

# Determinants of Financial Performance of Deposit Money Banks in Nigeria

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**Abstract:** This study examined the determinants of financial performance of deposit money banks in Nigeria using time series annual data spanning from 1999-2020. The study used secondary data sourced from the Central Bank of Nigeria (CBN) statistical bulletin and World Bank Global Financial Development Data. Return On Assets (ROA) was used as a proxy for bank performance while some bank specific variables like Management Efficiency (MEF), Capital Adequacy (CAD) and Asset Quality (ASQ) and macroeconomic variable; Inflation (INF) were considered as the determinants. The data were analyzed using the Autoregressive Distributed Lag (ARDL). The stationarity test and cointegration test revealed that all the series were stationary at I(1) and adequately cointegrated respectively. The study revealed a positive and significant relationship between bank performance and the determinants considered in the model. The study also found that MEF, INF, CAD exerted significant negative relationship while ASQ displayed a significant positive relationship with bank performance in Nigeria. The study therefore recommends that banks should give due attention to their operational cost efficiency and leverage ratio, because too much expenses in relation with revenue and engaging in debts beyond their capacity will continue to have significant negative effect on their financial performance. Again, the Central Bank of Nigeria should review the regulatory capital review since the impact of capital adequacy on bank performance also depends on the quality of capital. The CBN should pressure the banks to increase the quality of capital they keep and reduce their holdings of hybrid capital structure since hybrid capital is of low quality.

**Keywords:** Assets Quality, Capital Adequacy, Financial Performance, Return on Asset.

## I. INTRODUCTION

Financial sector is the economic backbone of any country. It is the wheel through which economic activities of any country rotates. A strong financial system promotes investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources and makes easy the trade of goods and services. Deposit money banks as one of the major participants in financial sector play a vital role in the economic resource allocation of countries. They do this by channeling funds from surplus economic units to deficit economic units continuously. Banks can do so, if enough income is generated to cover their operational costs incurred in the due course of the intermediation. The deposit is mobilized at a cost to the bank and this cost is often called interest. On the other hand, it is passed to the users who also

pay interest though at a higher rates than the deposit rate. In other words for sustainable intermediation function, banks need to be profitable.

Beyond the intermediation function, the financial performance of deposit money banks has critical implications for economic growth of countries (Ongore and Kusa, 2013) Banks, like any other businesses are driven by the profit motive and good financial performance rewards the shareholders for their investment and involvements. This, in turn, encourages additional investment and patronage and brings about sustainable economic development. On the other hand, poor banking performance can lead to banking failure and crisis which has negative impact on the economic development of any country.

This informs the reason why monetary authorities are always poised to regulating the banking system. Increased regulations and counter deregulations have encouraged competition in the banking sector, and hence exposed banks to increased fragility. For example between 1990 and 2004, bank regulators have increased the minimum share capital of banks operating in Nigeria five times (Aburime and Uche, 2008). These reforms were all aimed at improving the balance sheet, profitability and stability of banks in Nigeria, even though the outcomes sometime differ from expectations. Policy makers have often resorted to increasing the minimum share capital to fix an imminent shortfall in bank balance sheet, with the conviction that bank fragility is often allayed by a strong capital base.

Oluitan, (2014) postulated that banks' health is a function of two core variables; Liquidity and Profitability and Zawadi (2013) also agreed that a healthy financial system of banks is the guarantee not only for depositors but also for all stakeholders who directly or indirectly are affected with banks' operation such as: shareholders, employees, investors, depositors, government and the whole economy at large. As a means to boost the confidence of these stakeholders, efforts have been exerted to assess the determinants of financial performance of financial institutions in general and the banking sector in particular by various researchers. It would be difficult to manage banks and enjoy their benefits to the economy without understanding and managing such determinants of bank financial performance.

