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KEY ACCOUNTING RATIOS AND THE SHARE PRICES OF LISTED COMMERCIAL BANKS IN NIGERIA (2010-2023)

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Abstract: Identifying what determines the share prices of commercial banks can generate important practical and policy implications owing to the part that they play in financing in the economy. The basic valuation of the stocks of quoted deposit money banks, using key financial ratios will disclose the banks' readiness to make healthy loans, receive interest and fees on other accounts and reduce counterparty risks. This study examined the effect of some key accounting ratios, including return on average equity, return on average assets, net interest margin and liquidity ratio, on the stock price of quoted commercial banks in Nigeria during 2010 to 2022. It employed *ex-post facto* research paradigm as well as the fixed effect model of pooled regression analysis. First Bank, Zenith Bank, Access Bank, UBA, Guarantee Trust Bank and Fidelity Bank constituted the study sample. Findings indicate that, while return on equity has a positive and strong impact and net interest margin has positive but weak impact, both return on average assets and liquidity ratio have negative and non-significant impacts on the stock prices of deposit-money banks in Nigeria. This implies that return on average equity is a strong driver of share prices in the Nigerian commercial banks. To boost the stock prices of their commercial banks, therefore, bank executives in Nigeria are advised to engage in activities that would enhance their banks' return on equity.

Keywords: Key accounting Ratios, Share Price, Quoted Commercial Banks, Nigeria.

1.0 Introduction

A sound system of banking plays an important part in a country's economic development (Ndu & Ejimma, 2023). Without making available proper banking services, modern trade as well as business would be virtually impossible (Ndu & Ejimma, 2023). Commercial banks stand as the back-bone of the banking system that comes second after the apex banks because they carry out some basic functions including granting credits to profit-making enterprises, promoting savings and investments, making cross-border financial transactions possible, playing developmental roles, granting loans to other sectors of an economy and controlling foreign exchange (Mohamed, 2016). Present and potential investor needs to comprehend the environments surrounding the market for selling and buying shares with the intention of mitigating the associated degree of risk involved in investing decisions (Oladitire & Agbaje, 2019) and an approach for analyzing the potentials of some investment is by using accounting ratios. Such ratios are established for measuring the success or failure of managerial decisions with regard to the oscillations in share prices

As affirmed by Remi (2005), the share price of a company is directly connected with the efficiency of management that is one of the signs of corporate performance. Share price is a relevant indicator of returns to stakeholders. Hence, the values attached to share price and the direction of its movement matters much to both

existing and prospective investors in the stock market.

The problem

Even though people have used accounting ratios for some time as proxies for predicting the share price in the capital market (Remi, 2005), many scholars still doubt the efficacy of such metrics.

Commercial banks in Nigeria operate under a turbulent economic environment, known for having massive deceleration in money supply and credit, poor quality of asset, undercapitalization, a weakening exchange rate, fluctuating inflation rate, decline in global oil prices, poor corporate governance, weak risk management framework, and shortage of foreign currencies as well as elevated cost of capital (Adedoyin, 2011). Their stock prices are susceptible to all of those factors which they do not have control over. While a section of the stock market participants blame the trend in share price movements on the availability of accounting information, another camp of analysts attribute that to non-accounting information that are sparked off by government's weak monetary policies (Stephen & Okoro, 2014). However, people generally believe that many factors determine the prices of shares in the capital market—some of which are either accounting or non-accounting information (Khanagha, 2011; Cheng et al., 2008). While Cheng, et al. (2008) and Francis and Schipper (1999) contend that non-accounting parameters form the criteria for determining stock prices, few studies in Nigeria like Oyerinde (2011) and Umar and Musa (2013) have provided statistical evidence of the nexus between share price movements and accounting information. However, none of those studies was specifically carried out on the banking sector.

The urgency of this kind of study is underscored by the fact that Nigerian investors occasionally suffer significant losses in the capital market as against what they always anticipate (Ezeagu et al., 2022). Further, poor accounting data prevents managerial effectiveness and efficiency while accurate accounting data is a neutral instrument for successful and efficient resource management. Further, identifying the factors that determine share prices in the capital market could generate important practical and policy implications because of the role played by deposit-money banks in financing the economic system (D'Apolito & Pacelli, 2017). The study is, therefore, intended to establish the impact of some key accounting ratios on the share prices of quoted commercial banks in Nigeria. Specifically, the objectives of the study are to: 1. evaluate the impact of average return on assets, return on average equity, and net interest margin and liquidity ratios of quoted commercial banks in Nigeria on their share prices for the period 2010 to 2023.

The remaining part of the paper is as follows: Section 2 reviews the related literature. Section 3 explains the methodology employed. Section 4 provides estimation results. Section 5 concludes the study.

2.0 Review of related literature

2.1 Conceptual Review

2.1.1 Accounting Information

Accounting information emanated from accounting systems that track and regularly provide audited quantitative data on a firm's financial position as well as achievement (Okoro et al., 2020).

Hendricks (1976) contends that the fundamental intention for generating accounting information is to make decision-making feasible. Accounting information should be relevant, thorough and reliable for it to become effective. Consequently, it should neither be biased nor inclined to favor one side against the other. It can

help in achieving the purposes of showing the worth of a firm, evaluating its performance, and assisting its managers in making decisions.

2.1.2. Financial performance indicators

These are important decision-making instruments employed by a retail investor, mutual fund managers, foreign institutional investors or whoever is buying securities in equity market for different reasons (Onibiyo et al.,2022). It permits such a buyer to carry out a detailed financial evaluation of every investment option and then invest in the asset is considered capable of quenching their investment appetite (Skousen et al., 2007; Akinmade et al., 2020; Harvey, 1995).

2.1.3 Accounting Ratios

These are the ratios of the figures selected from the financial statements of an enterprise (Guaranty TrustBankPLC, 2024). A sub-set of financial ratios, they provide an avenue for showing the connection between one accounting data point and another. They could be employed by managers within a firm, by current and potential shareholders of a company and by a company's creditors.

2.1.4 Return on Average Equity (ROAE)

ROAE is a ratio which analyzes how a firm performs based on its outstanding shareholders' ordinary shares (Kenton, 2020). When a firm possesses big ROAE, the implication is that the firm is generating more income per dollar of equity share.

