

## **EFFECT OF CORPORATE RESERVES ON EARNINGS OF DEPOSIT MONEY BANKS IN NIGERIA.**

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**ABSTRACT:** The study analyzed the effect of corporate reserves on earnings of deposit money banks in Nigeria. Specifically, the study investigated the effect of Statutory Reserve (STR), Retained Earnings (RTE) and Regulatory Risk Reserve (RRR) on Profit for the Year (PFY) of deposit money banks in Nigeria. The study was based on a sample of eleven (11) deposit money banks listed on Nigeria Exchange Group during 2014-2024 period. Time series data were obtained from the annual financial statements of the banks and were analyzed using Descriptive Statistics, Granger Causality test, Unit Root test, and Panel Least Square Regressing Analysis. Results of analysis suggest that the three predictive variables, Statutory Reserve (STR), Retained Earnings (RTE) and Regulatory Risk Reserve (RRR) positively and significantly affect Profit for the Year (PFY) of deposit money banks in Nigeria. The implication of these findings is that the banks' earnings will improve as any of the predictive variables is increase and vice versa. Based on these findings, it was recommended that deposit money banks in Nigeria should maximize earnings and create wealth for shareholders by complying with the Central Bank of Nigeria (CBN) statutory reserve requirement. This will assist the bank mitigate compliance and capital adequacy risks and will also enable the banks take advantage of investment opportunities to boost earnings. The study also recommends that the banks should not distribute all their earnings to shareholders as dividend, but should retain some part for reinvestment, growth and expansion. The retained profits will assist the banks build their capital, reduce borrowing costs, floatation costs, and improve the banks' earnings and organizational value. The study further recommends that the banks should make adequate reserve for risky assets in line with the CBN prudential guidelines. Adequate provision for risky assets will assist the bank protect their capitals, absorb losses and other unexpected shocks in the economy.

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**Keywords:** Corporate Reserves, Earnings, Deposit Money Banks, Statutory Reserve, Profit for the Year

### **1.1 Introduction**

The history of reserves in banking started from the medieval period in Europe (about 500–1500 ad) when gold was the dominant form of money. Goldsmiths became keepers of gold because gold was heavy and cumbersome. Goldsmith issue receipts stating how much gold was deposited to individuals who keep their gold for safe-keeping. Over time people recognized that the goldsmith's receipts themselves had value. Rather than retrieve gold to make purchases, people began using the receipts as money. Goldsmiths realizing that people do not always come for their gold started granting loans in proportion to the amount of gold they had in reserve (Finance

Encyclopedia, 2019). In today banking, it is the Central Bank rather than Goldsmith that serves as a moderator of banking activities through its regulations. The Central Bank's regulation is premised on two ideas: to insure banks against bank-runs and therefore against the risk of systemic failure (MacCarthy, 2019). One of the ways in which the Central Bank protect banks against run is to stipulate minimum reserve requirements for banks including the cash reserve requirement. It sets the minimum fraction of customer deposits and notes that each commercial bank must hold as reserves rather than lend out as loan (Peydró, 2010).

Tracy (2020) described a bank reserve as a portion of a bank's deposits that are set aside in a liquid account to protecting against significant withdrawals or other adverse conditions. As a result of liquidity and capital adequacy risk exposures, corporate reserve appears to be more important to the banking sector than any other sector of the economy. Offor, (2022) noted that corporate savings are the most appropriate source of financing due to various considerations; for instance, firms are discouraged to go for new equity for the reason that new equity may cause the share price to fall. Revenue reserves are the most important source of financing for the growth of a bank.

Ahmed (2019) stated that bank reserve can be a regulatory requirement or voluntary reserves where a bank set aside a certain proportion of its earnings after tax to meet future obligations. Regulatory reserves are set by the central bank and will impact how much loans a bank can give out. Examples of regulatory reserves is Loan loss reserves are funds set aside to offset losses from loans that are either in arrears or that have been declared bad debt. Other examples of regulatory reserves are, cash reserve requirement, share premium, fair value reserve and translation reserve. Non-regulatory reserves or voluntary reserves on the other hand are those reserves in excess of the regulatory reserve. An example is retained earnings.

### **1.2 Statement of the Problem**

Bank reserve are the money that banks keep on hand, either in its own vaults or in an account with a Central Bank of the country. Some of the reserves such as statutory reserve, regulatory risk reserve and share premium are regulatory while some such as retain earnings and agribusiness/small and medium enterprises investment scheme are voluntary. Reserves constitutes the most economical and convenient source of finance for banks and other firms. Despite the benefits of banks' reserves to increase banks' earnings and protect the banks from regulatory sanctions, a bank having a large reserve may prompt the directors and managers to misuse the funds as free cash flow for personal benefits. Reserve funds are part of equity capital and its misuse can adversely reduce the bank's capital below the regulatory minimum. Some banks in Nigeria lost their license and were liquidated as a result of inadequate capital. The incidences of bank failures in the country in the recent past resulting from mismanagement of bank reserves, insider abuse and inadequate capital prompted the present study to examine the effect of reserves on earnings of deposit money banks in Nigeria.

### **1.3 Objectives of the study**

The main objective of the study is to determine the effect of corporate reserves on earnings of deposit money banks in Nigeria. The specific objectives of the study are to:

- i. Appraise the effect of statutory reserve on profit for the year of deposit money banks in Nigeria.
- ii. Evaluate the effect of retained earnings on profit for the year of deposit money banks in Nigeria.
- iii. Ascertain the effect of regulatory risk reserve on profit for the year of deposit money banks in Nigeria.

