THE EFFECTS OF FINANCIAL PLANNING AND CONTROL ON THE PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA.

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Abstract

This study investigated the effect of financial planning and control on the financial performance of deposit money banks in Nigeria using a two-step Dynamic Generalized Method of Moments (GMM) estimator on a balanced panel of 11 banks from 2015 to 2024. Return on Assets (ROAS) was used to measure financial performance, while Debt to Equity Ratio and Cash to Deposit Ratio captured financial planning, and Non-Performing Loan Ratio and Cost to Income Ratio measured financial control. The dynamic GMM approach was adopted to address endogeneity, performance persistence, and unobserved heterogeneity, with first-differenced transformation applied to refine estimation. The empirical findings from the study revealed that financial planning through leverage management significantly enhanced bank performance, as Debt to Equity Ratio exerted a positive and significant effect on ROAS. Conversely, Cash to Deposit Ratio showed a negative but insignificant influence, indicating that liquidity planning did not yield immediate profitability gains. Regarding financial control, Non-Performing Loan Ratio negatively and significantly affected ROAS, confirming that credit risk deterioration remained a critical threat to bank profitability. Cost to Income Ratio was negative but insignificant, suggesting that cost efficiency alone did not immediately translate into higher performance. The J-statistic confirmed instrument validity. The study concluded that profitability in Nigerian banks is driven largely by effective leverage planning and strong credit risk controls, while liquidity and cost management required strategic alignment to yield stronger

performance benefits. The study recommended that Nigerian banks should optimize their capital structure and maintain balanced liquidity to enhance profitability, strengthen credit risk management to reduce non-performing loans, and continuously improve operational efficiency through cost control, technology, and revenue strategies.

Keywords: *Financial Planning, Financial Control, Bank Performance, Debt to Equity Ratio, Non-Performing Loans*
JEL Classification: *G31, M41, G21, G32, G33*

1.0 Introduction

The banking sector plays an important role in the economic development of any nation, serving as an intermediary between savers and investors while ensuring financial stability and facilitating capital formation. The effectiveness of financial planning and control within banks is therefore relevant to sustaining their stability, profitability, and resilience. Financial planning involves analyzing financial flows, forecasting future revenues, and assessing the implications of various financial decisions, including dividend and investment choices (Kang'aru & Tirimba, 2018). In Nigeria, deposit money banks operate in a challenging macroeconomic environment marked by regulatory changes, economic volatility, and credit risk, making financial planning sacrosanct. Effective internal financial planning, which can be proxied through metrics such as the debt-to-equity ratio and cash to deposit ratio, enables banks to optimize their capital structures, maintain adequate liquidity, and prepare for potential contingencies (Shaibu & Okafor, 2020).

Financial control on the other hand, reflected in indicators such as non-performing loans and the cost-to-income ratio, ensures operational efficiency, cost management, and asset quality, which are essential for sustaining profitability and minimizing exposure to financial risk. Empirical evidence suggests that poor credit risk management, manifested in elevated non-performing loans, continues to be a significant challenge for Nigerian banks (Ijuwo, 2024), while effective liquidity management, captured through cash reserves and liquidity ratios, is positively associated with bank performance (Okey Nwala & Wachukwu, 2025). Together, financial planning and control form the backbone of a bank's operational and strategic framework, directly influencing performance as measured by return on assets (ROA), which reflects how efficiently a bank utilizes its assets to generate profit.

Despite the recognized importance of financial planning and control, there remains limited empirical evidence in Nigeria regarding their joint influence on bank performance. Although numerous studies have examined the impact of financial planning on firm performance globally, the approaches have often relied on surveys or questionnaires directed at individuals within the financial sector (Mwaura, 2013;

