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Determinants of Financial Performance in Nigerian Deposit Money Banks: The Role of Bank-Specific and Macroeconomic Factors.

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Abstract

Deposit money bank (DMBs) in Nigeria have been grappling with serious challenges, which has resulted in fluctuations in the key performance indicators, especially earnings and profitability, which has been on decline over the years. This necessitates determining the effect of banks; specific and the macroeconomic variables on financial performance of DMBs in Nigeria, from 2003- 2023. The study employed the descriptive statistics and the Hildreth-Lu time series regression technique for the analysis of data. For the bank-specific variables, asset growth, leverage and asset quality were adopted, while interest rate, inflation rate, exchange rate, and economic growth were the macroeconomic variables used. Findings reveal that asset growth and inflation rate have insignificant effect; leverage and exchange rate have a negative but significant effect, while asset quality, interest rate, and economic growth tends to have a significant positive effect on the financial performance, measured by the net interest margin (NIM). This study draws the conclusion that firms' performance is highly contingent on both the factors specific to banks and the external macroeconomic variables, with the macroeconomic determinants having an edge over the former. Banks should take measures to manage the growth in total assets more economically, effectively, and efficiently, in order to generate additional earnings. Banks can advantage of the prevailing interest rate to generate more earnings through credit creation.

Keywords: *Asset Growth; Leverage; Asset Quality; Interest Rate; Inflation Rate.*

1. Introduction

The performance of deposit money banks (DMBs) has received serious attention because the banking sector plays a crucial role in the overall economic well-being of nations around the globe. For instance, in developed economies like Canada, commercial banks have maintained a stable financial performance, with the top five banks reporting a combined profit of CAD 45.4 billion in 2020 (Dodge, 2024). 70 per cent of commercial banks in Brazil, reported profitable operations in 2022, with an average return on equity (ROE) of 15 per cent (So, & Liao, 2024). Similarly, 80 per cent of commercial banks in Germany achieved profitable operations in 2022, with an average ROE of 12 per cent, a performance that was sustained in 2023 (Resilience, 2023). China's commercial banks also demonstrated strong financial health, with 90 per cent reporting profitable operations in 2022 and an average ROE of 18 per cent (Jigeer, & Koroleva, 2023), In Japan, 85 per cent of commercial banks reported profitable operations in both 2022 and 2023, with an average ROE of 10 per cent in both years (Arai, & Hirota, 2023). In South Africa, the situation was not different, as 75 per cent of the commercial banks in South Africa reported profitable

operations in 2022, with an average ROE of 14 per cent, a trend that was sustained into 2023 (Gondwe, 2023). However, the DMBs in Nigeria struggled to stay afloat in 2023, as the sector's financial performance was severely impacted by the challenging macroeconomic operating environment (Adeyemi, 2024; Central Bank of Nigeria {CBN}, 2023; Pillah, 2023).

A review of the DMBs performance in Nigeria shows return on assets (ROA), ROE as well as the yield on earning assets (YEA) declined from 22.20 per cent, 2.62 per cent, and 11.92 per cent in 2012 to 19.14 per cent, 2.15 per cent and 12.13 per cent in 2013, respectively (Nigeria deposit insurance corporation [NDIC], 2013). The economic recession, amongst other factors affected the earnings and profitability of the DMBs as most of the profitability indices declined in 2016. The DMBs ROA decreased from 2.34 per cent in 2015 to 1.48 per cent in 2016, while the ROE fell from 19.78 per cent in 2015 to 12.56 per cent in 2016 (NDIC, 2016). The YEA, ROE and ROA all declined from 12.50 per cent, 25.80 per cent and 2.30 per cent in 2019 to 2.28 per cent, 22.66 per cent and 1.97 per cent in 2020, respectively (NDIC, 2020). Furthermore, ROE and ROA declined from 22.66 per cent and 1.77 per cent at the end of December 2020 to 6.79 per cent and 0.46 per cent at the end of December 2021, respectively (NDIC, 2021). The DMBs subsector's ROA increased by 0.50 per cent to 1.90 per cent at the end of December 2022, from 1.40 per cent at the end of December 2021. Also, the ROE of DMBs increased by 6.60 percentage points to 23.80 per cent at the end of December 2022, from 17.20 per cent at the end of December 2021 (NDIC, 2022).