Also, ROAE discloses the source from which the firm is earning its revenue- whether through profitability, accumulation of debt or sale of assets. ROAE can provide a more correct picture of a company's profitability.

2.1.5 Return on Average Assets (ROAA)

ROAA is a profitability ratio which is frequently highlighted during the evaluation of financial statements. It can disclose a firm's competence in generating incomes and can be employed to forecast future earnings. (Brigham & Houston, 2001),

2.1.6 Net Interest Margin (NIM)

NIM is a ratio that is employed to measure the ability of bank management to produce interest income. NIM discloses how well the banks are performing in disbursing loans, since the operational income of commercial banks highly relies on the gap between interests and credit disbursed (Mahardian, 2008;Onibiyo et al.,2022;). When a bank's NIM is high, the implication is that there is some improvement in its financial performance. (Almilia & Herdiningtyas, 2005). Ideally, commercial banks pay interests to depositors that are lower than the interests they charge borrowers (Murray Review, 2014).

2.1.7 Liquidity Ratio

According to finance literature, liquidity is regarded the capability in translating non-monetary assets to cash cheaply and without delay. It is a monetary measure employed to find out the ability of a debtor to defray debts owed without sourcing for capital externally (Hayes, 2023).

2.1.8 Share Price

A share is the legal interest of a shareholder in the authorized issued capital of a company. It is simply a notarized paper corresponding to an entitlement in a company. Share price is what it takes to buy such securities in a stock exchange. It moves up and down daily depending on the interaction of the forces of demand and supply in the capital market. When there is a high demand for the shares of a firm due to the creditable

performance of the firm, their price would increase (Callahan & Iyer, 2010). Contrarily, when some shares of a company are in excess and there is little demand for them because the company is performing below par, their price would decrease (Callahan & Iyer, 2010). The price of a firm's shares is usually considered as a factor that determines the firm's value (Mohtadi & Agarwal, 2004). Pech et al. (2015) contend that stock prices are settled in the venue where seller's supply meets buyer's demand. Tandelilin (2001) proposes that shares possess values of three types. These include:

1. The book value. This is calculated depending on the bookkeeping carried out by the issuing company (issuer).
2. The market value. This is the value of the shares as determined by market forces (Okoro et al., 2020).
3. Intrinsic or theoretical value. This is the actual or expected value of the share. The price of a share may be influenced by internal and external factors such as financial policy, monetary policy, industrial policy, foreign trade policy, accounting information, investor expectations as well as market supervision, among others (Junjie et al., 2013). For banks, the major determinants of share price are market sentiment, forecast about the future fundamental valuation and the quest for banking services (Investopedia Team, 2022).

2.2 Theoretical Framework

This work is anchored on theories summarized below: -

2.2.1 The Theory of Market Value Relevance

Market value relevance is defined as the statistical link between financial data and prices or returns (Francis & Schipper, 1999). In alignment with Francis and Schipper (1999), Mclean and Zhao (2014) propose that accounting-based indicators are sufficient to explain the market prices of shares under the efficient market, which holds that stock price reflects information which is already accessible. The authors assert that accounting information and present business value must be connected before accounting information can be considered value relevant. In the absence of such link, accounting information will be unable to accomplish its primary goal. (Barth et al., 2001).

2.2.2 Market Efficiency Hypothesis (EMH)

EMH was proposed by Fama in 1965. The hypothesis assumes that at all times the price of a share will perfectly represent all the information that is available about it as well as the entire capital market. Fama justifies this theory by explaining that when new information arrives, the news will spread very quickly and be incorporated in the share price immediately. Consequently, no market player would have the advantage/monopoly of forecasting the movements of share prices since no one has access to the information exclusively and which the entire market does not have. The EMH assumes that at all times the share prices are unbiased outcome of all the information on their anticipated future cash flows as well as the risks attached to acquiring them.

The Market Efficiency Hypothesis predicts both an externally and internally efficient capital market (Reilly and Brown, 2003). The information bits are categorized into 3 groups from the point of view of how quickly they are integrated into share prices: (1) EMH form is weak. (2) EMH is in a semi-strong form; (3) EMH is in a significant form (Fama, 2003; Mgbame & Ikhatua, 2003).

2.3 Empirical Review

Ezeagu et al. (2022) investigated the impact of accounting information on the stock price of Nigerian deposit money banks. The study's specific objectives were to find out how dividend per share, earnings per share and book value of a share affect the share prices of the commercial banks in Nigeria. Empirical data were collected for a period of ten years (2011 to 2020) from the annual financial statements of the selected listed commercial banks. A sample of 3 deposit money banks were analyzed, using least squares. The findings indicate that accounting information influences the share price and performances of Nigerian quoted banks greatly. The results also show that the share prices of only few commercial banks are affected positively and significantly by their earnings per share, book value per share, dividends and profits.

Kutsienyo (2011) explored the elements that affect the profitability of deposit money banks Ghana. Data belonging to 26 commercial banks in Ghana were analyzed from 2000 to 2009 with fixed-effect model estimated using the generalized least squares technique. The two main profitability measures that stood as dependent variables of the study were ROAE and ROAA. Capital adequacy, operational expense, liquidity, asset quality and bank size were the explanatory variables. Also, the regression models included macroeconomic and financial structure items like inflation. The results for the ROAA model indicate that capital adequacy, liquidity and bank size have positive and strong impact on the profitability of banks. Hongkong(2017) analyzed the impact of earnings per share and return on equity on the share price of quoted banks in Indonesia. The time series data of 40 banks were extracted from the banks' financial reports from 2006 to 2009. The findings show that, given the outcome of the t-test, both EPS and ROAA partially affect share prices.

Oladiture and Agbaje (2019) investigated the effect of ROA on the market prices of the shares of commercial banks in Nigeria using the *ex post facto* research design. The authors used a sample of 10 listed commercial banks in Nigeria and data covering the period from 2009 to 2017. Descriptive analysis was first conducted. This was followed by a panel data regression. The findings disclose that the market prices of the banks' stock and their net asset per share ratio are related in the long -run. The study arrived at the conclusion that return assets does not affect the share prices of deposit money banks in Nigeria significantly.