### **1.4 Research Questions**

- i. How does statutory reserve affect profit for the year in deposit money banks in Nigeria?
- ii. To what extent does retained earnings affect profit for the year of deposit money banks in Nigeria?

iii. What is the effect of regulatory risk reserve on profit for the year of deposit money banks in Nigeria?

### **1.5 Statement of Hypotheses**

- i. Statutory reserve does not significantly affect profit for the year in deposit money banks in Nigeria.
- ii. Retained earnings does not significantly affect profit for the year in deposit money banks in Nigeria.
- iii. Regulatory risk reserve does not significantly affect profit for the year in deposit money banks in Nigeria

## **2. REVIEW OF RELATED LITERATURE**

### **2.1 Conceptual Review**

#### **2.1.1 Corporate Reserves**

Tatum (2020) described bank reserve as the money that a bank keeps on hand, either in its own vaults or in an account with a Central Bank. Under the fractional-reserve, banking system used in most countries, the central banks typically set minimum reserve requirements that require commercial banks under its purview to hold cash or deposits at the central bank equivalent to at least a prescribed percentage of their deposit liabilities. Such sums are usually termed required reserves, and any funds above the required amount are called excess reserves. Tomlinson (2019) explained that when money is deposited in a bank, not all the money stays in the bank. The bank uses most of that money to make loans, and the bank charges interest on those loans. This is because the interest payments from the loans account for much of a bank's profits. Banks because of this, want to loan out as much of the money deposited with them as possible.

Goodhart (2008) also noted that deposit money banks in various countries are required by law to maintain a certain percentage of their deposit liability with their central bank as a precaution against unexpected withdrawals from customers. Chand (2018) observed that such reserves enable banks to safely navigate through business cycles and other financial crisis as it provides a cushion of security during adverse economy conditions. Bank reserves matters because they are key component of a country's monetary policy. Tracy (2020) stated that the central bank can lower the reserve requirement in order to enact expansionary monetary policy and boost economic growth. The reduction makes banks free to lend more of their deposits to customers and earn interest. These customers in turn deposit the loan proceeds in their bank accounts, and the process continues. This increase in money supply lowers bank lending rate, making debt cheaper and attractive to borrowers.

#### **2.1.2 Statutory Reserve**

Bharda (2018) states that statutory reserve is the amount of cash that deposit money banks and insurance companies in Nigeria are requirement by regulation to maintain with the central bank of Nigeria. The purpose is to cushion the effect of any claim or financial loss on the capital of the banks. This is a mandatory reserve since the government does not want to take chances in case an insurance company fails to make payments for the insured peril. The primary aim for maintaining a statutory reserve is for the organization to meet its obligations to its customers even if it is running into losses.

BOFIA (1991) noted that the Nigerian banking regulations require the bank to make an annual appropriation to a statutory reserve. As stipulated by Section 16(1) of the Banks and Other Financial Institution Act of Nigeria (BOFIA 1991), an appropriation of 30% of profit after tax is made if the statutory reserve is less than paid-up share capital and 15% of profit after tax if the statutory reserve is greater than the paid-up share capital. Section 16(1) of BOFIA clearly states that every bank shall maintain a reserve fund and shall, out of its net profits for each year (after due provision made for taxation) and before any dividend is declared, where the amount of the reserve funds is (a) less than the paid-up share capital, transfer to the reserve fund a sum equal to not less than 30% of the net profits; or(b) equal to or in excess of the paid-up share capital, transfer to the reserve fund a sum

equal to not less than 15% of the net profit: Provided that no transfer under this subsection shall be made until all identifiable losses have been made good. Any bank which fails to comply with the provisions of subsection (1) of this section is guilty of an offence and liable on conviction to a fine of N500,000.

### **2.1.3 Retained Earnings**

Chasan (2012) described retained earnings as that portion of a company's profits that is kept for reinvestment into the business or for debt payments, instead of being paid out as dividends to shareholders. There is always a conflict in determining the ratio or earning to be retained. While the managers of the company want a higher earnings retention ratio, the shareholders of the company would think otherwise, as the higher the plowback ratio the more uncertain their control over their shares and finances are. Dinayak (2014) also defined retained earnings as that part of trading profits which is not distributed as dividends to shareholders, but is retained in the business by the directors for future expansion of the company. Yemi and Seriki (2018) say that the amount of retained earnings has now become an important issue to investors and other stakeholders because it is another way to evaluate the effectiveness of management to bring improvement in market value of their firms. Shareholders now consider the extent to which firms use retained capital in deciding whether to invest in a firm or not. They use this in measuring how much value in terms of capital gain, business growth and asset net worth have been added by the company's retention of capital overtime.

### **2.1.4 Regulatory Risk Reserve**

Alpert and Estevez (2021) described regulatory risk reserve also called loan loss provision as an income statement expense set aside as an allowance for uncollected loans and loan payments. This provision is used to cover different kinds of loan losses such as non-performing loans, customer bankruptcy, and renegotiated loans that incur lower-than-previously-estimated payments. Loan loss provisions are then added to the loan loss reserves, a balance sheet item that represents the total amount of loan losses subtracted a company's loans. Banks are required to account for potential loan defaults and expenses to ensure they are presenting an accurate assessment of their overall financial health. Loan loss provisions are added to the loan loss reserves, a balance statement item showing total loan losses. Loan loss provisions are a standard accounting adjustment made to a bank's loan loss reserves included in the financial statements of banks.