Financial performance can be affected by both the bank-specific (bank size, capital adequacy, credit risk, liquidity risk, leverage, operational efficiency, asset quality, and its management, etc.) and macroeconomic (interest rate, inflation rate, exchange rates, GDP, etc.) variables (Gazi et al., 2024). Jahan (2014) contend that both bank-specific factors and the macroeconomic environment have varying implications on financial performance (Jahan 2014). Thus, managers continuously scan the external environment for opportunities and threats and plan their internal resources in such a manner that will help in exploiting opportunities and avoid threats (Nawaz et al., 2023).

Acknowledging the fundamentals of firm-specific and macroeconomic factors in determining firm financial performance and the varying outcomes which the prior empirical studies document, more evidence especially within the context of the developing countries is welcome. Moreover, the macroeconomic factors which are beyond the control of the firm change rapidly presenting numerous challenges for the management to adjust and respond to these changes (Nawaz et al., 2023). This study, therefore, examines the bank-specific and macroeconomic factors that affects performance of DMBs in Nigeria, by utilising annual time-series data that span from 2003 to 2023.

2. Literature Review

2.1. Financial Performance

Financial performance of a bank is an indicator that provides an overview of a bank's financial condition (Nurlaili & Miranti, 2023). Bank performance as revealed by different financial ratios can be used to take decisions regarding investment, financing, and dividends. Banks' performance refers to the assessment of how well a DMB is operating, generating profits, managing risks, and providing financial services to its customers. Key components of assessing commercial bank performance is profitability, measured through metrics such as NIM, ROA, and ROE (Oko, 2023).

2.2. Firm-Specific Variables

Firm specific variables are those distinct individualities that set a business firm apart from its peers, which relatively are the strategic drivers of the firm's decision-making processes and performance indicators (Taiwo et al., 2022). Bank-specific variables are those factors that are unique to a bank, and may include

asset growth, CAR, asset quality, size, management efficiency, liquidity, leverage, board size, etc. However, this study uses asset growth, leverage, and asset quality to represent bank-specific variables.

2.3. Macroeconomic Variables

Macroeconomic indicators are elements that characterize a country's economy and business environment and are beyond the control of a single firm (Williams & Thompson, 2019). Some of these macroeconomic variables include GDP, inflation rate, unemployment rate, and balance of trade (Shpak, 2022). Other macroeconomic indicators, include: interest rate, foreign exchange rate, money supply, among others (Anderson & Williams, 2021). Interest rate, inflation rate, exchange rate, and economic growth were utilised.

2.4. Conceptual Framework

The framework is developed following the outcome of comprehensive review of literature, and consideration for multicollinearity issues. The framework is given in figure 1.

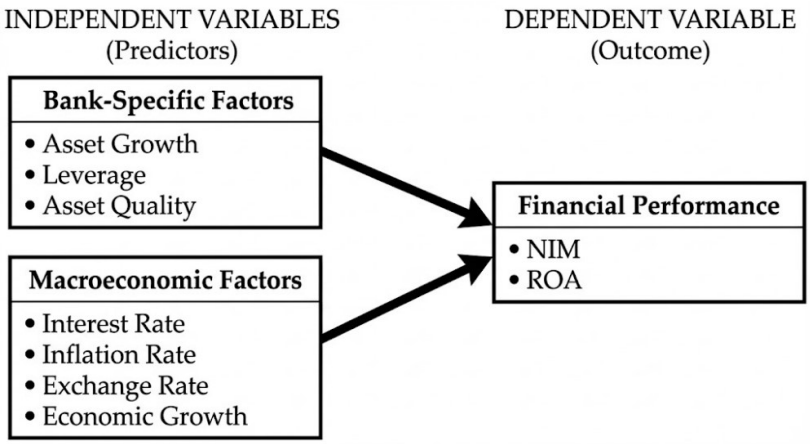

Figure 1. Conceptual Framework.