There have been numbers of studies carried out to analyze the determinants of financial performance of banks in Nigerian and different parts of the world. Some of this studies were based on or devoted to appraising the bank performance on few banks, some used on ROA or ROE as only measure of bank performance, Oluitan,(2004), Ozili,( 2019), Ongore and Kusa (2013), Zawadi,2014) Chidozie and Ayadi (2017). Identifying the key success factor of deposit money bank performance allows designing policies that improve the performance of the banking industry in Nigeria. Bank specific and macroeconomic variables that determine bank performance require further investigation among researchers with a view addressing the core determinants of bank performance. What are these factors that will really improve the performance of deposit money banks in Nigeria? Almost all the studies in determining of bank performance in Nigeria used case studies of few banks (Saheed 2018, Osadume & Ibenta 2008). This study incorporated bank specific and macro-economic factors with overall data of all banks in Nigeria from World Bank Global Financial Development.

However, this study uses key variables which were not included in some of the studies so far done by previous researchers such as interest income, leverage ratio and operational cost efficiency and the use of World Bank global financial development data which incorporated all the banks in Nigeria. Hence, this study mainly concentrated on determining key variables that could affect the bank performance of all the deposit money banks in Nigeria from 1999 to 2020

The main objective this study is to investigate the determinants of financial performance of deposit money banks in Nigeria. More specifically the study is expected to achieve the following objectives;

1. to evaluate the impact of capital adequacy on banks performance in Nigeria,
2. to investigate the relationship between asset quality and banks performance in Nigeria,
3. to appraise the extent to which management efficiency influence bank performance in Nigeria,
4. to ascertain the relationship between liquidity management and banks performance in Nigeria,
5. to investigate the impact of inflation on banks performance in Nigeria and
6. to evaluate the link between gross domestic product and bank performance in Nigeria.

This study is critical and useful in a number of ways. It will assist the banks to identify the core determinants of bank performance and direct their operations accordingly. The study will also assist bank regulatory authorities to frame national policy by taking such determinants into account.

## II. REVIEW OF RELATED LITERATURE

The measures of bank profitability usually considered in the literature on the determinants of bank

profitability are the Return On Assets (ROA), Return On Equity (ROE) and the Net Interest Margin (NIM). Bank financial performance determinants are usually explained in the form of internal and external variables. The internal variables are those that determine bank's management decisions and specifically affect policy objectives, such as liquidity risk, credit risk, bank size, financial leverage and expense management. The external variables are those that emanate from industry related factors and macroeconomic influences, which includes competition and the level of concentration, the level of unemployment, inflation rate and real per capita income.

### *Bank Performance Indicators*

Profit is the ultimate goal of deposit money banks. All the strategies designed and activities performed thereof are meant to realize this grand objective. However, this does not mean that deposit money banks have no other goals. Deposit money banks could also have additional social and economic goals. However, the intention of this study is related to the first objective, which is profitability. To measure the profitability of deposit money banks there are variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones (Alexandru 2008). But for the purpose of this study, only the Return On Asset (ROA) will be considered

### *Return on Equity (ROE)*

Return On Equity (ROE) is a financial ratio that refers to how much profit a company earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE is what the shareholders look in return for their investment. A business that has a high return on equity is more likely to be one that is capable of generating cash internally. Thus, the higher the ROE the better the company is in terms of profit generation.

### *Return on Asset (ROA)*

Return On Asset (ROA) is also another major ratio that indicates the profitability of a bank. It is a ratio of Income to its total asset (Khrwish, 2011). It measures the ability of the bank management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrwish, 2011). Wen (2010), state that a higher ROA shows that the company is more efficient in using its resources.

### *Net Interest Margin (NIM)*

Net Interest Margin (NIM) is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest earning) assets. It is usually expressed as a percentage of what the

financial institution earns on loans in a specific time period and other assets minus the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that time period. ( Ongore and Kusa, 2013)

Net interest margin measures the gap between the interest income the bank receives on loans and securities and interest cost of its borrowed funds. It reflects the cost of bank intermediation services and the efficiency of the bank. The higher the net interest margin, the higher the bank's profit and the more stable the bank is. Thus, it is one of the key measures of bank profitability. However, a higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions (Khravish, 2011).

#### *Determinants of Bank Performance*

The determinants of bank performances can be classified into bank specific (internal) and macroeconomic (external) factors (Al-Tamimi and Hassan, 2010)

#### *Capital Adequacy*

Capital is one of the bank specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou, 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank capital reduces the chance of distress (Diamond and Haghuram, 2000) Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi and Nazir, 2010).