European Central Bank (2024) noted that when granting loans to their clients, banks always expose themselves to credit risk, which is the risk that the borrower may not pay back the loan. When this happens, the loan is said to become non-performing. A loan becomes non-performing when the bank considers that the borrower is unlikely to repay, or when the borrower is 90 days late on a payment. Non-performing loans (NPLs) reduce banks' earnings and cause losses, which weighs on their soundness. Every bank has to prepare for making a loss on its loans. To offset this credit risk, the bank estimates the expected future loss on the loan and books a corresponding provision. Booking a provision means that the bank recognizes a loss on the loan ahead of time. Banks use their capital to absorb these losses: by booking a provision the bank takes a loss and hence reduces its capital by the amount of money that it will not be able to collect from the client. This provision is not written off the banks' books, but is held in a reserve account which will be written back to profit or loss if the client eventually repays the loan.

### **2.1.5 Banks' Earnings**

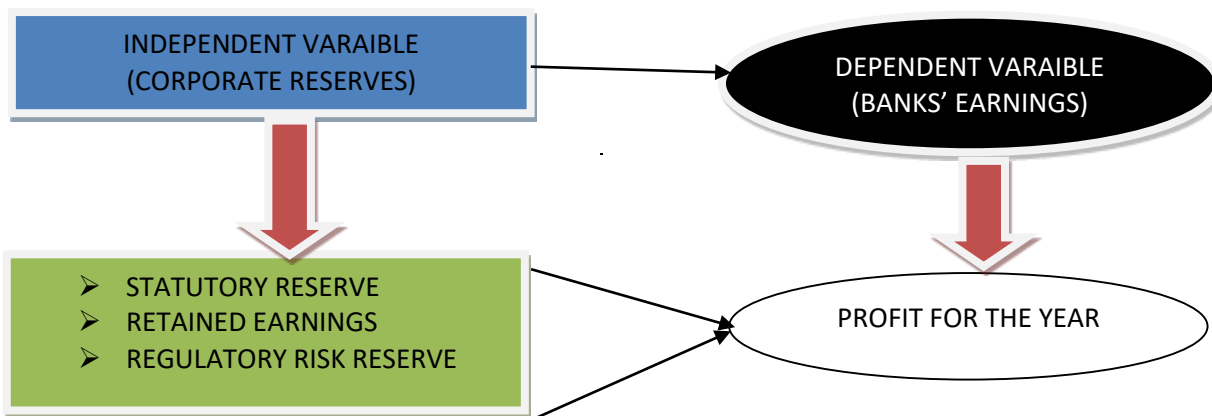
Murray (2018) noted that the earnings of a business are the same as its net income or its profit. Either term means the same thing and it is calculated as all revenues (sales) minus the cost of sales, operating expenses, and taxes,

over a given period of time (usually a quarter or a year). Earnings are usually calculated as all revenues minus the cost of sales, operating expenses, and taxes, over a given period of time (usually a quarter or a year). Earnings are an import factor because investors consider business earnings to decide whether to invest or not. Ghebregiorgis and Atewebhrhan (2016) opine that to judge a particular bank’s earnings and financial security, analysts use several measures. Such measures are most useful when trends are examined over a period of time and compared with data from other banks in the industry. Umobong (2015) opined that firm profitability can be measured by means of profitability ratios. They ratios are used by investors and analysts in combination with investment ratios to make investment decisions. Some of the profitability ratios are highlighted to include: return on capital employed, return on assets, return on total assets, return on equity, net profit percentage or margin, gross profit margin or percentage, and so on.

**2.1.6 Profit for the Year**

Aldridge (2015) defines profit for the year as the net income of the organization less all expense and taxes. It is the sum of all revenues less all expenses, including operating expenses, interest expenses, depreciation and taxes. Al-Tamimi (2010) stated that the factors influencing banks’ profitability can be divided into two main factors, internal and external factors. Internal factors are affected by the banks’ management policies and decisions. Examples of internal factors are leverage, total deposit to total assets, total loans to total assets, retained earnings to total assets, and tangible book value per share. Athanasoglou (2006) also noted that internal profit determinants are factors that are mainly influenced by a banks’ management decisions and policy objectives such as the level of liquidity, provisioning policy, capital adequacy, expense management and bank size.

**Fig 2.2: Conceptual Framework Summary**



Source: Author’s Compilation, 2025

**2.2 Theoretical Framework**

The study was conducted from the point of view of two theories of capital adequacy, namely, The Buffer Theory of Capital Adequacy proponded by Calem and Rob in 1996 as well as the Charter Value Theory, which was developed by Marcus in 1984. In as much as both theories are well situated for the study, the work was anchored on the Charter Value Theory.

**2.2.1 Buffer Theory of Capital Adequacy**

The buffer theory of capital adequacy was propounded by Calem and Rob in 1996. The theory postulates that capital is more reliable, dependable and can be used for long term planning. More capital tends to absorb adverse shocks and thus reduces the likelihood of failure (Rime, 2001). Banks raise capital when the portfolio risk goes

up in order to keep up their capital buffer (Laeven & Levine, 2009). The capital buffer is the excess capital a bank holds above the minimum capital required (Jokipii & Milne, 2011). Calem and Rob (1996) argued that a bank approaching the regulatory minimum capital ratio may have an incentive to boost capital and reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. The capital buffer theory holds that banks with low capital buffers attempt to rebuild an appropriate capital buffer by raising capital while banks with high capital buffers attempt to maintain their capital buffer. However, poorly capitalized banks may also be tempted to take more risk in the hope that higher expected returns will help them to increase their capital. This is one of the ways risks relating to lower capital adequacy affects banking operations. In the event of bankruptcy of a bank, the risks are absorbed by the bank, customers and Deposit Insurance Corporation.