In Figure 1, the three bank-specific variables and macroeconomic variables are the independent variables, and were adopted from the works of Akbari and Naseri (2022), Al-Homaidi et al. (2018), and Naderi (2021), while financial performance measures- NIM and ROA are the dependent variables.

2.5. Theoretical Review

2.5.1. Resource-based View Theory

The Resource-based view (RBV) theory propounded by Penrose (1959) was used as the theoretical underpinning for explaining the link between the bank-specific variables and the financial performance. The theory uses resources as a determining factor for evaluating the performance growth level of the firm (Radjenović & Krstić, 2017). The RBV theory assumes that firms can deploy their strategic internal resources to gain competitive edge (Taiwo et al., 2022). The RBV theory expects a positive relationship between firms' internal resources and financial performance as observed by (Denizel & Özdemir, 2006).

2.5.2 Modern Portfolio Theory

Modern portfolio theory (MPT) was propounded by Markowitz (1952). MPT is a theory of optimisation. This means that any investment firm should have a portfolio of asset in different types of investments, so as to spread the risk. It is a norm for banks to invest in a diversified portfolio in order to reduce risk and maximize the returns from the various investment alternatives (Cumming, 2009). Consistent with the portfolio theory's essentials of diversification and risk minimization, modern financial theory has focused on macroeconomic variables as likely sources of systematic risk (Markowitz, 1952).

2.6 Review of Empirical Studies and Hypotheses Development

2.6.1 Asset Growth and Financial Performance

Yadav et al. (2021), Musah et al. (2019), Siddik et al. (2017), Coad (2010), and Coad et al. (2011), all observed that growth opportunities have a positve link with the financial performance. However, Jang and Park (2011) show a negative effect of growth on financial performance. Based on the above results, we formulate hypothesis one as:

H1: Asset growth will have a positve effect on financial performance.

2.6.2 Leverage and Financial Performance

Guberaj et al. (2024), Okeke (2023), Chalise and Adhikari (2022), Okonkwo and Okonkwo (2020), Siddik et al. (2017), and Yakubu et al. (2017), examined the impact of financial leverage of financial performance, and all revealed a negative relationship. However, a positve relationship was recorded by Arthur-Sam (2024), Lestari (2021), and Shaik and Sharma (2021). Based on the foregoing results, we developed hypothesis two as:

H2: Leverage is significantly negatively connected with the financial performance.

2.6.3 Asset Quality and Financial Performance

Magaji and Ahmad (2024), Chukwu et al. (2024), Bhowmik and Sarker (2024), Florid and Purnamasari (2023), Silva et al. (2023), AlRowaiei et al. (2021), and Çollakua and Aliub (2021), all discovered a negative link between asset quality and performance. In contrast, Adeleke et al. (2023), and Okoli et al. (2020), did not find any significant link between the variables. Hence, hypothesis three is formulated as:

H3: Asset quality is significantly negatively associated with the financial performance.

2.6.4 Interest Rate and Financial Performance

Ndiritu et al. (2024), Onyango and Kalunda (2023), Adebiyi and Babatope-Obasa (2020), Alhassan et al. (2018), and Ngure (2014), reported a positive and significant relationship between interest rate and performance. However, a negative effect of interest rate on performance was unveiled by Ahmed et al. (2018), and Ogunbiyi and Ihejirika (2014).

Based on the above results, we hypothesized that:

H4: Interest rate is positively related to financial performance.

2.6.5 Inflation Rate and Financial Performance

Akbari and Naseri (2022), and Bilalli et al. (2024), unravel that higher inflation levels undermine financial sector performance. However, Akinadewo et al. (2023), Thompson and Jones (2021), Jallow (2023), and Rogers (2020) reported a significant positive relationship between inflation rate and bank financial performance Hence, hypothesis five is stated as:

H5: Inflation rate has a negative effect on financial performance.