#### *Assets Quality*

The bank's asset is another bank specific variable that affects the profitability of a bank. The bank asset includes among others current asset, credit portfolio, fixed asset, and other investments. More often than not the loan of a bank is the major asset that generates the major share of the banks income. Loan is the major asset of commercial banks from which they generate income. The quality of loan portfolio determines the profitability of banks. The loan portfolio quality has a direct bearing on bank profitability. The highest risk facing a bank is the losses derived from delinquent loans (Dang, 2011). Thus, nonperforming loan ratios are the best proxies for asset quality. Different types of financial ratios used to study the performances of banks by different scholars. It is the major concern of all commercial banks to keep the amount of nonperforming loans to low level. This is so because high nonperforming loan affects the profitability of the bank. Thus, low nonperforming loans to total loans shows that the good health of the portfolio a bank. The lower the ratio the better the bank performing (Sangmi and Nazir, 2010). Assets quality is determine by non-performing loan to total loan

#### *Management Efficiency*

Management Efficiency is one of the key internal factors that determine the bank profitability. It is represented by different financial ratios like total asset growth, loan growth rate and earnings growth rate. Yet, it is one of the complexes subject to capture with financial ratios. Moreover, operational efficiency in managing the operating expenses is another dimension for management quality. The performance of management is often expressed qualitatively through subjective evaluation of management systems, organizational discipline, control systems, quality of staff, and others. Yet, some financial ratios of the financial statements act as a proxy for management efficiency. The capability of the management to deploy its resources efficiently, income maximization, reducing operating costs can be measured by financial ratios. The higher the operating profits to total income (revenue) the more the efficient management is in terms of operational efficiency and income generation. The other important ratio is that proxy management quality is expense to asset ratio. The ratio of operating expenses to total asset is expected to be negatively associated with profitability. Management quality in this regard, determines the level of operating expenses and in turn affects profitability (Athanasoglou et al. 2005).

#### *Management Efficiency (ME)*

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#### *External Factors/ Macroeconomic Factors*

The macroeconomic policy stability, Gross Domestic Product, Inflation, Interest Rate and Political instability are also other macroeconomic variables that affect the performances of banks

#### *Money outside the Banking Coffers*

Money outside the coffers of the bank is viewed as not contributing to the banking institution's liquidity, but if accessed will aid liquidity. As earlier postulated, the health of bank or the stability or the performance of banks depends on it liquidity and profitability position.

#### *Theoretical Framework*

This sub-section will present theoretical explanations on bank performance such as the Structure Conduct Performance

(SCP) model, efficiency hypothesis and as well Agency theory. However, the main focus of this study is to concentrate on theories or models that capture how both internal and external factors influence bank profitability as stated below.

*The Structure–Conduct–Performance (SCP) Theory* States that as bank size increases, economies of scale also increase, which subsequently enhances bank mergers and its related monopoly profits. Several studies have employed Structure Conduct Performance (SCP) paradigm on bank specific and industry-specific determinants because of its applicability to contestable markets, firm-level performance and the roles of ownership and governance vis-a-vis banks performance.

*Efficient Structure Hypothesis (ESH)* ESH is conversely of the view that common facilities such as ATM among banks can be shared so that capital cost will not be duplicated. Based on this, mergers among banks will become unnecessary because sharing facilities will bring about economy and efficiency in the use of their capital resources. What brings about bank profitability is the bank efficiency and not the market concentration, (Grygorenko 2009).

#### *The Agency Theory*

The theoretical explanation for the relationship between the ownership structure and profitability is based on the agency theory, first formalized by Jensen and Meckling (1976). Their study explained why managers of entities with different capital structures, choose different activities, in a relationship between owners and managers, a principal-agent relationship, both differs in needs and preferences. And obvious theoretical argument for the relationship between the ownership structure and profitability arise, capital market discipline could strengthen owner's control over management, giving banks' management more incentives to be efficient and profitable. The findings of Jensen and Meckling (1976) proposed a theoretical explanation on how ownership structure is related to profitability. The implication of the theory on bank profitability is that ownership structure and corporate governance structure have an impact on performance. This indicates that stringent and value-based banks could be earning higher profits than mutual, co-operative or state owned banks, (Samuel 2015).