### **2.2.2 Charter Value Theory**

Marcus in 1984 introduces the Charter Value Hypothesis, which suggests that the banks with high charter values have incentives to reduce risk taking in an effort to preserve charter value. Marcus (1984) postulates that deregulation in the banking industry increases competition and lowers the values of banking charters (value placed on business assets) and this may result in excessive risk taking by the banks. The charter value theory further forecasts that the banks face loss in future earnings if bankruptcy occurs and the effects of this loss are on a number of parties including stakeholders. Thus, banks tend to maintain a greater amount of capital than fixed by regulation in order to guard against the future loss. Banks usually hold some extra capital to safeguard them from downturns and handle the default risk. In an attempt to explain the reason for this, charter value theory was developed by Marcus, in 1984. Thus, charter value is the value placed on future assets of a business.

The main objective of the study is to investigate the effect of tier one capital components on loan portfolio of deposit money banks in Nigeria. The buffer theory of capital adequacy on the other hand states that an adequate capital tends to absorb adverse shocks and thus reduces the likelihood of bank failures. Therefore, banks raise capital when the bank loan portfolio risk goes up in order to keep up their capital buffer. This theory predicts that as a bank approaches the regulatory minimum capital requirement, it will have the urge to boost capital so as to reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. Since buffer theory deals with bank regulatory capital, the need for capital adequacy and the need to reduce loan portfolio risk which are the pertinent issue in the study, we hereby anchor the study on this theory.

## **2.3 Empirical Review**

### **2.3.1 Statutory Reserve and Profit for the Year**

Okeke (2020) studied the effect of retained earnings, cash reserve ratio and statutory reserve on the earnings of deposit money banks in Nigeria. The study was based on a sample of nine (9) deposit money banks listed on the Nigeria Stock Exchange during 2018-2019 periods. The major statistical tool of analysis used in the study include, panel data regression analysis, spearman rank-order correlation analysis and descriptive statistics. Research results suggest that, retained earnings and statutory reserve positively and significantly affect earnings per share of deposit money banks while cash reserve ratio positively, but insignificantly affects earnings per share of banks during the period. Ugwu, et al (2021) appraised the effect of retained earnings on the operational performances of oil and gas firms in Nigeria during 2009 to 2018. Retained earnings are the variable that measured the independent variable while operational performance (dependent variable) was represented using Return on Asset (ROA) and Return on Equity (ROE). The sample consists of four (4) oil companies quoted on Nigeria Exchange Group during the period. Regression results indicate that retained earnings had positive and insignificant effect on both the Return on Asset and Return on Equity of oil and gas firms in Nigeria. This

effect was however insignificant for all the sampled oil and gas firms with the exception of Mobil Nigeria Plc in which the retained earnings have a positive and significant effect on the Return on Equity.

Offor (2022) appraised the effect of statutory reserves and bank branches on the revenue reserves of deposit money banks in Nigeria during 2010-2019. Retained earnings were the dependent variable while statutory reserves are the independent variable of the study. Secondary data were extracted from the annual reports and accounts of sampled deposit money banks in Nigeria. Multiple regression analysis was used for the test of hypotheses. Regression result show that statutory reserves have a significant and negative effect on the revenue reserve of deposit money banks in Nigeria while the number of branches of deposit money banks had no significant effect on their revenue reserves. Miyoba1m and Haabazoka (2024) examined the effects of changes in the Statutory Reserve Ratio Requirement on commercial banks profitability in Zambia. The study targeted the population of 19 commercial banks operated in Zambia during 2007-2017 periods. Regression Analysis, Correlation, and ANOVA were used to examine the time series data obtained from the annual reports and financial statement of the selected firms. Result of the analysis dictated an inverse relationship between statutory reserves and financial performance of the banks surrogated with return on assets (ROA). It was also observed that inflation and open market operation balances exerted negative impact on the commercial banks' performance (ROA). After changes in statutory reserves and other variables, Zambian banks tend to reach a long-term profitability equilibrium point.

### **2.3.2 Retained Earnings and Profit for the Year**

Hoang, et al (2020) analyzed the relationship between retained earnings and firm performance in Vietnam construction companies during 2005-2016 periods. The independent variables of the study are retained earnings while the dependent variables are Return on Assets and Return On Equity. The study controlled for liquidity (LIQ), leverage (LEVERAGE), firm age (lnAGE). A sample of 37 construction companies listed was collected from Hochiminh Stock Exchange (HOSE). Descriptive Statistics, Correlation and Panel Data Regression Analysis were the statistical tools used to examine the time series data obtained from the financial statements of the selected companies. The results show that retained earnings have a positive effect on firm performance. In another development, Pibowei et al (2020) studied the impact of retained earnings on the financial performance of selected Nigerian Breweries during 2012-2020 periods. The population of five (5) breweries quoted on the Nigerian Exchange Group was targeted, out of which, a ample of four (4) breweries was selected using purposive sampling method. The data from the annual reports of the firms were analyzed using Correlation Matrix, Ordinary Least Square Model, and ANOVA. Research results indicate that there is no significant relationship between retention index, and the return on assets, no significant relationship between retention index and the return on equity, and no significant relationship between retention index and the earnings per share of the firms. Dahmash, et al (2023) examined the effect of retained earnings on firm's market value in Jordan during the period from 2010-2021. Specifically, the study investigated the effect retention per share on the dividend per share by modeling the firm's market value as a function of the retention per share and the dividend per share. All firms in Jordanian context were examined amounting to unbalanced panel data of 2281 firm years' observation. The results of the pooled t-test suggest that retained earnings positively and significantly affect dividends per share of the firms. However, the retention per share indicated a negative significant effect on the firm's market value.