2.6.6 Exchange Rate and Financial Performance

Garr et al. (2022), Zeleke (2022), and Majok (2015) show that fluctuation in exchange rate is positive and significantly related to financial performance. However, Tadesse (2016), and Ahmed (2015), reveals that exchange rate has a significant negative effect on performance. Hence, we develop the following hypothesis:

H6: Exchange rate is positively connected to financial performance.

2.6.7 Economic Growth and Financial Performance

Ledhem and Mekidiche (2020), Alkhazaleh (2017), Ebenezer et al. (2017), and Jayasena et al. (2023) shows that economic growth (GDP) has a positve and significant impact on financial performance, while research by Siddik et al. (2017) and Adekola (2016), reveal a negative relationship. We therefore hypothesised that:

H7: Economic growth is positively related to financial performance.

3. Methodology

This study employed the annual time series of the entire DMBs in Nigeria from 2003 to 2023 using Expost facto design. The data were retrieved from the NDIC statistical data base, NDIC annual reports and accounts, CBN statistical database, and CBN statistical bulletins. Descriptive and Hildreth-Lu time-series regression techniques are used to analyse the data collected. Hildreth-Lu time-series regression technique was chosen over the commonly adopted OLS because it was a technique designed specifically to handle time-series data, and it takes into account data stationary, which the OLS method overlooked.

The variables were measured using the previously adopted measures in the literature. Asset growth was defined as the annual growth in total assets (Siddik et al., 2017); leverage was measured by earnings before interest taxes (EBIT)divided by interest expense (Arhinful and Radmehr (2023a); asset quality was defined as the ratio of non-performing loan to total loans (NDIC. 2022). Similarly, interest rate was based on the maximum lending rate, inflation rate was measured using the annual change in price of all items, and the exchange rate was measured through the central value of buying and selling rate of naira to dollar, and all figures were lifted from CBN (2022). Also, economic growth was measured using the annual change in GDP (Alkhazaleh, 2017). Furthermore, NIM has been measured as net interest income divided by total assets (Pradhan & Shrestha, 2019), while ROA was measured as net income divided by total asset (NDIC, 2022).

The study models are presented as follows:

$$NIM_t = \Delta_0 + \Delta_1 ASG_t + \Delta_2 LEV_t + \Delta_3 ASQ_t + \Delta_4 INR_t + \Delta_5 IFR_t + \Delta_6 EXR_t + \Delta_7 ECG_t + \varepsilon_t \text{- I}$$

$$ROA_t = \Delta_0 + \Delta_1 ASG_t + \Delta_2 LEV_t + \Delta_3 ASQ_t + \Delta_4 INR_t + \Delta_5 IFR_t + \Delta_6 EXR_t + \Delta_7 ECG_t + \varepsilon_t \text{- II}$$

Where:

NIM_t = Net interest margin at annual time t, ROA_t = Return on assets at annual time t, Δ_0 = The intercept, Δ_1 to Δ_7 = Coefficients of the time-series regression model, ASG_t = Asset growth at annual time t, LEV_t= Leverage at annual time t, ASQ_t = Asset quality at annual time t, INR_t = Interest rate at annual time t, IFR_t = Inflation rate at annual time t, EXR_t = Exchange rate at annual time t, ECG_t = Economic growth at annual time t, ε_t = Error term at annual time t.

4. Results and Discussion

4.1 Multicollinearity Test

The variance inflation factor (VIF) is computed to detect multicollinearity. Table 1 gives the results of the VIF and the tolerance statistic.

Tale 1. Collinearity Statistic

Variables	VIF	Tolerance
ASG	**2.190**	**0.4566**
LEV	**1.243**	**0.8045**
ASQ	**1.775**	**0.5634**
ITR	**8.416**	**0.1188**
IFR	**2.018**	**0.4955**
L_EXR	**7.923**	**0.1262**
ECG	**1.604**	**0.6234**

Source: Authors' Computations

Table 1 shows that no single independent variable has a VIF above 10, and the tolerance statistics below 0.1. implying that multicollinearity is not an issue (Suganya & Kengatharan, 2018).