#### *Empirical Literature*

So many studies have investigated on the subject of banks financial Performance over the years with a lot of inconclusiveness on what should constitute a Financial Performance evaluation basis for banks, some of which include; Osuka and Osadume (2013), researched on the determinants of Financial Performance of selected money deposit banks in Nigeria between 2001 and 2010 using SPSS regression method. Their findings showed that capital adequacy, Asset quality and Employee motivation had significant relationship with Financial Performance. In the same manner, Osadume and Ibenta (2018) evaluated the

Financial Performance of Deposit Money banks in Nigeria: A study of selected quoted banks covering 2001 – 2014. Secondary sources of data used were collected from the audited financial reports of the respective banks. The study concludes that Capital adequacy; Asset Quality and Liquidity have significant effects on the financial performance of banks.

Lemma and Rani (2017) analyzed the determinants of financial performance of commercial banks in Ethiopia and from two public and seven private banks for the years that were considered for the study. Return on assets was used as proxies of financial performance while the internal and external factors were considered to analyze the factors. Descriptive, correlation and regression analysis were used to analyze the data and the findings revealed that liquidity and earnings ratio have positive relation with return on assets. The findings further revealed that CAR, the ratio of non-performing loan to total loans, and industry growth has negative relation with profitability. Another study in Ethiopia by Elshaday, Debela and Sultan (2018) examined the determinants of the financial performance of private commercial banks in Ethiopia. The study uses secondary data for eight private banks which are in the industry for more than ten years. The data for this study was obtained from annual reports of the banks, minutes and the national bank report. Correlation and multiple linear regressions of panel data for the eight banks for the years 2007 to 2016 is analyzed. Results show that Capital Adequacy Ratio (CAR), Credit Interest Income (CIR) and Size of the bank (SIZE) have positive and statistically significant effect on financial performance. Non-performing Loans (NPLs), Loan Loss Provision (LLP), Leverage Ratio (LR) and Operational Cost Efficiency (OCE) have negative and statistically significant effect on banks' financial performance.

Ramji, ( 2018) examined the determinants of financial performance of commercial bank in Nepal. In order to investigate the determinants of financial performance, 10 commercial banks have been taken as sample covering the period of time 2006/07 to 2016/17. Data are collected from annual report of the respective banks. Multiple linear regression models have been employed for the analysis of data. The result shows a positive relationship of return on assets with capital adequacy ratio, management efficiency and gross domestic product whereas negative with assets quality and liquidity management. It is evident from the findings that financial performance of commercial banks are strongly affected by capital adequacy ratio, management efficiency, gross domestic product, liquidity management and assets quality.

Akinkunmi (2017) investigated the determinants of banks' profitability in Nigeria using a panel dataset between 2001 and 2015. The results show that bank specific factors such as efficiency ratio, credit risk and capital adequacy are the key determinants of banks 'profitability in the long run. In addition, only capital adequacy exhibits a significant influence. However in the short run, the market concentration

and real gross domestic product significantly affect the performance level in Nigeria's commercial banks for the full sample period.

Ihenetu and Iwo (2017) accessed the performance of banks in Nigeria using CAMEL rating. 19 years' data were collected and analyzed through ordinary least square and result shows that capital adequacy, management efficiency, earning and liquidity have no significant impact on the profitability of the banks. Assets quality has a negative impact on the profit of the bank. They recommended that the banking industry in Nigeria should generate enough capital to run the business through sales of shares, debt, investment, retain earning etc. to boost their profit, they should also improve their quality of assets and ensure that their assets are more of performing rather than non-performing assets.

Saheed (2018) examined the internal factors affecting profitability of Deposit Money Banks (DMBs) in Nigeria for the period of 2008-2016 using panel data of 14 listed banks drawn from the Nigerian Stock Exchange. Secondary data obtained from the listed Deposit Money Banks' financial statements were analyzed. The study adopts correlation research design to investigate the determinants of profitability of the Deposit Money Banks. Panel data techniques (fixed and random effects model) were employed to examine the effect of internal factors on profitability of the sampled listed and the study found that internal factors had significantly influenced the deposit money banks' profitability over the study period. The Capital Adequacy had a positive and significant relationship with bank profitability while Credit Risk had a negative and significant relationship with bank profitability during the study period.