Kang'aru & Tirimba, 2018; Ahamed, 2016; Omboga & Okibo, 2016). While these studies generally report positive associations between planning and performance, their findings are constrained by subjectivity and limited empirical rigor. In Nigeria, contributions such as those by Salawu et al. (2012), Olaifa (2018), and Ibrahim and Mustapha (2019) have employed financial data from banks' annual reports. However, their analyses often utilize ordinary least squares (OLS) regression, which may not adequately capture the dynamic interactions between financial planning and control variables over time. Also, existing literature frequently isolates specific components, such as leverage or non-performing loans, without integrating both financial planning and control dimensions into a cohesive analytical framework. This research seeks to address this gap by employing secondary financial data extracted from annual reports of Nigerian banks and adopting a Generalized Method of Moments (GMM) approach, thereby extending beyond the limitations of OLS and offering a more robust assessment of the dynamic interplay between financial planning and control, and bank performance.
This study is guided by the central research questions of how financial planning, measured by debt-to-equity ratio and cash to deposit ratio, affects the performance of Nigerian banks, and how financial control, measured by non-performing loan ratio and cost-to-income ratio, influences bank performance. In line with these questions, the objectives of the study are to examine the impact of financial planning and control on the return on assets of Nigerian banks. The study's hypotheses are stated in the null form, positing that financial planning and financial control do not significantly affect the performance of banks in Nigeria.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Bank Performance

Bank performance is shaped by the quality of internal financial decisions and the strength of managerial control systems, making it a multidimensional outcome influenced by risk, capital, efficiency, and governance structures. Bank performance broadly refers to how efficiently and profitably a bank uses its resources to achieve its goals, often measured in terms of profitability, competition, efficiency, and productivity (Bikker & Bos, 2008). In the banking environment, profitability indicators such as return on assets (ROA) and return on equity (ROE) remain central because they reflect how effectively managers convert resources into earnings under regulatory and competitive constraints (Ene et al., 2015; Bikker & Bos, 2008). Performance outcomes in banks are strongly conditioned by internal financial planning, particularly capital structure choices and liquidity management. Studies show that leverage and liquidity decisions influence profitability by affecting funding costs, risk-taking capacity, and resilience to macroeconomic shocks (Mu, 2025). Financial control mechanisms further shape performance by

regulating operational costs and managing asset quality (Rastogi et al., 2022). Thus, for this study, return on assets (ROA) is particularly important to measure bank performance in the banking sector of Nigeria, as it captures how efficiently a bank converts its asset base into earnings and reflects managerial effectiveness in deploying both deposits and borrowed funds (Ene et al., 2015).

2.1.2 Financial Planning

Financial planning reflects the structured assessment of the financial consequences of a firm's future activities and decisions. Because it focuses on forward-looking actions, its estimates often rely on broad aggregates rather than exact figures due to uncertainty and changing business conditions (Mwaura, 2013). It typically incorporates projections of revenue, expenditure patterns, asset requirements, and the financing options available to support these commitments (Chandra, 2007). Financial plans are commonly differentiated by their time horizons, such as short-term plans, which address immediate cash needs and operational financing within a year, medium-term plans, which guide activities such as investment and development over two to five years, while long-term plans outline strategies for expansion and major capital projects extending beyond five years (Mudit, 2011; Davoren, 2009). The financial data variables used to measure financial planning are debt to equity ratio and cash to deposit ratio.

Debt to Equity Ratio

The debt-to-equity (D/E) ratio measures financial leverage by comparing a company's total liabilities with shareholders' equity, indicating how much of its financing comes from debt versus owners' funds (Fernando, 2025). A higher D/E ratio reflects heavy reliance on external financing and greater financial risk due to increased interest and repayment obligations (Hantono, 2018; Nurhikmawaty et al., 2025). A lower ratio suggests stronger financial stability, though it may also indicate under-utilization of debt for growth (Fernando, 2025). Because the ideal ratio varies across industries, meaningful evaluation requires comparison with similar firms. The D/E ratio is therefore central in assessing capital structure and overall financial risk.

Cash to Deposit Ratio

The Cash to Deposit Ratio is a liquidity indicator that measures a bank's ability to meet short-term obligations using its most liquid assets, the cash and cash equivalents, relative to customers' deposits. As a conservative liquidity gauge, the ratio provides a strict assessment of short-term solvency, consistent with the view of liquidity readiness discussed by Purwanti and Warasto (2023) and Brealey et al. (2019). In banking operations, maintaining sufficient cash reserves is essential for meeting customer withdrawals, settling interbank transactions, and complying with

regulatory liquidity requirements (Gitman & Zutter, 2021). However, a high Cash to Deposit Ratio may also signal inefficient use of funds, as excess cash reserves reduce opportunities to invest in interest earning assets (Pandey, 2018). In financial planning and control, maintaining an optimal Cash to Deposit Ratio enables banks to balance liquidity adequacy with profitability, ensuring stability and supporting performance indicators such as Return on Assets (ROA).