4.2 Heteroskedasticity Test

Heteroskedasticity occurs when error variance is not constant (Gujarati & Porter, 2009). The Lagrange Multiplier (LM) for the NIM model is 0.1044 and the associated p-value is 0.7466, which provides that since the p-value is not significant, the null hypothesis cannot be rejected. Hence, this study concludes that no Autoregressive Conditional Heteroskedasticity (ARCH) effect is present in the NIM model. For the ROA model, the LM test statistic is 1.2839 and the p-value is 0.2572, which is also insignificant. Hence, model 2 has no ARCH effect.

4.3 Autocorrelation Test

Autocorrelation occurs when error terms seems to be correlated (Gujarati & Porter, 2009). The Durbin-Watson (D-W) statistic used to measure autocorrelation is respectively 1.58 and 1.80 for the NIM and ROA models. Since the D-W statistic for the two models are approximately 2, it shows that autocorrelation is non-existent (Field, 2009).

4.4 Stationary Test

The test is conducted through the Kwiatkowski-Phillips-Schmidt-Shin (KPSS). The null hypothesis is that the time-series data is stationary. Tale 2 shows the results of the of the KPSS at level including a trend.

Table 2. Unit Root Test Results for KPSS

Variable	Coefficient	Std. error	t-ratio	p-value
ASG	**0.0015**	**0.0056**	**0.2657**	**0.7935**
LEV	**-0.0032**	**0.0162**	**-0.1995**	**0.8441**
ASQ	**0.0004**	**0.0034**	**0.1384**	**0.8915**
ITR	**0.0014**	**0.0008**	**1.7030**	**0.1059**
IFR	**0.0012**	**0.0022**	**0.5507**	**0.5886**
L_EXR	**0.0029**	**0.0019**	**1.5730**	**0.1331**
ECG	**-0.0108**	**0.1416**	**-0.0765**	**0.9399**
NIM	**0.0007**	**0.0012**	**0.5601**	**0.5823**
ROA	**0.0011**	**0.0089**	**0.1221**	**0.9042**

Source: Authors' Computations

The p-values of the each of the variables are insignificant as shown in Table 2. Hence, all variables are stationary at levels.

4.5 Descriptive Results and Analysis

Table 4 presents the descriptive statistics results.

Table 4. Descriptive Results

Variable	*Mean*	*Minimum*	*Maximum*	*Standard Deviation*
ASG	*0.19*	*-0.01*	*0.59*	*0.15*
LEV	*1.65*	*0.99*	*2.10*	*0.26*
ASQ	*0.11*	*0.03*	*0.33*	*0.08*
ITR	*0.25*	*0.18*	*0.31*	*0.04*
IFR	*0.13*	*0.07*	*0.24*	*0.04*
L_EXR	*2.28*	*2.07*	*2.65*	*0.20*
ECG	*0.62*	*-0.89*	*10.53*	*2.29*
NIM	*0.06*	*0.01*	*0.14*	*0.04*
ROA	*-0.01*	*-0.65*	*0.04*	*0.15*

Source: Authors' Computations

Table 4 shows that asset growth (ASG) has 0.19 as mean, which connotes the average asset growth of DMBs in Nigeria stood at 19 Percent. The mean indicates that DMBs in Nigeria experienced a moderate growth in total assets during the period. The mean leverage is 1.65 times, implying that DMBs in Nigeria are not generating adequate operating earnings to cover the fixed interest payments. Similarly, asset

quality (ASQ) has a mean of 0.11, which implies that 11 Percent of total loans granted by the DMBs in Nigeria are non-performing. This is figure is more than doubled the regulatory minimum of 5 Percent. This revelation testifies to the poor quality of asset management by the DMBs in Nigeria.