Horobet, Radulescu, Belescu and Dita(2021) investigated determinants of banking profitability in the CEE banking sectors based on a Generalized Method of Moments (GMM) approach using data between 2009 and 2018. The selected determinants from the macroeconomic factors and from the financial-banking specific factors using a two-step GMM method and findings demonstrate that unemployment rate, inflation, budget balance, non-governmental credit, non-performing loan rates, concentration rate and capitalization rate negatively impact on the banking profitability in the CEE banking sectors. .

### III. MATERIALS AND METHODS

This study is designed to investigate the determinants of financial performance of deposit money banks in Nigeria from 1999 to 2020. To achieve this, an ex-post-facto research design was employed because the events that are observed in this study had taken place and nothing can be done to change the figures, but can only be observed in order to analyze it. The data used for the purpose of this study are from secondary sources. There data were sourced mainly from the Central Bank of Nigeria Statistical Bulletin and World Bank Global Financial Development Data

This study followed the ARDL Model as developed and popularized by Pesaran et al. (2001). The bound test (cointegration) and error correction method was used to model both the short run and long run relationship amongst the variables..

#### *Model Specification*

Bank performance = (Bank specific variables + macroeconomic variables).....(i)

Bank performance = (CAD, ASQ, MGE, LQD, GDP, INF).....(ii)

But bank performance can be expressed in three ways.

Return on Assets (ROA)

Return on Equity (ROE)

Net Interest Margin (NIM)

But this study will only adopt the use of Return on Assets as the dependent variable because it has proved to be the best in evaluating performance.

This model was developed based on the variables of the study

$ROA_{it} = \alpha + \beta_1 CAD_{it} + \beta_2 ASQ_{it} + \beta_3 MGE_{it} + \beta_4 LQD_{it} + \beta_5 GDP_{it} + \beta_6 INF_{it} + U_t$ .....(iii)

ROA= Return on Assets

CAD= Capital Adequacy

ASQ=Asset Quality

MGE= Management Efficiency

LQD= Liquidity level

GDP=Gross Domestic Product

INF=Inflation.

#### *Measurement of Variables*

One of the bank performance variables as defined by World Bank Global Financial Development Data used in this study is:

- i. Return on Assets (ROA) = Net Income / Average Total Assets The study incorporates other determinants of bank performance as follows:
  - i. Capital adequacy measured by total capital to total assets
  - ii. Asset quality measured by non-performing loans to total loans
  - iii. Management efficiency measured by total operating revenue to total profit
  - iv. Liquidity measured by total loans to total deposit
  - v. Yearly Gross Domestic Product
  - vi. Yearly average inflation

IV. DATA ANALYSIS AND PRESENTATION

Unit Root Test

The use of ARDL models does not impose pre-testing of variables for unit root problems. However, unit root tests are conducted in this study to find out if there are mixtures in the order of integration of our variables. The order of integration of the time series was investigated by applying the Augmented Dickey and Fuller (1979) test. The Augmented Dickey-Fuller (ADF) unit root test results for the time series variables are presented in Table 4.1 below.

Table 4. 1: Test of Stationarity

Series	ADF Test Statistic	5% Critical Value	Order	Remarks
ASQ	4.422137	3.052169	1(1)	Stationary
CAD	5.175347	3.020686	1(1)	Stationary
GDP	3.077978	3.012363	1(1)	Stationary
INF	6.742960	3.808546	1(1)	Stationary
LQD	4.568563	3.020686	1(1)	Stationary
MEF	5.944646	3.020686	1(1)	Stationary
ROA	4.706502	3.012363	1(1)	Stationary

Source: E- views7.

In the results shown in Table 4.1 above, the ADF test statistic for each of the variables are greater than the respective critical values. Thus, we accept the hypothesis of unit roots in each of the time series. In our final evaluation all the variables became stationary after first difference. Hence, they are integrated of order  $I(1)$ . Once all the series are non-stationary in the level, one can estimate an econometric model only if they are co-integrated. Thus co-integration tests can be applied for all variables in the three equations.

