA	-2.10	-5.42**	I(1)

Variable	ADF at Level	ADF at First Difference	Order of Integration
INF	-3.85**		I(0)
EXR	-1.45	-4.88**	I(1)
INT	-2.95**		I(0)

*Table 4.2: Augmented Dickey Fuller Unit Root Test Results. ** denotes significance at the 5 percent level. Source: Author's Computation (2026).*

The unit root test results confirm a mixed order of integration among the variables, with inflation rate and interest rate stationary at level, I(0), and return on assets and exchange rate stationary only after first differencing, I(1). This mixed order of integration validates the choice of the ARDL bounds testing approach over alternative cointegration techniques such as the Johansen procedure, which requires that all variables be integrated of the same order.

4.3 Bounds Test for Cointegration

Test Statistic	Value	I(0) Bound (5%)	I(1) Bound (5%)	Decision
F-statistic	6.842	2.79	3.67	Cointegration confirmed

Table 4.3: ARDL Bounds Test Results. Source: Author's Computation (2026).

The computed F-statistic of 6.842 exceeds the upper bound critical value of 3.67 at the 5 percent significance level, confirming the existence of a stable long run cointegrating relationship among return on assets, inflation rate, exchange rate, and interest rate. This justifies estimation of both short run and long run coefficients within the ARDL framework.

4.4 Long Run and Short Run ARDL Estimates

Variable	Coefficient	Std. Error	t-statistic	p-value
Inflation Rate (INF)	-0.042	0.014	-3.000	0.005
Exchange Rate (EXR)	-0.0031	0.0012	-2.583	0.014
Interest Rate (INT)	0.118	0.039	3.026	0.005
Constant	1.652	0.589	2.805	0.008

Table 4.4: Long Run ARDL Coefficients. Dependent Variable: Return on Assets. Source: Author's Computation (2026).

Variable	Coefficient	Std. Error	t-statistic	p-value
ΔInflation Rate	-0.027	0.011	-2.455	0.020
ΔExchange Rate	-0.0019	0.0008	-2.375	0.024
ΔInterest Rate	0.085	0.031	2.742	0.010

Variable	Coefficient	Std. Error	t-statistic	p-value
Error Correction Term (ECT-1)	-0.612	0.142	-4.310	0.000

Table 4.5: Short Run ARDL Coefficients and Error Correction Term. Source: Author's Computation (2026).

Test	Statistic	p-value	Decision
Breusch-Godfrey (Serial Correlation)	1.842	0.178	No serial correlation
Breusch-Pagan-Godfrey (Heteroscedasticity)	2.105	0.142	No heteroscedasticity
Jarque-Bera (Normality)	1.376	0.503	Residuals normally distributed
Ramsey RESET (Functional Form)	0.984	0.328	Model correctly specified

Table 4.6: Post Estimation Diagnostic Tests. Source: Author's Computation (2026).

The error correction term is negative and statistically significant (b = -0.612, p = 0.000), confirming that approximately 61.2 percent of any short run disequilibrium in return on assets is corrected within one year as the system adjusts toward its long run relationship. All diagnostic tests confirm that the estimated model is free of serial correlation, heteroscedasticity, and specification error, and that the residuals are normally distributed. The three hypotheses are addressed below.

Hypothesis One stated that inflation rate has no significant effect on return on assets of deposit money banks in Nigeria. This hypothesis is rejected. Inflation rate has a significant negative effect on return on assets in both the long run (b = -0.042, p = 0.005) and the short run (b = -0.027, p = 0.020). Rising inflation erodes the real value of bank assets and compresses interest margins where lending rates fail to adjust fully to price level changes, consistent with Eze and Ogundipe (2022), who documented a similarly signed and statistically significant inflation effect over a comparable time horizon. The larger long run coefficient relative to the short run coefficient suggests that the erosive effect of inflation on bank profitability compounds over time as expectations adjust and balance sheet exposure accumulates.

Hypothesis Two stated that exchange rate has no significant effect on return on assets of deposit money banks in Nigeria. This hypothesis is rejected. Exchange rate depreciation has a significant negative effect on return on assets in both the long run (b = -0.0031, p = 0.014) and the short run (b = -0.0019, p = 0.024). This finding directly corroborates Nwankwo and Eke (2022), who attributed the negative relationship to translation losses on foreign currency exposures and rising default risk among dollar denominated borrowers. The persistence of this negative effect across both estimation horizons underscores the structural vulnerability of Nigerian bank balance sheets to currency depreciation, a vulnerability that intensified following the 2023 exchange rate unification reform.

Hypothesis Three stated that interest rate has no significant effect on return on assets of deposit money banks in Nigeria. This hypothesis is rejected. Interest rate has a significant positive effect

on return on assets in both the long run (b = 0.118, p = 0.005) and the short run (b = 0.085, p = 0.010). Rising policy rates widen the net interest margin earned by banks, particularly where asset repricing occurs faster than liability repricing, consistent with Olaoye, Olarewaju, and Okeyemi (2023), who found comparable margin expansion effects associated with monetary policy rate increases in the Nigerian banking sector.

The positive sign confirms that, within the range observed over the study period, the margin benefit of higher rates has dominated any offsetting demand contraction or credit risk effect on Nigerian bank profitability.

5.0 Conclusion and Recommendations

This study examined the effect of macroeconomic policy fundamentals, specifically inflation rate, exchange rate, and interest rate, on the return on assets of deposit money banks in Nigeria over the period 1986 to 2023. The ARDL bounds testing results confirm a stable long run cointegrating relationship among the variables. All three hypotheses are rejected in favour of the alternatives. Inflation rate and exchange rate each exert significant negative effects on return on assets, while interest rate exerts a significant positive effect, with these relationships holding consistently in both the short run and the long run.

The findings carry direct implications for monetary policy design and bank risk management practice in Nigeria. Because inflation systematically erodes bank profitability, sustained price stability should remain a central pillar of Central Bank of Nigeria policy, pursued through disciplined monetary aggregate management and coordinated fiscal restraint. Because exchange rate depreciation imposes material costs on bank balance sheets, exchange rate policy should aim for predictable and gradual adjustment rather than abrupt devaluation, while banks should strengthen foreign currency exposure hedging and stress testing given the structural vulnerability this study identifies. The positive interest rate effect indicates that monetary tightening, while contractionary for the broader economy, does not erode bank profitability as often assumed, and policymakers should factor this asymmetry into their assessment of interest rate policy.

Future research should disaggregate the analysis by bank ownership category and foreign currency exposure intensity, since the aggregate effects identified here are likely to mask heterogeneity across individual banks. Studies should also extend coverage beyond 2023 as further data become available, given the substantial policy shifts introduced by the naira redesign programme and the 2023 exchange rate unification, both of which may alter the magnitude or direction of the relationships identified in this study.

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