Interest rate (ITR) has an average of 0.25, which denotes that the average maximum lending rate was pegged at 25 Percent during the review period. While the 2-digit lending rate may sound profitable to the lending institutions, it appears unhealthy for the manufacturing and other sectors that rely heavily on external financing. Additionally, the mean inflation rate (IFR) of 0.13, implies that the average inflation for all items is 13 Percent during the period.

The results show that the average exchange rate of naira to dollar is ₦191 (Antilog of 2.28) while the minimum exchange rate is ₦117 (Antilog of 2.07) and the maximum exchange rate is ₦447 (Antilog of 2.65). The results show that movements in the exchange rate in Nigeria follow a secular trend. Also, Economic growth has a mean of 0.62, which represents a 62 annual growth in GDP. The mean value confirms that there was a period that Nigeria recorded high economic growth.

Additionally, an average of NIM of 0.06, shows that only 6 Percent of the interest income was generated by the total asset, which may indicate inefficiency in the management of total assets. ROA has a mean of -0.01, which shows the inability of banks in Nigeria to utilise their assets to generate earnings for the banks.

4.6 Regression Results and Analysis

Table 4.5 presents the Hildreth-Lu estimated time series regression results of the NIM model.

Table 5. Hildreth-Lu Regression Results using NIM

	Coefficient	*Std. Error*	*t-ratio*	*p-value*
Const.	*64.14*	*41.08*	*1.56*	*0.14*
ASG	*-0.01*	*0.03*	*-0.28*	*0.78*
LEV	*-0.02*	*0.01*	*-2.33*	*0.04***
ASQ	*0.29*	*0.07*	*4.46*	*0.00****
ITR	*0.44*	*0.16*	*2.76*	*0.02***
IFR	*0.09*	*0.08*	*1.07*	*0.31*
L_EXR	*-0.35*	*0.10*	*-3.64*	*0.00****
ECG	*0.01*	*0.00*	*5.28*	*0.00****
Statistics based on the rho-differenced data:				
Mean dependent var	*0.06*		***S.D. dependent var***	*0.04*
Sum squared resid	*0.00*		***S.E. of regression***	*0.01*
R-squared	*0.92*		***Adjusted R-squared***	*0.88*
F(7, 12)	*12.56*		***P-value(F)***	*0.00****
rho	*0.21*		***Durbin-Watson***	*1.58*

'*', '**', & '***' implies significant at 10%, 5% & 1% respectively.

Source: Authors' Computation

Table 5 shows that five out of the seven independent variables in the NIM model are statistically significant at either 1 Percent or 5 Percent levels. Also, the F-statistic of the NIM model was statistically significant at 1 Percent, implying that the NIM has a model fit and can be used for drawing conclusion. The estimated Hildreth-Lu regression results of the ROA model, is also presented in Table 6.

Table 6. Hildreth-Lu Regression Results using ROA

	Coefficient	*Std. Error*	*t-ratio*	*p-value*
Const.	*-4.41*	*1.47*	*-2.99*	*0.01***
GRT	*-0.70*	*0.19*	*-3.75*	*0.00****
LEV	*0.12*	*0.05*	*2.27*	*0.04***

ASQ	*-2.54*	*0.39*	*-6.48*	*0.00****
ITR	*-1.22*	*1.01*	*-1.22*	*0.25*
IFR	*-1.40*	*0.52*	*-2.67*	*0.02***
L_ECR	*1.70*	*0.55*	*3.07*	*0.00****
GDP	*0.02*	*0.01*	*2.01*	*0.07**
Statistics based on the rho-differenced data:				
Mean dependent var	*-0.01*		***S.D. dependent var***	*0.15*
Sum squared resid	*0.08*		***S.E. of regression***	*0.08*
R-squared	*0.82*		***Adjusted R-squared***	*0.71*
F(7, 12)	*16.86*		***P-value(F)***	*0.00****
rho	*0.03*		***Durbin-Watson***	*1.78*

'*', '**', & '***' implies significant at 10%, 5% & 1% respectively.
Source: Authors' Computation

Table 6 shows that six out of the seven independent variables in the ROA model were statistically significant at different levels, with only interest rate having an insignificant negative sign. Furthermore, the F-statistic of the ROA model was also significant at 1 Percent level, suggesting that there is model fit in the ROA model. The implication is that the ROA model can also be relied on for making inferences and drawing reliable conclusion.