### 2.3.3 Regulatory Risk Reserve and Profit for the Year

Çollakua and Aliub (2021) studied the impact of non-performing loans on bank's profitability: Empirical Evidence from Commercial Banks in Kosovo during 2010-2019 periods. Return on Assets was used as a measure of bank's profitability which was regressed as a function of the ratio of Non-Performing Loans, Liquidity Risk, and Bank Size as control variables. Multivariable Linear Regression Analysis was used to examine the data obtained from the sampled commercial banks. The results show that the effect of non-performing loans on the profitability is statistically significant and shows that for each 1% increase in NPL, the Return on Assets decreases by 0.19%, holding other variables constant. Gurung, et al (2023) evaluated the impact of loan loss provision on profitability of commercial banks in Nepal. Return on Assets (ROA) is the dependent variable while Loan Loss Provision is an independent variable. The study also takes into account pertinent variables: Non-Performing Assets, Loans and Advances to Total Deposits, And Capital Adequacy which may affect the relationship. A panel data set consisting of 105-year observations, spanning from fiscal year 2017/18 to 2021/22, including 21 presently active commercial banks were obtained for the study. Panel Data Fixed Effect Regression Model was used to examine the data. Results of analysis indicate that a negative and substantial connection between the provisions for loan losses with the Nepalese commercial banks' profitability. The study concluded that the increased provision for loan losses adversely affects the profitability of commercial banks in Nepal.

Zakraoui and Hmaied (2024) analyzed the effect of regulatory pressure on bank behavior, using a sample of Tunisian banks covering the period from 2005 to 2020. Specifically, the study examines the impact of Regulatory Capital Reserves on bank Profitability and Risk. Secondary data were obtained from the annual reports and financial statements of the selected banks and were analyzed using Pane Data Regression Analysis. Results of analysis suggest that Regulatory Capital Pressure improves bank profitability and stability. This effect is, however, conditioned by the existence of a certain threshold, after which stringent capital regulation may have adverse effects. This results have important policy implications on optimal bank capital regulation.

## 3 METHODOLOGY

### 3.1 Research Design

This study is an *ex post facto* research design. In the light of this, historical financial data were obtained from published annual accounts and financial statement of the selected deposit money banks in Nigeria during 2014-2024 periods.

### 3.2 Area of Study

The study was carried out in Nigeria, and specifically on the deposit money banks listed on the Nigeria Exchange Group during 2014-2024. Deposit Money Banks in Nigeria are licensed by the Central Bank of Nigeria (CBN) to accept deposits from the public and provide other banking services. These banks play a crucial role in the Nigerian financial system, facilitating payments, lending, and other financial transactions. Therefore, these banks were chosen for the study because of their strategic importance and their financial intermediation role in the economy of the nation.

### 3.3 Sources of Data

The source of data for the study is secondary data which were obtained from the published accounts and annual financial statement of the selected deposit money banks in Nigeria during 2013-2022 periods. This period was chosen because it captured the period of some recent bank failures in Nigeria, particularly the Diamond and Heritage banks.

**3.4 Population**

The population of the study consists of fifteen (15) deposit money banks listed on the Nigeria Exchange Group during 2014-2024 periods. The fifteen deposit money banks listed during the period are: Guarantee Trust Bank Nigeria Ltd, United Bank for Africa, Stanbic IBTC Bank Nigeria Plc, Zenith Bank Nigeria Plc, Sterling Bank Nigeria Plc, Access Bank Nigeria Plc, First City Monument Bank Nigeria Plc, Keystone Bank Nigeria Plc, Access Bank Nigeria Plc, Polaris Bank Nigeria Plc, Fidelity Bank Nigeria Plc, First Bank Nigeria Plc, Union Bank Nigeria Plc, Wema Bank Nigeria Plc and Unity Bank Nigeria Plc.

**3.5 Sample Size Determination**

A sample of eleven (11) banks were selected from the fifteen (15) deposit money banks listed on the Nigeria Exchange Group during 2014-2024 periods. Only the banks that consistently disclosed their statutory reserve as well as regulatory risk reserve were selected for the study. The selected deposit money banks are, Guarantee Trust Bank, United Bank for Africa, Zenith Bank, Sterling Bank, First City Monument Bank, Access Bank, Fidelity Bank, First Bank, Union Bank, Wema Bank and Unity Bank.