2.1.3 Financial Control

Financial control is the strategic processes organizations use to monitor and manage financial resources to ensure alignment with established objectives. It involves preventive, detective, and corrective mechanisms that safeguard assets and enhance the accuracy of financial information (Temirov, 2023). The core elements of financial control include budgeting, performance evaluation, and internal procedures that support transparent and reliable financial reporting. Effective financial control enhances operational efficiency, mitigates risks such as non-performing loans, supports regulatory compliance, and enhances stakeholder confidence. Modern organizations also rely on technological tools and continuous assessment to improve financial governance in dynamic environments (Temirov, 2023).

Non-Performing Loan Ratio

Non-performing loans (NPLs) are generally defined by the period during which principal and interest remain unpaid or unserviced. Caprio and Klingebiel (1999) define NPLs as loans that fail to generate income for at least three months, while Alton and Hazen (2001) consider loans overdue by 90 days or more or no longer accruing interest. The IMF Financial Soundness Indicators Guide (2006) adds that loans are non-performing if payments are overdue by three months, if interest is capitalized, refinanced, or rolled over, or if the borrower declares bankruptcy. In Nigeria, NPLs are further categorized into substandard, doubtful, very doubtful, and lost, reflecting varying degrees of credit risk and potential loss (Atoi, 2018).

Cost to Income Ratio

The cost-to-income ratio (CIR) is widely recognized as a primary metric for assessing operational efficiency and financial control within the banking sector (Ayinuola & Gumel, 2023). It quantifies a bank's operating expenses as a proportion of its operating income, effectively revealing how much the bank spends to generate revenue (Burger & Moormann, 2008). A lower CIR is generally ideal, indicating greater efficiency and profitability potential, which aligns with findings from numerous studies (Hess & Francis, 2004; Ghosh et al., 2003). Conversely, a high or increasing CIR can signal potential problems and poor cost management (Sufian & Chong, 2008). While useful, the CIR has limitations, because market

conditions (e.g., interest rates) can distort its predictive power for pure productivity comparisons. Nonetheless, investors, regulators, and bank managers consistently monitor this ratio for performance benchmarking and identifying areas for cost optimization (Hussain, 2014).

2.2 Theoretical Review

The theory reviewed in this study to explain the effect of financial planning and control on bank performance is the agency theory.

Agency Theory

Agency Theory, developed by Jensen and Meckling (1976), explains the relationship between owners (principals) and managers (agents) in modern corporations. The theory argues that when principals delegate decision-making authority to agents, conflicts may arise because agents often pursue their own interests rather than those of the principals. Jensen and Meckling (1976) assert that managers typically possess more information than owners, creating information asymmetry that can lead to opportunistic behavior. To reduce this misali gnment, principals incur agency costs through monitoring, incentive structures, and contractual safeguards. These mechanisms, such as performance-based compensation, stronger governance oversight, and reporting controls, help align managerial actions with shareholder objectives. Ultimately, Agency Theory emphasizes the need for effective control systems to ensure that agents act in ways that enhance firm value (Jensen & Meckling, 1976).

2.3 Empirical Review

2.3.1 Financial Planning and Bank Performance

Empirical studies have consistently explored the link between financial planning and firm or bank performance across different economies. Mwaura (2013) examined financial planning in the Kenyan automobile industry using descriptive statistics and OLS on variables such as earnings before interest and tax and capital employed. The study revealed that effective financial planning positively influences firm performance. Similarly, Omboga and Okibo (2016) surveyed 142 Kenyan firms and found that cash processing and budgeting practices exerted a positive effect on performance. In Pakistan, Memon et al. (2017) assessed financing decisions using pooled OLS and reported no significant impact on firm performance, indicating that contextual factors may affect the planning-performance relationship.