4.7 Model Adequacy and Selection

The statistical comparisons of the NIM and the ROA models are done to identify the best model. For the model selection, the results of the diagnostic tests, adjusted R-squared, standard errors, Rho, and F-statistics are used. The results show that the two models passed all the tests conducted. Similarly, both models are fit and robust as revealed by their 1 Percent significant F-statistics. The two models equally have high adjusted R-squared, low standard errors, and high Rho, which are good indicators of a model adequacy. As a rule of thumb, a model with high R-squared, low standard error, and high Rho is considered the best, and on these grounds, the NIM model is chosen. Consequently, discussion of findings and recommendations shall be guided by the NIM model.

4.8 Discussion of Research Findings

4.8.1 Asset Growth and Financial Performance

The asset growth has -.01 as a coefficient, which could be interpreted as the growth in total assets of DMBs in Nigeria rise by 1 Percent, the financial performance proxy by NIM will diminish by .01 Percent as well. This result implies that a growth in the total assets of the DMBs in Nigeria will results in a corresponding decrease in the NIM, which is attributed to the poor management of total assets. The negative link could be due to the inability of the banks to finance the increasing need of assets to generate additional earnings. This result is inconsistent with the outcomes of the studies by Yadav et al. (2021), Musah et al. (2019), and Siddik et al. (2017).

4.8.2 Leverage and Financial Performance

The study based on the significant p-value of .04, supported hypothesis two. The leverage has a coefficient of -.02 and the t-value of -2.33. The t-value which is negative implies that leverage has a negative effect on the NIM. The negative result could be triggered by the difficulty in generating sufficient earnings. Additionally, the negative results confirm the adverse effect of fixed interest payments on earnings. Empirical studies by Ghosh and Mondal (2024), Akinadewo et al. (2023), and Bekhet et al. (2020) supported the negative relationship between leverage and financial performance.

4.8.3 Asset Quality and Financial Performance

Asset quality is positively related to the financial performance as revealed by the t-value of 4.46, which is 1 percent significant. In other words, as the asset quality increases, the financial performance tends to increase also. The implication is that as the size of the total loans given by the DMBs increases, the net interest income will increase, so also the NIM, provided that the non-performing loans are kept at minimal level. The result provides more evidence that efficient management of the asset quality is

associated with higher financial performance, as banks generate a lot of fixed income from loans granted to individuals, firms, and government. This finding is supported by Al-Homodai et al. (2020), Gazi et al. (2024), and Jallow (2023), and inconsistent with the results of Akinadewo et al. (2023), and Jayasena et al. (2023).

4.8.4 Interest Rate and Financial Performance

The interest rate has a coefficient of 0.44, meaning that as interest rate is increased by 1 Percent, a 0.44 Percent increase in the financial performance is also expected. The results confirm that a rise in the interest rate will mean well for the DMBs since the chunk of their earnings emanate from interest charges. The following empirical studies (Akbari & Naseri, 2022; Gazi et al., 2024) supported the positve relationship between interest rate and financial performance, while an insignificant result was reported by Jayasena et al. (2023).

4.8.5 Inflation Rate and Financial Performance

The inflation rate was not significant, although, it has a positve t-value, which means that an increase in the inflation rate has the potential to cause an increase in the financial performance. A rise in the inflation rate will bring about an increase in the cost of financial services, which will trigger a surge in the interest income and subsequently, the financial performance. Our result concords with that of Sanusi and Zulaikha (2019), but differs with the positve significant results of Gazi et al. (2024), Jallow (2023), and Akinadewo et al. (2023), and negative result of Akbar and Naseri (2022).