**3.6 Model Specification**

The following model which is in line with the specific objectives of the study was adopted from Offor, (2022) and Okeke, (2020).

$$PFY = \beta_0 + \beta_1(STR) + \beta_2(RTE) + \beta_3(RRR) + \epsilon$$

Where:

PFY = Profit for the Year

STR = Statutory Reserve

RTE = Retained Earnings

RRR = Regulatory Risk Reserve

$\epsilon$  = error term

**3.7 Description of Variables**

Variable Name	Label	Description
Profit for the Year	PFY	Profit for the year is the amount of money remaining after deducting a company's total expenses from its total revenue for a given accounting period.
Statutory Reserve	STR	Statutory reserve is the amount of cash which banking regulation requires deposit money banks in Nigeria to deposit with CBN to cover claims or obligations which are due in the near future. Section 16(1) of BOFIA requires an appropriation of 30% of profit after tax to be made to statutory reserve if the paid up share statutory reserve is less than paid-up share capital and 15% of profit after tax if the statutory reserve is greater than the paid up share capital.
Retained Earnings	RTE	Retained earnings are the amount of profit a company has left over after paying all its direct costs, indirect costs, income taxes and its dividends to shareholders.
Regulatory Risk Reserve	RRR	This is funds set aside by banks to cover potential losses from risky assets, especially loan default. The reserve acts as a financial buffer, ensuring that banks can absorb losses without severely impacting their overall financial stability.

Source: Author’s Compilation, 2025.

### 3.8 Method of Data Analysis

Panel Least Square Regression Model was used to test the null hypotheses formulated for the study. Descriptive Statistics was used to test the normal distribution of the data set. Granger Causality test was used to test if the predictor variables are useful in predicting the earnings of deposit money banks in Nigeria. Unit Root test was used to test the existence of unit root in the model of the study while Durbin Watson Statistics was used to test for the presence of autocorrelation in the model. The predictor variables and measure of corporate reserves are: Statutory Reserve (STR), Retained Earnings (RTE) and Regulatory Risk Reserve (RRR) while the dependent variable and measure of the banks' earnings is Profit for the Year (PFY).

## 4 DATA ANALYSIS AND RESULTS

### 4.1 Data Analysis

The data analysis was conducted using various statistics tests, including Descriptive Statistics, Granger Causality test, Unit Root test, and Panel Least Square Regression Model. Results of the tests are presented in tables 4.2.1 to 4.2.4.

#### 4.2.1 Descriptive Statistics

	PFY	STR	RTE	RRR
Mean	113942.6	96286.61	148992.9	26856.20
Median	40011.00	35008.00	50587.00	18092.00
Maximum	1032895.	768668.0	2015513.	152680.0
Minimum	-62637.00	5353.000	-478837.0	0.000000
Std. Dev.	196310.7	146195.4	348265.6	28856.15
Skewness	2.928046	2.708451	2.269149	1.706786
Kurtosis	11.67421	10.65125	11.12051	6.233661
Jarque-Bera Probability	552.2427 0.000000	443.0840 0.000000	436.3002 0.000000	111.4664 0.000000
Sum	13787054	11650680	18028138	3249600.
Sum Sq. Dev.	4.62E+12	2.56E+12	1.46E+13	9.99E+10
Observations	121	121	121	121

**Source: E-view 8.0 Output**

Descriptive Statistics of the four variables of the study are presented in table 4.2.1. Results from the table indicate that the mean of the variables are: 113942.6, 96286.61, 148992.9 and 26856.20 for PFY, STR, RTE and RRR respectively while the Standard Deviations are: 196310.7, 146195.4, 348265.6 and 28856.15 respectively. The results show that the Standard Deviations of PFY, RTE and RRR are greater than their mean, suggesting that these variables were highly volatile during the period. On the other hand, the Standard Deviations of STR is less than the mean, implying that STR was stable during the period. It was also observed from the table that the Kurtosis coefficient of all the variables are greater than three, likewise the Skewness coefficient of the variables are all greater than one. These results suggest that the data set used for the study are normally distributed. The results were corroborated by Jarque-Bera Statistics, which is a more critical test for estimating the normal distribution of a data set. The table reveals that the Jarque-Bera p-value of all the variables are less than the 0.05 significance level (p-value<0.05), thus confirming that the data set used for the study are normally distributed.

## 4.2.2 Granger Causality Test

Pairwise Granger Causality Tests

Date: 07/04/25 Time: 21:21

Sample: 2014 2024

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
STR does not Granger Cause PFY	121	1.27211	0.2850
PFY does not Granger Cause STR		28.7984	2.3410
RTE does not Granger Cause PFY	121	1.35576	0.0627
PFY does not Granger Cause RTE		12.1486	2.3105
RRR does not Granger Cause PFY	121	4.32153	0.0160
PFY does not Granger Cause RRR		5.78185	0.0043
RTE does not Granger Cause STR	121	9.54355	0.0002
STR does not Granger Cause RTE		3.14885	0.0475
RRR does not Granger Cause STR	121	20.7667	3.5108
STR does not Granger Cause RRR		7.17801	0.0013
RRR does not Granger Cause RTE	121	5.45832	0.0057
RTE does not Granger Cause RRR		2.26871	0.1091

*Source: E-view 8.0 Output.*

Results from the Granger Causality test are captured in table 4.2.2. The results provide a weak evidence of interdependence between Statutory Reserve (STR) and Profit for the Year (PFY) of deposit money banks in Nigeria during the period, implying that fluctuations in Statutory Reserve (STR) may not significantly predict the earnings of deposit money banks in Nigeria and vice versa. However, a unidirectional relationship from Retained Earnings (RTE) to Profit for the Year (PFY) was detected, confirming that retained earnings volatility is a significant predictor of deposit money banks' earnings in Nigeria. The table further reveals the existence of bidirectional relationship between Regulatory Risk Reserve (RRR) and Profit for the Year (PFY). This result suggests that regulatory risk reserve fluctuations is a significant predictors of deposit money banks' earnings and vice versa.