In Ghana, Essel (2025) applied a two-step GMM technique to examine financial management practices between 2010 and 2023, showing that debt management, asset management, and liquidity management positively impacted corporate performance. Focusing on Nigeria, Akinnusotu and Azeez (2025) investigated ten

randomly selected firms from 2009 to 2023, using return on assets (ROA) as a performance measure and debt-to-asset ratio, debt-to-equity ratio, earnings per share, and dividend per share as independent variables. Panel OLS and Pedroni cointegration analyses revealed that financial planning positively influences firm performance, with a long-run cointegrating relationship. The study recommended prioritizing asset management, debt management, and shareholders' wealth maximization in financial planning.

Empirical evidence on the effect of debt-to-equity ratio on bank performance in Nigeria is mixed. Adesina et al. (2015) analysed ten quoted banks (2005–2012) and reported a significant positive relationship between capital structure (debt plus equity) and bank performance. In contrast, Olawale and Obinna (2023) examined banks from 2011–2021 and found that debt-to-equity ratio did not significantly influence ROA, while long-term debt positively affected performance, suggesting that debt composition and maturity matter more than the ratio alone. Similarly, Adeyemi and Adedeji (2022) concluded that over 2010–2019, debt-to-equity ratio was not a significant predictor of bank performance, whereas equity-to-capital and debt-to-capital ratios provided better explanatory power.

Liquidity management is another important dimension influencing bank performance in Nigeria. Shaibu and Okafor (2020) found that cash-to-total-assets and liquid-assets-to-total-assets ratios positively influenced ROA, while cash-to-deposit ratio negatively affected profitability; current ratio and loan-to-deposit ratio were insignificant. Nworie and Agwaramgbo (2023) reported that cash ratio reduced ROA, whereas quick ratio had a positive and significant impact, with current ratio remaining insignificant. Using System-GMM on 16 quoted banks, Oladele et al. (2023) found that only cash-reserve ratio consistently improved financial and operational performance, while bank size also mattered. Sani and Aroyehun (2025) similarly concluded that while liquidity enhances performance, excessive cash or high CRR may adversely affect profitability, highlighting the need for a balanced liquidity position.

Financial Control and Bank Performance

Rennox (2017) investigated 43 Kenyan commercial banks using structured questionnaires and regression analysis, finding a strong positive association between effective internal control elements and bank financial performance. Also, Umar and Dikko (2018) examined Nigerian deposit money banks using survey data from 382 staff members analysed with SPSS and SmartPLS. Their results show that components of internal control, such as, control environment, control activities, monitoring, and risk assessment, significantly and positively influence bank performance. Extending this discourse to the manufacturing sector, Ibrahim and Mustapha (2019) reported that financial control mechanisms significantly drive firm performance in Nigeria, reinforcing the broader value of robust control

systems. In a more recent Nigerian study, Agbo and Nwachukwu (2025) surveyed 69 bank staff and confirmed that compliance with internal control procedures exerts a strong, positive effect on bank performance, urging management to embed sound control frameworks.

In Kenya, Mukira et al. (2022) analysed primary and secondary data from 82 respondents and found that cost-reduction strategies significantly improve the performance of commercial banks. In Nigeria, Ayinuola and Gumel (2023) investigated Tier-1 and Tier-2 banks and reported that cost-to-income ratio (CIR) exerts a negative and significant effect on return on assets, suggesting that high operating costs undermine profitability; though CIR becomes positive yet insignificant when interacting with bank size and capital adequacy, Tier-1 banks remained more cost-efficient. Further, Olarewaju et al. (2017) showed that personnel expenses and cost-income ratio hold a long-run equilibrium relationship and a bidirectional causality, emphasizing that inefficiencies in cost structures threaten bank stability.

A rich body of evidence also evaluates how non-performing loans (NPLs) affect bank outcomes. Etale et al. (2016) examined Nigerian banks from 1994–2014 and found that sub-standard, doubtful, and bad loans exert significant negative effects on return on capital employed, underscoring NPLs as a major drag on performance. Using ARDL and VAR methods on data from 1990–2016, Ologbenla (2018) showed that NPLs significantly reduce return on assets, though their effect on profit after tax was insignificant. Likewise, Okoh et al. (2019) established that the NPL-to-total-loans ratio significantly lowers ROA, reaffirming that credit quality deterioration harms profitability. More recently, Odebode et al. (2024) analysed three commercial banks (2010–2021) and concluded that NPLs negatively influence return on equity, indicating that poor loan quality threatens shareholder value.