4.8.6 Exchange Rate and Financial Performance

The exchange rate has a coefficient of -0.35, which indicates that a 1 Percent increase in the exchange rate will have the financial performance declined by 0.35 Percent. The deteriorating exchange rate in Nigeria in which naira was found to be very weak compared to dollar and other hard currencies, and dollar scarcity could be accounted as responsible for the detrimental effect of the exchange rate on the financial performance of DMBs in Nigeria. The results of Ghosh and Mondal (2024) and Akbari and Naseri (2022) supported the significant negative relationship between exchange rate and bank performance discovered in this study.

4.8.7 Economic Growth and Financial Performance

The economic growth has a coefficient of 0.01, implying that a 1 Percent in the economic growth will give rise to a 0.01 Percent increase in the financial performance. The implication is that as GDP grows, the financial performance tends to grow as well due to increasing economic activities including production capacity. This results agree with the findings of Ebenezer et al. (2017), Jallow (2023), Akinadewo et al. (2023), and Jayasena et al. (2023), but inconsistent with the results reported by Gazi et al. (2024) and Bekhet et al. (2020).

5. Conclusion and Recommendations

This study empirically examined the determinants of financial performance for Deposit Money Banks (DMBs) in Nigeria from 2003 to 2023, focusing on the comparative impact of bank-specific variables versus macroeconomic indices. The empirical evidence leads to the conclusion that the financial performance of Nigerian DMBs is contingent upon a complex interplay of both internal and external drivers. However, the results notably suggest that macroeconomic determinants exert a more dominant influence on net interest margins than bank-specific factors. Specifically, while asset quality, interest rates, and economic growth were found to be significant positive drivers of performance, leverage and exchange rate volatility posed significant threats to profitability.

Based on these findings, it is recommended that bank management prioritize the optimization of asset growth by favoring quality over quantity. Strategies should focus on efficient asset utilization and rigorous cost control rather than aggressive expansion that may erode value. This approach must be complemented by strategic capital structure management, where banks exercise caution regarding financial leverage; debt financing should be channeled strictly into high-yield investment projects where the internal rate of return significantly exceeds the cost of debt. Furthermore, to maximize the positive impact of asset

quality, banks must strictly adhere to robust internal credit policies and regulatory guidelines, utilizing enhanced due diligence to minimize non-performing loans when extending credit to individuals, corporate firms, and the government. In relation to the external environment, banks should strategically align their credit creation activities with prevailing interest rate dynamics and economic cycles. By maintaining an agile lending portfolio, banks can capitalize on favorable interest rate margins and adopt pro-cyclical lending strategies during periods of rising GDP to capture the benefits of increased economic activity. Although inflation presents challenges, banks should adopt dynamic pricing models to adjust lending rates in response to purchasing power fluctuations, ensuring real returns remain positive. Finally, in light of the detrimental effect of exchange rate volatility, it is critical for banks to implement comprehensive hedging strategies against currency risk, while stakeholders and regulators should actively pursue policies that enhance foreign exchange liquidity to stabilize the operating environment.

While this study provides critical insights into the performance determinants of the Nigerian banking sector, inherent limitations exist which offer avenues for future research. The scope of this study was restricted to Deposit Money Banks, meaning that other critical financial institutions—such as Microfinance Banks, Primary Mortgage Institutions, Insurance Companies, and Unit Trusts—were excluded. Consequently, caution should be exercised when generalizing these findings to the broader Nigerian financial system, and future studies could benefit from expanding the scope to include a comparative analysis across these different financial sub-sectors.

Furthermore, statistical constraints related to multicollinearity limited the study to three bank-specific and four macroeconomic independent variables, omitting significant determinants such as Capital Adequacy Ratio, Liquidity Ratio, Unemployment Rate, and Oil Prices. Additionally, the research focused primarily on Net Interest Margin and Return on Assets as proxies for financial performance, excluding robust metrics like Return on Equity, Earnings Per Share, and Tobin's Q. Future researchers are encouraged to employ alternative statistical techniques that can accommodate a wider array of variables and utilize these alternative performance metrics to validate and robustify the findings presented herein.

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