**Table 4.2.3: Levin, Lin & Chu t\***

Null Hypothesis: Unit root (common unit root process)

Series: D(PFY,2)

Date: 07/04/25 Time: 21:18

Sample: 2014 2024

Exogenous variables: Individual effects, individual linear trends

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Total (balanced) observations: 121

Cross-sections included: 11

Method	Statistic	Prob.**
Levin, Lin & Chu t*	3.92605	0.0467

\*\* Probabilities are computed assuming asymptotic normality

Intermediate results on D(PFY,2)

Cross section	2nd Stage Coefficient	Variance of Reg	HAC of Dep.	Lag	Max Lag	Bandwidth	Obs
1	-4.29889	9.E+09	3.E+09	1	1	7.0	11
2	-12.1266	3.E+09	1.E+10	1	1	7.0	11
3	-2.28758	2.E+10	9.E+09	1	1	7.0	11
4	-3.61097	2.E+07	3.E+07	1	1	4.0	11
5	-3.98030	3.E+08	9.E+08	1	1	4.0	11
6	-2.98221	1.E+10	3.E+10	1	1	5.0	11
7	1.61273	2.E+08	7.E+08	1	1	0.0	11
8	-1.37748	4.E+09	1.E+09	1	1	7.0	11
9	-2.59169	1.E+08	1.E+08	1	1	7.0	11
10	-3.30154	6.E+06	9.E+06	1	1	7.0	11
11	-6.81118	2.E+09	6.E+09	1	1	2.0	11

	Coefficient	t-Stat	SE Reg	mu*	sig*	Obs
Pooled	-2.32828	-7.122	1.449	-0.703	1.003	121

**Source: E-view 8.0 Output.**

The results of the Levin, Lin & Chu t\*Unit Root test are presented in table 4.2.3. The results indicate that all the variables of the study, except Regulatory Risk Reserve (RRR) exhibit unit roots at the same critical levels (0.05). The three variables with unit roots, namely Profit for the Year (PFY), Statutory Reserve (STR) and Retained Earnings (RTE) were found stationary in levels. Specifically, Statutory Reserve (STR) was found stationary after the first differencing 1(1), Profit for the Year (PFY) and Retained Earnings (RTE) were found stationary after the second differencing 2(2), while Regulatory Risk Reserve was stationary at 0(0) differencing. These results

suggest that the variables of the study are of mix order of integration. When the four variables were tested together, they were found stationary after the second differencing 2(2).

**Table 4.2.4: Pane Least Square Regression Analysis**

Dependent Variable: PFY

Method: Panel Least Squares

Date: 07/04/25 Time: 21:00

Sample: 2014 2024

Periods included: 11

Cross-sections included: 11

Total panel (balanced) observations: 121

Variable	Coefficient	Std. Error	t-Statistic	Prob.
STR	0.343284	0.072373	4.743296	0.0000
RTE	0.349780	0.031828	10.98974	0.0000
RRR	0.992150	0.375400	2.642917	0.0093
C	2128.865	12209.14	0.174367	0.8619
R-squared	0.768306	Mean dependent var		113942.6
Adjusted R-squared	0.762365	S.D. dependent var		196310.7
S.E. of regression	95697.14	Akaike info criterion		25.80826
Sum squared resid	1.07E+12	Schwarz criterion		25.90069
Log likelihood	-1557.400	Hannan-Quinn criter.		25.84580
F-statistic	129.3255	Durbin-Watson stat		1.637053
Prob(F-statistic)	0.000000			

*Source: E-view 8.0 Output.*

Table 4.2.4 presents the Panel Least Square Regression results of the eleven (11) deposit money banks in Nigeria, selected for the study. Results from the table show that the Adjusted Coefficient of Determination, ( $R^2$ ) of the model is 0.762365. This suggest that about 76% of the variations in Profit for the Year of the eleven selected banks are explained by the measures of corporate reserves (Statutory Reserve, Retained Earnings and Regulatory Risk Reserve) while the remaining 24% is explained by other factors not captured in the regression model. The value of Durbin Watson Statistics in the regression model is 1.63053, which is below the range of 2-4, used as benchmark for autocorrelation test. However, this value is close to the lower limit of 2 and, therefore, can be approximated to 2. In view of this, we conclude that there is no autocorrelation in the regression model.

### 4.3 Test of Hypotheses and Discussion of Findings

#### 4.3.1 Statutory Reserve and Banks' Earnings

Results from table 4.2.4 indicate that the regression coefficient of Statutory Reserve is 0.343284, which is positive while the p-value is 0.0000, which is less than 0.05 critical value ( $0.0000 < 0.05$ ). Therefore, we state that

Statutory Reserve (STR) positively and significantly affects Profit for the Year (PFY) of deposit money banks in Nigeria. The result is consistent with Charter Value Theory, propounded by Marcus in 1984. Marcus (1984) postulates that banks tend to maintain a greater amount of capital than fixed by regulation in order to guard against the future loss. Banks usually hold some extra capital to safeguard them from downturns and handle the default risk. This result is consistent with: Okeke (2020) who found that retained earnings and statutory reserve positively and significantly affect earnings per share of deposit money banks in Nigeria. The result, however, differs from: Offor (2023) who found that statutory reserves have a significant and negative effect on the revenue reserve of deposit money banks in Nigeria. Miyobalm and Haabazoka (2024) who observed an inverse relationship between statutory reserves and financial performance of commercial banks profitability in Zambia.