3.0 Methodology

This study employed an ex-post facto research design and was anchored on agency theory as advanced by Jensen and Meckling (1976). It utilized secondary data covering a 10-year period (2015–2024), extracted from the published annual reports of deposit money banks listed on the Nigerian Exchange Limited. The study population comprised all 13 listed banks as of December 24, 2024. A purposive sampling technique was applied to select banks with uninterrupted listing status and complete financial reports for the entire study period, while excluding banks listed after 2015, delisted between 2015 and 2024, or those with missing data. Based on these criteria, 11 banks qualified for the sample: Access Bank Plc, Ecobank Nigeria Plc, First Bank of Nigeria Ltd, First City Monument Bank Plc, Fidelity Bank Plc, Guaranty Trust Bank Plc, Stanbic IBTC Bank Plc, Sterling Bank Plc, United Bank for Africa Plc, Wema Bank Plc, and Zenith Bank Plc.

The study adapted and modified the model specified by Akinnusotu and Azeez (2025) to express its econometric form effect of financial planning and control on the financial performance of deposit money banks in Nigeria, using Panel Dynamic Generalized Methods of Moment.

$$ROAS_{it} = \alpha_0 + \alpha_1 ROAS_{i,t-1} + \beta_1 DTER_{it} + \beta_2 CTDR_{it} + \beta_3 NPLR_{it} + \beta_4 CTIR_{it} + \mu_i + \varepsilon_{it}$$

Where:

= Return on Assets
= Debt to Equity Ratio
= Cash to Deposit Ratio
= Non-Performing Loan Ratio
= Cash to Income Ratio
0 = Intercept
1 = Slope Coefficient on the Lagged Dependent Variable
1, 4 = Slope Coefficient for the Independent Variables
= Time-invariant bank fixed effect
= Stochastic disturbance
= i^{th} bank
= time period

3.1 Estimation Technique

This study employed a two-step Dynamic Generalized Method of Moments (GMM) estimator in first differences to examine the effect of financial planning and control on the financial performance of deposit money banks in Nigeria from 2015 to 2024. The dynamic panel approach included a lagged dependent variable (return on assets) to capture performance persistence. First differencing was applied to remove unobserved individual effects while preserving the sample size, with instruments specified as the second lag of ROAS and the first lags of DTER, Cash to Deposit Ratio, NPLR, and Cost to Income Ratio. The two-step GMM was chosen for its efficiency and its ability to correct for heteroskedasticity and autocorrelation. The Arellano–Bond test for serial correlation was conducted to ensure the absence of second-order autocorrelation and to validate the model specification.

3.2 Variable Measurement

This study on the effectiveness of financial planning and control on the financial performance of deposit money banks in Nigeria measured its variables as follows. Return on Assets (ROAS) was computed as profit after tax divided by total assets and expressed as a percentage. Debt to Equity Ratio (DTER) was measured as total liabilities divided by total equity, while Cash to Deposit Ratio (CTDR) was calculated as cash and bank balances (or cash equivalents) divided by customers' deposits. Non-Performing Loan Ratio (NPLR) was derived as total impaired loans

divided by gross loans and multiplied by 100. Cost to Income Ratio (CTIR) was obtained by dividing operating expenses by operating income. All data for these variables were sourced from the annual reports of the selected banks for the study period.