Endri (2018) explored the indicators which affect the share prices of quoted banks in Indonesia from 2006 to 2016. The author employed panel data regression method as well as a sample of eleven banks. Net Interest Margin and capital adequacy ratio (CAR) were observed to be having strong effect on share price oscillation but net interest margin was found to be less influential than capital adequacy ratio. Silaban(2017) analyzed the impacts NIM and CAR on the stock prices of quoted commercial banks in Indonesia from 2012 to 2016. The study employed panel regression technique on purposive sampled data of the forty state and private banks quoted on the Indonesian Stock Exchange. Findings indicate that NIM improves the profitability of banks and consequently affects their stock prices, while CAR has a weak impact on bank profitability. Sarjono and Suprpto(2020) investigated the impact of the CAMEL ratio in NIM, CAR and ROA on the share prices of eleven quoted commercial banks in Indonesia from 2005 to 2014. Findings show that ROA and NIM are negatively linked with stock price while there is a positive nexus between CAR and stock price.

Onibiyo et al. (2022) explored the impact of the indicators of financial performance on the stock prices of thirteen quoted commercial banks in Nigeria. From 2010 to 2020. The independent variables of the study were

NIM, economic value added and free cash flow. They represented the indicators of financial performance. The inquiry used panel ordinary least squares, given the homogeneity nature of the cross - sectional data under investigation, while the outcome of Hausman examination suggested using the random effect technique for regression. Findings indicate that while free cash flow has a positive and strong effect, both economic value added and NIM have negative but strong impact on the stock prices of listed commercial banks in Nigeria.

Onyekwelu et al. (2018) evaluated the effect of liquidity on the financial performance of commercial banks in Nigeria. A sample of 5 banks was employed in the study. Data for ten years period, 2007-2016. Were obtained from them and analyzed with multiple regression technique. Findings indicate that liquidity has a positive and great impact on banks' profitability ratios and Return on Capital Employed.

3.0 Methodology

3.1 Research Design

The ex-post facto research design was used for the study as it is the most appropriate design to employ when it is not feasible to select, control or manipulate all or any of the explanatory variables (Ezekwesili, 2021). The research sourced from the variable data from audited and published yearly financial statements of the selected quoted Nigerian deposit money banks for fourteen years (2010 to 2023)..

3.2 Population of the study

The targeted population included eighteen (18) commercial banks namely First Bank Nigeria, Zenith Bank, Guaranty Trust Bank, Fidelity Bank, Access Bank, Eco Bank, UBA, Skye Bank, Stanbic IBTC Bank, FCMB, Union Bank of Nigeria, Citi Bank, Heritage Bank, Keystone Bank, Standard Chartered Bank, Sterling Bank, Unity Bank, and Wema Bank.

3.2 Study Sample

The purposive sampling method was used to select the banks that made the sample of study. They are six of the listed international deposit money banks in Nigeria (First Bank Nigeria Plc, Fidelity Bank Nigeria, UBA Plc, Zenith Bank of Nigeria Plc, Access Bank of Nigeria Plc and Guaranty Trust Bank) were purposefully selected as study sample.

3.4 Model Specification

A pooled regression statistical tool was utilized for the analysis to establish the effect of accounting ratios on the share prices of selected listed commercial banks in Nigeria with the aid of Statistical Package for Social Science (SPSS Version 22). The linear relation between the study's variables is stated implicitly as illustrated below:

$$MPPS = f(\text{ROAA}) \dots\dots\dots 1$$

$$MPPS = f(\text{ROAE}) \dots\dots\dots 2$$

$$MPPS = f(\text{NIM}) \dots\dots\dots 3$$

$$MPPS = f(\text{LR}) \dots\dots\dots 4$$

The study's specific causal link between the dependent and independent variables is illustrated as follows:

$$MPPS = b_0 + b_1 \text{ROAA} + b_2 \text{ROAE} + b_3 \text{NIM} + b_4 \text{LR} + U_t \dots\dots\dots 5$$

Where,

MPPS= market price per share (NOD)

ROAA = Return on average assets

ROAE= Return on average equity

NIM = Net interest margin

LR = Liquidity ratio

b₀ = Regression constant

b₁, b₂, b₃ & b₄= Regression coefficients

U_t = Stochastic term

3.5 Description of variables

Accounting ratios (ROAA, ROAE, NIM and LR) are the independent variables, while MPPS is the output variable of the study.

3.6 A priori Expectation

The *a priori* expectation are as presented in table 1.

Table 1: Measurement of variables and a priori expected results

Variables	Acronym	Measure	Expected effect
Dependent variable			
Market price per share	MPPS		
Independent variables (Accounting Ratios)			
Return on Average Assets	ROAA	Net Income + [Interest Expense x (1 - Tax Rate)] / (Beginning Total Assets + Ending Total Assets)/2	Positive and Significant
Return on Average Equity	ROAE	Net Income/ (Beginning Total Equity+ Ending Total Equity)/2	Positive and Significant
Net Interest Margin	NIM	Net Interest Margin = (Investment Income – Interest Expenses) / Average Earning Assets.	Positive and Significant
Liquidity Ratio	LR	[Total Assets / (Total Liabilities – Conditional Reserves)].	Positive and Significant

Source: Authors Compilation, 2024

4.0 Presentation and Analysis of Data

4.1 Presentation of Data

Appendix I indicates the historical data of the variables, while appendix II displays their graph.

4.2 Data Analysis

4.2.1 Descriptive Statistics

Table 2: Descriptive Summary of the variables

	MPPS	ROAA	ROAE	NIM	LR
Mean	13.05245	2.494881	18.33881	7.040357	48.63083
Median	9.572000	2.100000	18.00000	6.770000	47.20000
Maximum	47.35000	8.800000	61.40000	11.30000	80.90000
Minimum	0.840000	-0.500000	-6.200000	3.900000	5.000000
Std. Dev.	10.66937	1.473101	10.32628	1.579051	12.20796
Skewness	1.053800	1.322739	1.266286	0.425957	-0.019657
Kurtosis	3.472304	6.086858	7.459145	2.857134	4.051036
Jarque-Bera	16.32767	57.84538	92.04264	2.611592	3.871780
Probability	0.000285	0.000000	0.000000	0.270957	0.144296
Sum	1096.406	209.5700	1540.460	591.3900	4084.990
Sum Sq. Dev.	9448.335	180.1123	8850.458	206.9523	12369.84
Observations	84	84	84	84	84

Table 2 indicates that the variables analyzed offer some complete snapshot of the banks' performance and their financial well-being. The market price for a stock having an average of ₦13.05 and a notable standard deviation of ₦10.67, signifies substantial volatility in the market, suggesting potential fluctuations in investor sentiment or underlying financial fundamentals. Meanwhile, the ROAA stands at 2.49%, indicating how efficient asset utilization for generating income has been, though with some moderate degree of variability denoted by its standard deviation of 1.47%. In the same token, the ROAE of 18.34% highlights how investments in equity have been profitable, though with a considerable standard deviation of 10.33%. This suggests some fluctuations in the banks' performance and investor returns.