#### 4.4.2 Retained Earnings and Banks' Earnings

The table also reveals that the regression coefficient of Retained Earnings is 0.349780, which is positive while the p-value is 0.0000, which is less than 0.05 critical value ( $0.0000 < 0.05$ ). Thus, we postulate that Retained Earnings (RTE) positively and significantly affects Profit for the Year (PFY) of deposit money banks in Nigeria. The result is also consistent with: Charter Value Theory, propounded by Marcus in 1984. Marcus (1984) postulates that banks tend to maintain a greater amount of capital than fixed by regulation in order to guard against the future loss. Banks usually hold some extra capital to safeguard them from downturns and handle the default risk. This result is also consistent with: Okeke (2020) who found that retained earnings and statutory reserve positively and significantly affect earnings per share of deposit money banks in Nigeria. Ugwu, et al (2021) who found that retained earnings had positive and insignificant effect on both the Return on Asset and Return on Equity of oil and gas firms in Nigeria. Hoang, et al (2020) who concluded that retained earnings have a positive effect on firm performance of Vietnam construction companies. Akinkoye and Akinadewo (2018) who found that positive and significant relationship exist between retained earnings, earnings per share, dividend payout and value of firms while market value is positively but non-significant associated with financial leverage. However, the result differs from: Pibowei et al (2020) who found that there is no significant relationship between retention index, and the return on assets, return on equity, and earnings per share of the firms of selected Breweries firms in Nigeria.

#### 4.3.3 Regulatory Risk Reserve and Banks' Earnings

The table further show that the regression coefficient of Regulatory Risk Reserve is 0.992150, which is positive while the p-value is 0.0093, which is less than 0.05 critical value ( $0.0093 < 0.05$ ). Based on these available evidence, we assert that Regulatory Risk Reserve (RRR) positively and significantly affects Profit for the Year (PFY) of deposit money banks in Nigeria. The result is consistent with Buffer Theory of capital adequacy, propounded by Calem in 1996. Calem and Rob (1996) argued that a bank approaching the regulatory minimum capital ratio may have an incentive to boost capital and reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. Therefore, capital is reliable, dependable and can be used for long term planning. The result is also in agreement with: Çollakua and Aliub (2021) who found that the effect of non-performing loans on the profitability of Commercial Banks in Kosovo is statistically significant. Zakraoui and Hmaied (2024) who concluded that Regulatory Capital Pressure improves bank profitability and stability in Tunisian banks. However, the result differs from: Gurung, et al (2023) who observed a negative and substantial connection between the provisions for loan losses with the Nepalese commercial banks' profitability.

## 5 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary of Findings

The summary of findings of the study, which are in line with the results of the data analysis and test of hypotheses are presented below.

- i. Statutory reserve positively and significantly affects profit for the year of deposit money banks in Nigeria. This result was observed from the regression coefficient of STR, which is 0.343284, and the p-value, which is 0.0000 ( $0.0000 < 0.05$ ).
- ii. Retained earnings positively and significantly affects profit for the year of deposit money banks in Nigeria. These result was ascertained from the regression coefficient of RTE, which is 0.349780, and the p-value, which is 0.0000 ( $0.0000 < 0.05$ ).
- iii. Regulatory risk reserve positively and significantly affects profit for the year of deposit money banks in Nigeria. This result was based on the regression coefficient of RRR, which is 0.992150, and the p-value, which is 0.0030 ( $0.0093 < 0.05$ ).

### 5.2 Conclusion

The study critically evaluated the effect of corporate reserves on earnings of deposit money banks in Nigeria. A sample of eleven (11) deposit money banks listed on Nigeria Exchange Group during 2013-2022 periods was selected for the study. The data analysis was conducted using various inferential and non-inferential statistics including, Descriptive Statistics, Granger Causality test, Unit Root test, and Panel Least Square Regression Analysis. In line with the findings of the study, we conclude that all the measures of corporate reserves, namely, Statutory Reserve (STR), Retained Earnings (RTE) and Regulatory Risk Reserve (RRR) positively and significantly affect Profit for the Year (PFY) of deposit money banks in Nigeria during the period.

### 5.3 Recommendations

In the light of the findings of the study, the discussions and conclusion, we suggest the following recommendations to the firm managers of deposit money banks in Nigeria:

- i. Deposit money banks in Nigeria should maximize earnings and create wealth for shareholders by complying with the Central Bank of Nigeria (CBN) statutory reserve requirement. The compliance will not only assist the bank mitigate compliance and capital adequacy risks, it will also enable the banks take advantage of investment opportunities to boast their banks' earnings.
- ii. This study also recommends that the banks should not distribute all their annual profit to shareholders as dividend, but should retain part of it for future needs. Some of the future needs for retained earnings, include, investment in long term assets, branch expansion, debt repayment, among other needs. The returned profits will assist the banks build their capital, reduce borrowing and floatation costs, and improve the banks' earnings and organizational value.
- iii. The banks should also make adequate reserve for risky assets in line with the Central Bank of Nigeria (CBN) prudential guidelines. Adequate provision for risky assets will assist the bank protect their capitals, absorb losses, especially losses due to loan default and other unexpected shocks in the economy.

### 5.4 Contributions to Knowledge

The novelty of this study lies on its findings that various bank reserves positively and significantly affect the banks' earnings. These results are contrary to the expectation that reserve, like statutory reserve and regulatory risk reserve starve the banks of funds to create more loan assets and thereby reduce the banks' earning capacities.

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