4.0 Empirical Results and Discussions

4.1 Descriptive Statistics

Table 1: Descriptive Statistics Results

	ROAS	DTER	CTDR	NPLR	CTIR
Mean	4.834273	8.309273	0.271455	5.674727	0.649182
Median	1.835000	8.015000	0.245000	4.700000	0.670000
Maximum	64.95000	16.35000	0.760000	24.70000	0.970000
Minimum	0.060000	3.880000	0.070000	1.000000	0.240000
Std. Dev.	10.03020	2.718971	0.151111	3.981759	0.167311
Skewness	4.125274	0.903899	1.191138	2.907790	-0.391851
Kurtosis	20.83447	3.522804	4.322212	13.39185	2.368698
Jarque-Bera	1769.808	16.23167	34.02431	649.9692	4.641676
Probability	0.000000	0.000299	0.000000	0.000000	0.098191
Sum	531.7700	914.0200	29.86000	624.2200	71.41000
Sum Sq. Dev.	10965.95	805.8155	2.488967	1728.130	3.051226
Observations	110	110	110	110	110

Source: Authors' Computation, 2025. Eview 2010

The descriptive statistics results in Table 1, provide an overview of the behaviour of the study variables. Return on Assets (ROAS) has a mean of 4.83% but shows very high variability, with a maximum of 64.95% and strong positive skewness, indicating that a few highly profitable banks recorded exceptionally high returns, which raised the overall average. Debt to Equity Ratio (DTER) averages 8.31, suggesting that Nigerian deposit money banks rely considerably on liabilities relative to equity, and its moderate skewness implies uneven leverage levels across banks. Cash to Deposit Ratio (CTDR) has a low mean of 0.27, indicating that banks hold relatively small cash reserves compared to customer deposits, with mild dispersion. Non-Performing Loan Ratio (NPLR) averages 5.67%, and its high skewness and kurtosis show the presence of some years with unusually high loan impairment. Cost to Income Ratio (CTIR) has a mean of 0.65, suggesting that about 65% of operating income is consumed by operating expenses. The Jarque-Bera statistics show that all variables except CTIR significantly deviate from normal distribution at the 5% level, indicating non-normality.

4.2 Unit Root Test

Table 2: Unit Root Test Results (Intercept and Trend)

Variable	ADF - Fisher Chi-square	P. Value	ADF - Choi Z-stat	P. Value	Order of Integration	Remarks
ROAS	57.3237	0.0001	-4.37443	0.0000	I(2)	Stationary
DTER	61.3000	0.0000	-4.70795	0.0000	I(2)	Stationary
CTDR	45.1006	0.0026	-2.20188	0.0138	I(0)	Stationary
NPLR	77.4562	0.0000	-5.83608	0.0000	I(2)	Stationary
CTIR	58.7555	0.0000	-4.63246	0.0000	I(1)	Stationary

Source: Authors' Computation, 2025. Eview 2010

The unit root test results in Table 2, indicate that all the variables are stationary, though at different levels of integration. ROAS, DTER, and NPLR are stationary at second difference, I(2), while CTIR is stationary at first difference, I(1). CTDR is stationary at level, I(0), meaning that it does not require differencing. The p-values for both the ADF-Fisher Chi-square and Choi Z-statistics are all below 0.05, confirming the rejection of the null hypothesis of non-stationarity. Therefore, the results suggest that the data are suitable for panel dynamic GMM estimation.

4.3 Correlation Matrix

The correlation matrix result provides insights into the relationships between financial planning and control variables, and the financial performance of Nigerian deposit money banks.

Table 3: Correlation Matrix Results

VARIABLES	ROAS	DTER	CTDR	NPLR	CTIR
ROAS	1.000000	-0.210152	0.348334	-0.077396	-0.476253
DTER	-0.210152	1.000000	-0.200027	-0.107471	0.322996
CTDR	0.348334	-0.200027	1.000000	-0.095576	-0.385649
NPLR	-0.077396	-0.107471	-0.095576	1.000000	0.061033
CTIR	-0.476253	0.322996	-0.385649	0.061033	1.000000

Source: Authors' Computation, 2025. Eview 2010

Table 3 contains correlation matrix results, which shows the linear relationships among the study variables. Return on Assets (ROAS) is negatively correlated with Debt to Equity Ratio (DTER) (-0.21) and Cost to Income Ratio (CTIR) (-0.48), suggesting that higher leverage and higher operating costs relative to income are associated with lower bank profitability. ROAS has a positive correlation with Cash to Deposit Ratio (CTDR) (0.35), indicating that banks with higher liquidity tend to perform better. Non-Performing Loan Ratio (NPLR) has weak negative correlations with ROAS (-0.08), DTER (-0.11), and CTDR (-0.10), implying minimal adverse relationship with profitability in this dataset. CTIR is positively correlated with DTER (0.32) but negatively with ROAS (-0.48) and CTDR (-0.39),

reflecting that higher costs relative to income are linked with lower profitability and lower liquidity. Thus, the correlations are moderate to weak, indicating no severe multicollinearity among the independent variables, making them suitable for regression analysis.