On the other hand, the NIM averaged at 7.04% and had a standard deviation of 1.58%. This reflects how profitable the banks' lending activities were after accounting for interest expenses. This metric provides a clue about the efficiency in the management of banks' interest rate and their competence in generating gains from interest-bearing assets. Lastly, the LR of 48.68, which indicates the ability of the banks to defray short term debts with liquid assets, shows a moderate degree of variability with a standard deviation of ₦12.21.

4.2.2 .Panel Unit Root Test

Panel data consists of observations about multiple cross-sectional units throughout time. The panel unit root tests are statistical techniques used to examine the stationarity of variables in panel data. . These tests determine whether the variables exhibit unit root, meaning non-stationary, or are stationary throughout time. The Augmented Dickey-Fuller (ADF) examination for individual unit root test is adapted to the panel data setting by Levin et al. (2002) to create the Levin-Lin-Chu (LLC) test. Because the LLC test considers both distinct individual-specific impacts and cross-sectional dependence, it is considered suitable for evaluating panel datasets where observations may exhibit individual-specific trends and be correlated across units. In this evaluation, the null hypothesis proposes the existence of unit root.

4.2.3 Results of panel unit root test

The outcomes of the panel unit root examinations are displayed in Tables 2. Two test statistics are calculated for

every one of the variables. Findings indicate that all the variables are stationary at level.

Table 2: Panel Unit Root Test

	LLC	INTERGRATION ORDER	Comments
MPPS#	-5.37828 [0.0000]	I (1)	Stationary After the first difference
ROAE%	-7.76555 [0.0000]	I (1)	Stationary after the first difference
ROAA%	-7.76555 [0.0000]	I (1)	Stationary after the first difference
NIM%	-7.77020 [0.0000]	I (1)	Stationary after the first difference
LR%	-6.54080 [0.0000]	I (1)	Stationary after the first difference

The outcome of the panel unit evaluation as shown in table 2 suggest that all the variables of the study are stationary at first difference. This shows that the variables exhibit a stable trend over time once differenced- thereby suggesting some more predictable and manageable pattern in their behavior. Firstly, the price in the market per share likely displayed erratic movements in its original form, possibly impacted by short-term market sentiments or external factors. However, after taking the first difference, this variable became stationary. The implication is that the fluctuations in stock price are more consistent and trendless - potentially reflecting a smoother progression in the market's valuation of the banks. Similarly, ROAA and ROAE may have exhibited volatility in their original forms, reflecting fluctuations in asset utilization effectiveness and equity profitability, respectively. After differencing, these variables became stationary. This suggests that any abrupt changes or irregularities in their performance metrics stabilize over time, providing investors with a more reliable criterion for evaluating the bank's well-being and profitability trends. Moreover, the NIM, representing the profitability of lending activities after interest expenses, likely demonstrated fluctuating patterns prior to differencing.

However, post-differencing, this variable showed stationarity, demonstrating a consistent and predictable trend in the banks' net interest income generation as well as the management of the risks of interest rate.. Lastly, the LR, which reflects the ability of banks to defray short-term liabilities with liquid assets, might have exhibited erratic behavior before differencing. Nevertheless, the stationarity of LR post-differencing implies a more stable and predictable trend in the bank's liquidity position, offering investors assurance regarding the company's short-term solvency and financial stability.

Overall, the panel unit root test results indicating stationarity after the first differencing provide valuable clues regarding the stability and predictability of these financial variables. This situation enables investors and analysts to make more informed decisions regarding investment strategies and risk management practices.

4.2.4 Correlation matrix

The statistical connection between two or more variables is referred to correlation. Correlation indicates how closely the alterations in one variable would affect alterations in another. With values ranging between -1 and 1, it assesses the degree and direction of the linear connection that exists between some variables. Concerning the variables employed here, a correlation matrix has been produced as shown in table 3. The result in table 3 is the correlation of all the variables of the study. Going by the result, the implication is that, on the

average, there are significantly positive correlations among the variables

Table 3: Bivariate Correlation of all the variables

	MPPSN	ROAE%	ROAA%	NIM%	LR%
MPPSN	1.000000				
ROAE%	0.560810	1.000000			
ROAA%	0.639228	0.842531	1.000000		
NIM%	0.4242106	0.171316	0.475385	1.000000	
LR%	0.2134298	0.055500	0.092705	0.174616	1.000000

4.2.5 Panel Regression

Table 4 clearly states the coefficients and probability value for the entire predictors variables of the model. It also showcases the fixed/random effect model and the pooled regression. Given the selection criteria for selecting the model between the fixed effect and random effect we made use of the Hausman test in table 5 below.

Table 4: Model Summary

Variable	Fixed Effect	Random Effect	Pooled OLS
ROAA	-1.273436 [0.3679]	2.296789 [0.0369]*	2.296789 [0.1105]
ROAE	0.413635 [0.0091]*	0.259045 [0.0640]	0.259045 [0.1571]
NIM	0.217101 [0.7304]	1.399458 [0.0142]*	1.399458 [0.0601]
LR	-0.047515 [0.4825]	0.117068 [0.0393]*	0.117068 [0.1150]
C	9.426196 [0.0750]	12.97416 [0.0031]*	12.97416 [0.0231]*
R-Square	0.7113995	0.459762	0.459762
F-Statistic	17.99408	16.80798	16.80798
Prob8 (F-Statistic)	0.000000	0.000000	0.000000

Table 5: Hausman Test

Model	Test cross-section random effect		
	Test Summary	Chi-Sq. Statistic	Prob
	Cross-section random	29.984456	0.0002

It is evident from table 5 above that the null hypothesis of the Hausman test should be rejected. We therefore conclude that it is better to use the fixed effect model to estimate the unobserved effect instead of the random effect model.