For Equation:  

$$ROA_{it} = \alpha + \beta_1 CAD_{it} + \beta_2 ASQ_{it} + \beta_3 MGE_{it} + \beta_4 LQD_{it} + \beta_5 GDP_{it} + \beta_6 INF_{it} + U_{t} \dots (i)$$

ARDL Bounds Test

Table 4.2 ARDL Bounds Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	7.396049	10%	1.99	2.94
k	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

The ARDL model estimation on table 4.2 allows for the bounds co-integration tests. The bounds test result on Table above showed that the f-statistic value of 7.396049 is greater than the Critical Value Bounds for the upper bound  $I(1)$  at 5%

level of significance, thus, there is co-integration as such there is long-run relationship.

Table 4: 3 ARDL Cointegrating and Long Run Form ARDL Error Correction Regression				
Dependent Variable: D(ROA)				
Sample: 1999 2020				
Included observations: 18				
ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ROA(-1))	-0.128170	0.038452	-3.333239	0.0207
D(MEF)	-0.339298	0.023483	-14.44846	0.0000
D(INF)	-0.133156	0.042166	-3.157913	0.0252
D(CAD)	-0.220816	0.023270	-9.489408	0.0002
D(ASQ)	0.171994	0.017581	9.783174	0.0002
CointEq(-1)*	-0.740652	0.062153	-11.91655	0.0001
R-squared	0.994397	Mean dependent var		0.112793
Adjusted R-squared	0.992062	S.D. dependent var		6.786493
S.E. of regression	0.604653	Akaike info criterion		2.092879
Sum squared resid	4.387268	Schwarz criterion		2.389669
Log likelihood	-12.83591	Hannan-Quinn criter.		2.133802
Durbin-Watson stat	2.074777			

The result in table 4.3 above shows that the coefficient of error correction mechanism (ECM) is negative (-0.740652) and significant at 0.05 per cent critical level. The significance of the ECM is an indication and a confirmation of the existence of a long run equilibrium relationship between bank performance and its determinants in Nigeria. This collaborates with the ARDL bound test. The results confirm that bank performance in Nigeria has an automatic mechanism which responds to deviations from equilibrium in a balancing manner. A value of (-0.740652) for the ECM coefficients suggests that a fast speed of adjustment strategy of 74%. This means that approximately 74% of discrepancy the previous year is adjusted for the current year i.e. approximately 74% of disequilibria from the previous year's shock converges back to the long-run equilibrium in the current year.

Global Statistical Results Analysis

From ARDL result,  $R^2$  is 0.994397 or 99.43% and the adjusted  $R^2$  is 99.20%. This implies that, at level series, about 99.43% of the total variations in the bank performance in Nigeria are explained by the changes in bank determinant variables; MEF, INF, CAD and ASQ.

The Durbin – Watson statistic from the output result is 2.133802 and it is close to 2 than 0. This depicts the absence

of autocorrelation. But in order to be sure of data employed, a more reliable test is conducted to check for serial correlation which is more serious than autocorrelation.

Table 4.4 Breusch-Godfrey Serial Correlation LM Test:

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.08104 4	Prob. F(1,4)		0.7900
Obs*R-squared	0.35745 4	Prob. Chi-Square(1)		0.5499

From the table 4.4 above, the Breusch–Godfrey LM test statistics indicates that the model does not have significant serial correlation problem.

*Test of Hypotheses*

Table 4.5: Hypotheses Result

Variables	T-Statistic	Prob.Value	Observation	Decision
MEF	-14.44846	0.0000	P-Value < 0.05	Reject Null
INF	-3.157915	0.0252	p-value < 0.05	Reject Null
CAD	-9.489408	0.0002	p -value < 0.05	Reject Null
ASQ	9.783174	0.0002	P-Value < 0.05	Reject Null

Source: Extracted from E-views

From the table 4.5 above, it can be observed that only MEF, INF, CAD, and ASQ were accepted by the model. This means that earlier inclusion of LQD and GDP is not necessary as they have taken care by the other variables accepted by the model. The table above revealed that all the variables considered and accepted by the model are statistically significant though some of them are not in line with the appriori expectation.

First, the test on MEF (Management Efficiency) as a key internal factor that determines bank performance showed that MEF is statistically significant in determining bank performance in Nigeria. However, the negative sign (-14.44846) can be attributed to high operating expenses incurred by banks as a result of high inflation rate and high cost of doing business in Nigeria.