4.4 Arellano Bond Serial Correlation

The Arellano–Bond test checks for autocorrelation in the residuals of a dynamic panel GMM model, ensuring that the instruments used are valid and the model is correctly specified.

Table 4: Arellano-Bond Serial Correlation Test

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-476.737074	NA	NA
AR(2)	-0.207954	-1037.580508	4989.476955	0.8353

Source: Authors' Computation, 2025. Eview 2010

The Arellano-Bond serial correlation test results in Table 4, show no evidence of second-order autocorrelation in the model. While AR(1) is not reported, AR(2) has a p-value of 0.8353, which is greater than 0.05, indicating that the null hypothesis of no second-order serial correlation cannot be rejected. This suggests that the model residuals are not serially correlated at the second lag, confirming the validity of the instruments used in the dynamic panel estimation. The results support the reliability of the Arellano-Bond estimator for this dataset.

4.5 Regression Results (Panel Dynamic GMM) and Interpretation

Table 5: Two -Step Panel Dynamic GMM (First Difference) Results

Instrument specification: @DYN(ROAS,-2) DTER(-1) CTDR(-1) NPLR(-1) CTIR(-1)				
Constant added to instrument list				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROAS(-1)	0.478563	0.098705	4.848421	0.0000
DTER	0.947789	0.276704	3.425284	0.0010
CTDR	-5.796743	5.569355	-1.040828	0.3010
NPLR	-0.977350	0.186966	-5.227421	0.0000
CTIR	-5.874396	4.188458	-1.402520	0.1645
	Effects Specification			
Cross-section fixed (first differences)				
Mean dependent var	1.021250	S.D. dependent var		6.278436
S.E. of regression	7.053399	Sum squared resid		4129.286
J-statistic	7.608214	Instrument rank		11
Prob(J-statistic)	0.268234			

Source: Authors' Computation, 2025. Eview 2010

The two-step panel dynamic GMM results in Table 5, show how financial planning and control affect the financial performance of deposit money banks in Nigeria,

measured by ROAS. The lagged dependent variable, ROAS(-1), is positive and significant (0.479, $p < 0.01$), showing that past profitability influences current performance. Among the financial planning variables, Debt to Equity Ratio (DTER) is positive and significant (0.948, $p = 0.001$), indicating that effective leverage management improves bank profitability, while Cash to Deposit Ratio (CTDR) is negative and insignificant (-5.797, $p = 0.301$), suggesting liquidity management has no significant immediate effect on bank profitability. For financial control variables, Non-Performing Loan Ratio (NPLR) is negative and highly significant (-0.977, $p < 0.01$), showing that higher loan impairments reduce bank profitability, whereas Cost to Income Ratio (CTIR) is negative but insignificant (-5.874, $p = 0.165$), implying that operational efficiency does not significantly impact ROAS in this sample. The J-statistic (7.608, $p = 0.268$) confirms the validity of instruments used. The results overall, suggest that effective financial planning through leverage management and strict control over loan quality are significant drivers of bank performance, while liquidity and cost management show limited immediate effects.

4.6 Discussion of Findings and Hypotheses Testing

Debt to Equity Ratio and Bank Performance

The results show a positive and significant effect of Debt to Equity Ratio on Return on Assets of banks in Nigeria (0.948, $p = 0.001$), indicating that higher leverage improves bank profitability. Therefore, the null hypothesis stating that debt to equity ratio does significantly affects bank performance, is rejected in this study. This finding aligns with Adesina et al. (2015) which reported that effective capital structure enhances bank performance. It also supports Akinnusotu and Azeez (2025), who found that debt management positively influences ROA. However, it contrasts with Olawale and Obinna (2023) and Adeyemi and Adedeji (2022), who argued that debt composition matters more than the ratio itself. Thus, the result underscores that prudent leverage management is a key aspect of financial planning driving bank profitability.