Table 4 exhibits the panel regression results in the fixed effect model of the panel regression analysis for the deposit money banks in Nigeria. The examination of the key indicators reveals interesting relationships with price per share in the market. Notably, ROAE emerges as a strong driver of market valuation, by showing a statistically strong and positive coefficient. This implies that there is a tendency for greater returns harnessed

from equity investments tend to lead to higher market valuation of deposit money banks' shares. This aligns with Hendra (2017) that observed that ROAE partially affects stock prices positively. However, this contradicts Hendra (2017) that noted a weak impact for quoted banks in Indonesia. ROAA displays coefficient that is negative, implying that, although the relationship is statistically non-significant. There is a potential negative *nexus* between it and market price per share (MPPS). Consequently, movements in ROAA may not significantly predict movements in MPPS in model.

This agrees with Agbaje (2019) which noted a weak impact of ROAA on the MPPS of deposit money banks in Nigeria. It contradicts Aprianti and Wahyuningsih (2022) that observed positive impact of ROAA on MPPS. It is expected that investors will favor companies which make huge profits. The increase in company profits should result in an increase in the quest for shares. Consequently, high ROAA (5% or above) should result to an increase in a firm's stock price. However, the ROAA of the majority of the quoted deposit money banks in the sample of this study were below 5 %.

Further, NIM's coefficient suggests a potential positive but little effect of NIM on MPPS. This is consonant with the result obtained by Sarjono and Suprpto (2020). However, it contradicts outcomes of the works of Endri (2018) and Silaban (2017). This work disagrees with Onibiyo et al. (2022) which concluded that NIM has a negative and significant impact on the MPPS of Nigerian commercial banks. The weak effect observed for NIM contradicts *a priori* expectation, reason being that NIM of commercial banks should impact their Price-Earnings positively and significantly. NIM is a peculiar financial ratio for commercial banks. Hence, a continuously higher percentage of NIM of a firm encourages investors to anticipate higher profits in future, increases the demand for the firm's shares which would result in a boost in its share price.

The observed weak impact of NIM on the MPPS of quoted commercial banks in Nigeria during the study period can be explained by the observation of Okoye and Ezejiofor (2014). The authors remarked that, under IFRS, most banks could not obtain sufficient interest earnings to defray their interest obligations: a situation that left investors in the shares of the banks dissatisfied.

Liquidity ratio (LR) shows a coefficient suggesting potential negative effect on MPPS. Moreover, its associated probability value shows that the effect is non-significant. This is in conflict with the findings of Kutsienyo (2011), Onyekwelu et al. (2018) and Sutardjo and Afriyani (2019) that demonstrate that liquidity has a positive and large impact on the value of a firm through profitability. Overall, the outcomes of this study expose the complexity of the factors influencing share pricing within the Nigerian banking sector. Also, they underline the importance of taking a holistic view at the range of factors outside financial ratios when evaluating investment opportunities and making strategic decisions in the banking sector. By bringing in those insights into their decision-making processes, stakeholders will be in a better position to navigate share price fluctuations and improve on their investment strategies in the Nigerian banking sector.

5.0 Conclusion

The impacts of key financial metrics on stock price have become topical issue in finance literature. This study concludes that return on average equity has a positive and strong effect while return on average assets has a negative and weak effect. Also, it found that net interest margin has a positive non-significant effect while liquidity ratio has negative and non-significant influence on the stock price of quoted deposit money banks in Nigeria. The study concludes that ROAE, ROAA, NIM and LR are financial performance indicators deserve

close attention in Nigeria. As explained by D'Apolito and Pacelli (2017), the findings of this study are more important in the eras of high market turbulence as experienced in Nigeria during the period of this study. These have provoked the investors' perceptions to be exceptionally unstable and volatile as the availability of information remains limited and poor.

Recommendations

1. Since ROAE is an important determinant of stock price of deposit money banks in Nigeria, the banks should scale up innovations that would boost their net incomes, all else equal, or minimize the value of shareholders' equity.
2. The banks should engage in activities that would raise their ROAA high enough (at least 5%) to enable them to increase their share prices. In addition, they ought to prevent their ROAA from being affected by short-term fluctuations in net profit or assets since such situations would make ROAA less reliable for long-term investment decisions.
3. The banks should exercise stricter control on their interest expenses, scale up innovation and lay more emphasis on management quality so as to harness reasonable interest earnings which could open up more frontiers for young entrepreneurs in Nigeria (Onibiyo et al., 2022).
4. The CBN should maintain a flexible Minimum Monetary Policy or Discount Rate to enable the banks take advantage of alternative steps for meeting the unexpected withdrawal demands, and minimize tendency of maintaining excess idle cash at the expense of profitability.

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Appendix 1: Historical Data of Variables

BANK:FIRST BANK NIGERIA PLC

S/N	YEAR	ROAE%	ROAA%	NIM%	LR%	MPPSN
1	2010	9.70	1.70	5.70	63.5	2.5035
2	2011	13.20	2.10	8.20	38.3	4.3246
3	2012	19.0	2.50	10.0	36.4	4.9618
4	2013	15.5	2.0	9.0	42.5	5.7849
5	2014	16.9	2.0	7.6	37.1	5.6812
6	2015	2.70	0.40	8.10	51.9	6.1910
7	2016	2.30	3.0	11.2	52.7	10.700
8	2017	8.70	1.10	8.40	49.3	12.964

9	2018	10.8	1.20	7.80	45.2	11.324
10	2019	11.7	1.19	7.70	42.2	10.355
11	2020	10.5	0.98	6.10	34.8	9.144
12	2021	15.7	0.69	4.50	33.0	14.313
13	2022	14.5	1.20	5.10	31.7	13.495
14	2023	31.5	3.00	5.80	32.0	14.804