Second, INF (Inflation) is also statistically significant but negatively signed as expected. This indicates that inflation is a major determinant of bank performance in Nigeria. The inverse relationship suggests that high inflation rate reduces profitability of banks while the lower inflation rate increases profitability of banks

Third, CAD (Capital Adequacy) is statistically significant in determining bank performance. The inverse relationship with bank performance might be due the ROA

(dependent variable) since the capital ratio is already included in the computation of the ROA.

And fourthly, the test of ASQ (Assets Quality) showed that the variable is statistically significant in determining bank performance of banks in Nigeria. The bank asset includes among others current asset, credit portfolio, fixed asset, and other investments. Loan is the major asset of deposit money banks from which they generate income. The quality of loan portfolio determines the profitability of banks. The loan portfolio quality has a direct bearing on bank profitability. The highest risk facing a bank is the losses derived from delinquent loans (Dang, 2011)

V. SUMMARY, CONCLUSION AND RECOMMENDATIONS

*Summary*

This study entitled “**Determinants of financial performance of deposit money bank in Nigeria**” has the main objective of finding out the major determinants of financial performance of deposit money banks in Nigeria. The study utilized the ex-post facto design. Time series data for thirty one year period (1999-2020) were collated from secondary source from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Bank Global Financial Development Data.

The test for autocorrelation and serial correlation revealed absence of both autocorrelation and serial correlation. The test for stationarity (even though not necessary) proved that all the variables are stationary at first difference I (I) as seen table 4.1. The result in table 4.2 above showed that the coefficient of error correction mechanism (ECM) is negative (-0.7406520 and significant at 0.05 per cent critical level. The significance of the ECM is an indication and a confirmation of the existence of a long run equilibrium relationship between financial performance and its determinants in Nigeria. This collaborates with the ARDL bound test.

Hypotheses were formulated and tested using the Autoregressive Distributed Lag (ARDL). All the four hypotheses tested; Management Efficiency (MEF), Inflation (INF), Capital Adequacy (CAD) and Assets Quality) exerted significant relationship on bank financial position in Nigeria.

*Conclusion*

Profit is the ultimate goal of deposit money banks. All the strategies designed and activities performed thereof are meant to realize this grand objective of profit making. In this study, we explored one of the major financial performance indicators- Return on Assets (ROA) and some bank specific variables and macroeconomic variables in Nigeria which spanned between 1999 and 2020. Econometric model was specified and estimated via econometric techniques to ascertain the relationship between financial bank performance and the determinants. The variables were tested

for stationarity, co-integration analysis was carried out and also error correction test was also performed.

The study found that bank financial performance and selected determinants in the model have a long run relationship in Nigeria within the period under study. The study also revealed that all the four hypotheses tested; Management Efficiency (MEF), Inflation (INF), Capital Adequacy (CAD) and Assets Quality (ASQ) exerted significant relationship on bank financial position in Nigeria. This finding is in line with the Efficiency Structure Hypothesis (ESH) which states that enhance managerial efficiency leads to higher performance and some empirical studies reviewed in this study like; Horobet, Radulescu, Belescu and Dita(2021), Saheed (2018) and Ramji, (2018) among others. The study therefore, concluded that there is significant relationship between bank performance and the chosen determinants (MEF, INF, CAD and ASQ in Nigeria during period of this study.

### Recommendations

Based on the forgoing, this study recommends as follows;

1. Banks should give due attention to their operational cost efficiency and leverage ratio, because too much expenses in relation with revenue and engaging in debts beyond their capacity will continue to have significant negative effect on their financial performance.
2. The Central Bank of Nigeria should review the regulatory capital review since the impact of capital adequacy on bank performance also depends on the quality of capital. The CBN should pressure the banks to increase the quality of capital they keep and reduce their holdings of hybrid capital structure since hybrid capital is of low quality.
3. The monetary authority should check the liquidity ratio as excess liquidity in banks will always negatively impact on their performance. Moderate liquidity should be adopted
4. The government should design sustainable measures to check the rising inflation rate in Nigeria.
5. Finally, the deposit money bank should place more emphasis on the mobilization of idle funds outside the banking system so as to increase capital.

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