Cash to Deposit Ratio and Bank Performance

Cash to Deposit Ratio exhibits a negative but insignificant effect on Return on Asset (-5.797, $p = 0.301$), suggesting that liquidity levels, as measured by cash holdings relative to customers deposits, do not significantly impact profitability in Nigerian banks. Accordingly, the null hypothesis which posited a no-significant effect of cash to deposit ratio on bank performance, is accepted. This aligns with Shaibu and Okafor (2020) and Nworie and Agwaramgbo (2023), who noted that excessive cash holdings can adversely affect returns. It also partially supports Oladele et al. (2023), emphasizing that only balanced liquidity positions enhance performance. The finding indicates that while cash management is important, its immediate effect on

profitability is minimal, emphasizing the need for optimal liquidity planning rather than excessive reserves.

Non-Performing Loan Ratio and Bank Performance

Non-Performing Loan Ratio has a negative and highly significant impact on Banks' Return on Asset (-0.977, $p < 0.01$), confirming that higher loan impairments reduce bank profitability. Thus, the null hypothesis which states that non-performing loan ratio does not significantly affects bank performance, is therefore rejected. This finding is consistent with Etale et al. (2016), Ologbenla (2018), Okoh et al. (2019), and Odebode et al. (2024), who found that credit quality deterioration undermines ROA and shareholder value. The result shows the important role of financial control in monitoring and managing credit risk, demonstrating that strict oversight of loan quality is essential for sustaining profitability in Nigerian banks.

Cost to Income Ratio (CTIR) and Bank Performance

Cost to Income Ratio shows a negative but insignificant effect on the Return on Assets of deposit money banks in Nigeria (-5.874, $p = 0.165$), which indicates that operating efficiency, as measured by the proportion of costs to income, does not significantly affect profitability in this sample. The null hypothesis of no significant effect of cost to income ratio on bank performance is therefore accepted. This partially supports Ayinuola and Gumel (2023), who reported that higher CIR reduces ROA, though its effect may vary with bank size and capital adequacy. The finding suggests that while cost management is important for operational control, its immediate effect on financial performance may be influenced by other contextual factors such as bank scale, revenue structure, and regulatory compliance.

5.0 Conclusion and Recommendations

This study examined the effect of financial planning and control on the financial performance of deposit money banks in Nigeria. The findings indicate that Debt to Equity Ratio, a financial planning measure, has a positive and significant impact on bank profitability, highlighting the importance of effective leverage management. Cash to Deposit Ratio, another planning variable, was negative but insignificant, suggesting that liquidity levels do not immediately influence profitability. Among financial control variables used in the study, Non-Performing Loan Ratio was negative and significant, therefore significantly reduces bank performance, underscoring the relevant role of credit risk management, while Cost to Income Ratio was negative and insignificant, implying that operational efficiency alone may not drive profitability. The study concludes that effective financial planning through debt management and strict financial control over loan quality are key drivers of bank performance, whereas liquidity and cost management have limited short-term effects.

The study recommends, based on its findings, that firstly, given the significant positive effect of the Debt to Equity Ratio on bank performance, regulators and bank managers should strengthen leverage planning by promoting optimal capital structure strategies that enhance profitability without exposing banks to excessive financial risk. This would encourage efficient use of borrowed funds and support sustainable performance in Nigerian deposit money banks. Secondly, since the Cash to Deposit Ratio showed a negative but insignificant effect on profitability, banks should focus on maintaining liquidity positions that are neither excessive nor inadequate. Thus, emphasis should be placed on developing liquidity planning frameworks that balance regulatory compliance with profitability objectives. Thirdly, the significant negative effect of Non-Performing Loan Ratio underscores the need for stricter credit risk control. The bank management should enhance loan monitoring systems, strengthen borrower assessment procedures, and enforce timely recovery actions to reduce loan impairments and protect earnings. Lastly, given the negative but insignificant effect of the Cost to Income Ratio, banks should continue improving operational efficiency through cost management initiatives, technological innovation, and revenue optimization strategies, ensuring that improvements in efficiency translate into stronger financial performance over time.

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