BANK:FIDELITY BANK OF NIGERIA

S/N	YEAR	ROAE%	ROAA%	NIM%	LR%	MPPS ₦
1	2010	4.5	1.3	6.6	53.7	2.28
2	2011	2.0	0.5	5.9	52.0	1.28
3	2012	11.2	2.1	6.6	47.1	2.09
4	2013	4.8	0.8	3.9	45.7	2.42
5	2014	8.2	1.2	6.8	38.0	1.65
6	2015	7.8	1.19	6.7	53.0	1.48
7	2016	6.0	2.0	6.4	32.2	0.84
8	2017	10.0	2.1	7.3	35.9	2.47
9	2018	19.0	2.1	5.3	5.0	2.00
10	2019	17.7	1.6	6.6	47.0	2.05
11	2020	21.2	1.2	5.1	46.0	2.54
12	2021	21.0	4.0	5.6	46.0	2.56
13	2022	13.4	1.17	5.5	39.5	4.41
14	2023	27.3	2.80	5.6	39.6	10.67

BANK: UNITED BANK OF AFRICA PLC

S/N	YEAR	ROAE %	ROAA%	NIM%	LR%	MPPS ₦
1	2010	0.40	-0.50	6.0	39.0	24.75
2	2011	-6.20	0.0	4.5	60.0	2.59
3	2012	31.90	2.60	5.80	69.8	4.59
4	2013	21.80	1.90	5.90	55.0	8.90
5	2014	20.20	2.20	6.0	55.78	4.30
6	2015	19.20	1.80	6.30	52.60	3.38
7	2016	18.50	2.20	7.10	45.0	4.50

8	2017	16.10	2.10	7.00	30.0	10.30
9	2018	16.30	1.61	6.20	42.0	7.70
10	2019	16.60	1.60	6.00	54.90	7.15
11	2020	17.20	1.70	5.40	44.30	8.65
12	2021	15.60	1.46	5.57	65.3	8.05
13	2022	19.70	1.76	5.63	68.30	7.60
14	2023	57.40	5.80	5.99	36.60	25.42

BANK:ZENITH BANK OF NIGERIA PLC

S/N	YEAR	ROAE %	ROAA %	NIM %	LR %	MPPS ₦
1	2010	10.7	2.1	7.84	64.0	15.01
2	2011	11.6	2.1	8.34	61.0	12.45
3	2012	23.49	4.08	8.19	61.4	19.25
4	2013	19.6	3.32	8.70	64.0	26.20
5	2014	18.3	2.90	8.0	42.0	18.50
6	2015	19.7	2.90	7.9	45.0	14.40
7	2016	20.0	3.0	7.7	59.6	16.00
8	2017	23.3	3.4	9.0	69.7	34.20
9	2018	23.8	3.4	8.9	80.9	23.45
10	2019	23.8	3.4	8.2	57.3	23.00
11	2020	22.4	3.1	7.9	62.5	27.50
12	2021	20.4	2.7	6.7	61.9	26.05
13	2022	16.8	2.1	7.3	75.0	25.80
14	2023	18.7	2.1	6.9	54.6	47.35

BANK:ACCESS BANK OF NIGERIA PLC

S/N	YEAR	ROAE %	ROAA %	NIM %	LR %	MPPS ₦
1	2010	6.4	1.5	7.3	34.6	4.28
2	2011	9.0	1.5	8.3	72.0	4.18
3	2012	16.2	2.1	11.3	60.0	4.52
4	2013	16.2	2.1	5.8	57.0	4.40
5	2014	16.5	2.6	6.8	33.5	6.82
6	2015	20.4	2.78	5.9	37.3	4.75
7	2016	17.4	2.4	6.2	43.6	5.87

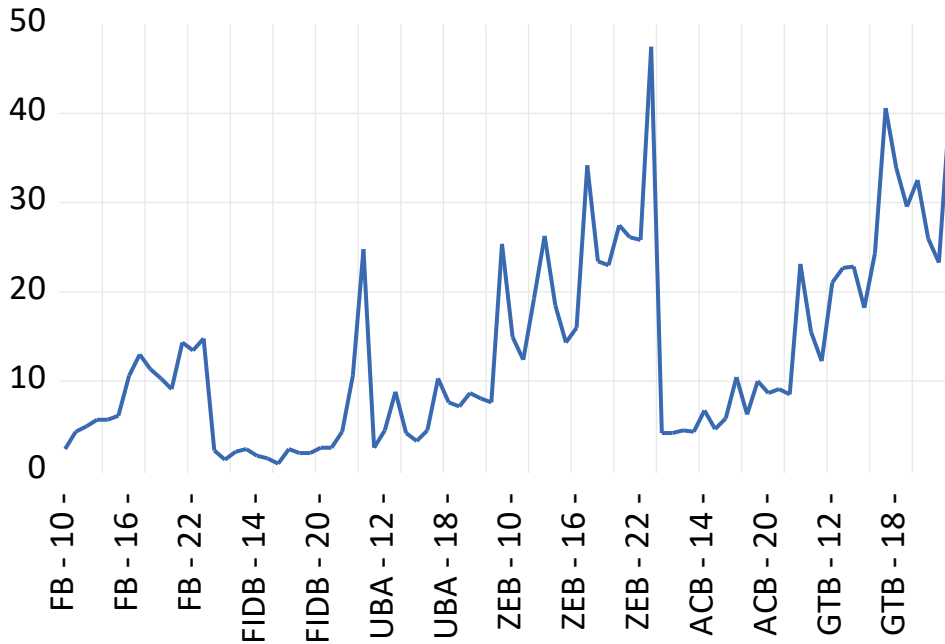
8	2017	12.8	1.6	5.8	47.3	10.46
9	2018	19.0	2.1	5.3	50.9	6.31
10	2019	17.1	1.6	6.6	47.0	10.0
11	2020	15.6	2.1	4.3	51.0	8.72
12	2021	15.6	2.2	4.9	46.0	9.13
13	2022	27.2	2.18	4.3	48.4	8.63
14	2023	30.1	2.24	6.4	50.7	23.17

BANK: GUARANTY TRUST BANK

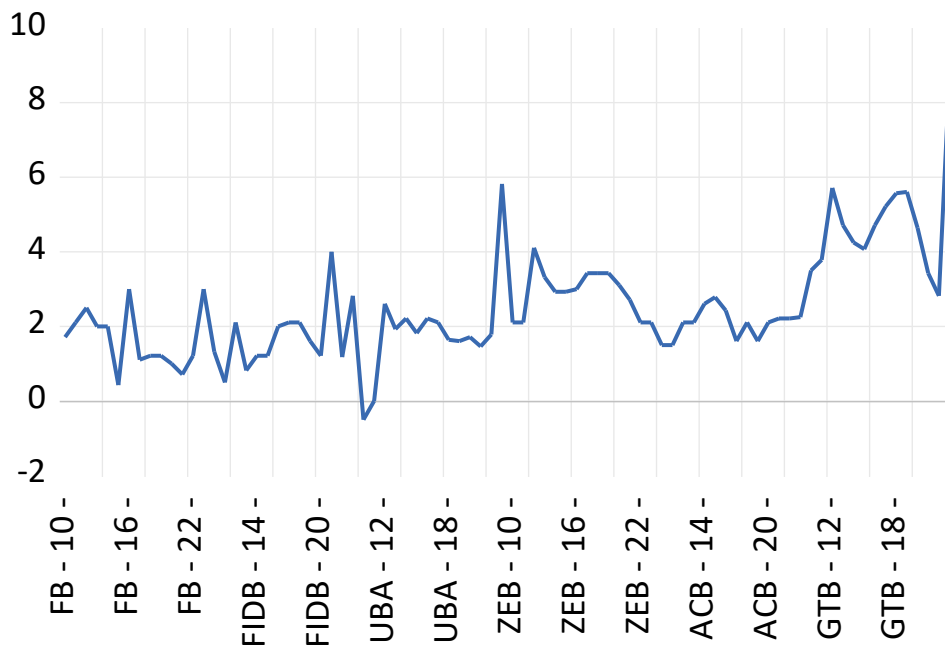
S/N	YEAR	ROAE %	ROAA %	NIM %	LR %	MPPS ₦
1	2010	18.55	3.50	7.22	49.11	15.50
2	2011	23.42	3.77	7.80	55.88	12.30
3	2012	37.48	5.69	9.46	43.83	21.07
4	2013	29.32	4.69	8.87	48.80	22.67
5	2014	27.30	4.24	8.10	40.07	22.90
6	2015	22.55	4.07	8.26	42.21	18.16
7	2016	28.80	4.69	9.01	42.19	24.28
8	2017	29.96	5.19	10.42	47.56	40.59
9	2018	30.90	5.56	9.23	41.44	33.85
10	2019	31.16	5.59	9.28	49.33	29.50
11	2020	26.83	4.63	9.26	38.91	32.52
12	2021	20.60	3.40	6.74	38.30	26.00
13	2022	18.60	2.80	6.68	49.90	23.23
14	2023	61.40	8.80	7.80	69.38	40.27

APPENDIX II

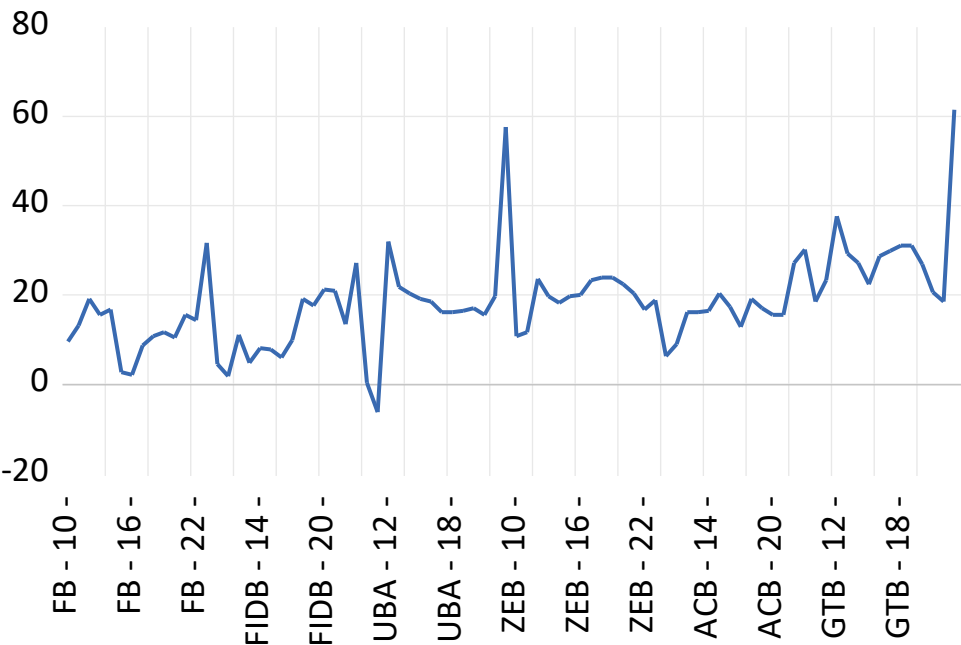
MPPS?



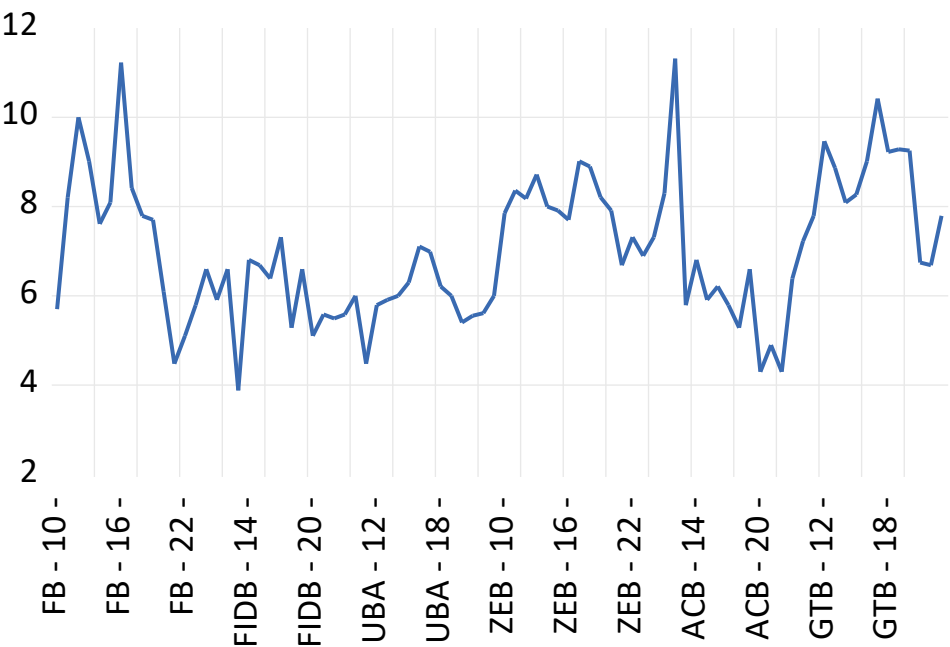
ROAA%

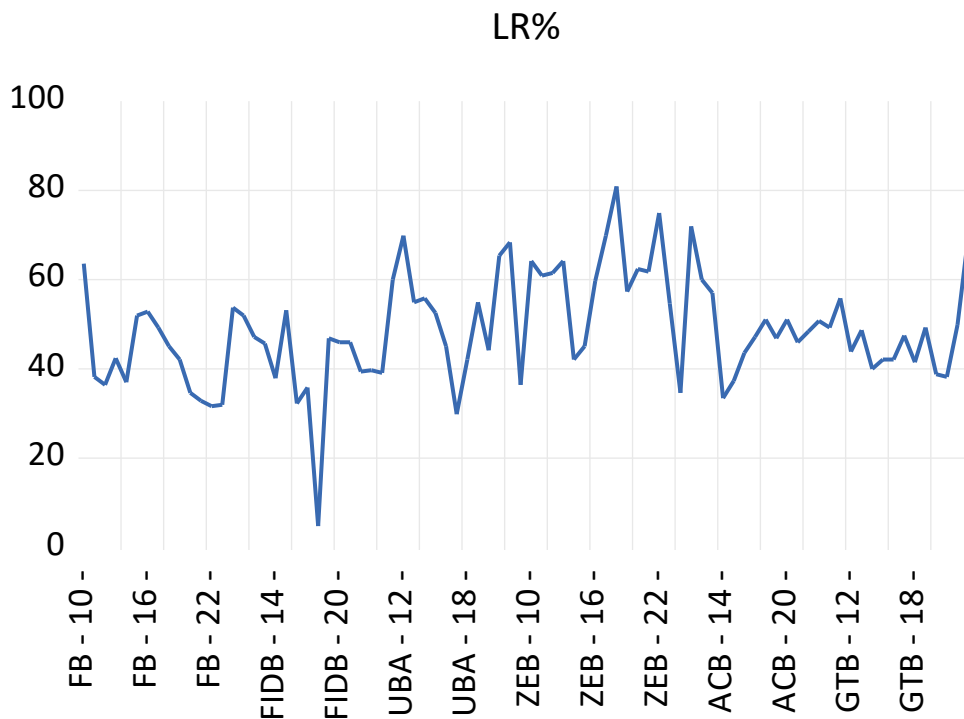


ROAE%



NIM%





Fixed Effect Model

Dependent Variable: MPPS_

Method: Panel Least Squares

Date: 02/29/24 Time: 22:50

Sample: 2010 2023

Periods included: 14

Cross-sections included: 7

Total panel (unbalanced) observations: 84

Variable	Coefficien			
	t	Std. Error	t-Statistic	Prob.
ROAA_	-1.273436	1.405520	-0.906025	0.3679
ROAE_	0.413635	0.154432	2.678430	0.0091
NIM_	0.217101	0.627708	0.345863	0.7304
LR_	-0.047515	0.067307	-0.705949	0.4825
C	9.426196	5.218015	1.806472	0.0750

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.711395	Mean dependent var	13.05245
Adjusted R-squared	0.671860	S.D. dependent var	10.66937
S.E. of regression	6.111787	Akaike info criterion	6.579863
Sum squared resid	2726.838	Schwarz criterion	6.898184
		Hannan-Quinn	
Log likelihood	-265.3542	criter.	6.707825
F-statistic	17.99408	Durbin-Watson stat	1.020106
Prob(F-statistic)	0.000000		

Random Effect Model

Dependent Variable: MPPS_

Method: Panel EGLS (Cross-section random effects)

Date: 02/29/24 Time: 22:51

Sample: 2010 2023

Periods included: 14

Cross-sections included: 7

Total panel (unbalanced) observations: 84

Swamy and Arora estimator of component variances

Variable	Coefficien			
	t	Std. Error	t-Statistic	Prob.
ROAA_	2.296789	1.082073	2.122583	0.0369
ROAE_	0.259045	0.137883	1.878731	0.0640
NIM_	1.399458	0.557803	2.508875	0.0142
LR_	0.117068	0.055847	2.096248	0.0393
C	-12.97416	4.257896	-3.047083	0.0031

Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	6.111787	1.0000

Weighted Statistics

R-squared	0.459762	Mean dependent var	13.05245
Adjusted R-squared	0.432408	S.D. dependent var	10.66937

S.E. of regression	8.038159	Sum squared resid	5104.348
F-statistic	16.80798	Durbin-Watson stat	0.768415
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.459762	Mean dependent var	13.05245
Sum squared resid	5104.348	Durbin-Watson stat	0.768415

Dependent Variable: MPPS_

Method: Panel Least Squares

Date: 03/01/24 Time: 23:31

Sample: 2010 2023

Periods included: 14

Cross-sections included: 7

Total panel (unbalanced) observations: 84

Variable	Coefficient			
	t	Std. Error	t-Statistic	Prob.
ROAA_	2.296789	1.423131	1.613899	0.1105
ROAE_	0.259045	0.181342	1.428487	0.1571
NIM_	1.399458	0.733617	1.907615	0.0601
LR_	0.117068	0.073449	1.593875	0.1150
C	-12.97416	5.599941	-2.316839	0.0231

R-squared	0.459762	Mean dependent var	13.05245
Adjusted R-squared	0.432408	S.D. dependent var	10.66937
S.E. of regression	8.038159	Akaike info criterion	7.063956
Sum squared resid	5104.348	Schwarz criterion	7.208647
		Hannan-Quinn	
Log likelihood	-291.6861	criter.	7.122121
F-statistic	16.80798	Durbin-Watson stat	0.768415
Prob(F-statistic)	0.000000		

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq.		
	Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	62.815466	4	0.0000