FINANCIAL RATIOS AS A MEASURE OF PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA IN POST 2005 CONSOLIDATION

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ABSTRACT

This study evaluated the relevance of ratio analysis as a measure of performance of commercial banks in Nigeria for the period of 10 years 2006-2015. Secondary data of Access Bank, First Bank, Guarantee Trust Bank (GTB), United Bank for Africa (UBA), Union Bank, and Zenith Bank were used for the study. Financial ratios were employed to measure the profitability, liquidity and credit performance of these banks and the study found that banks' overall profitability performance increased by 9.6% from 2006-2008 while the performance was negative between 2009-2011 from -14.29% to -3.45% and finally banks' profitability performance decreased by 18% from 2012-2015. Liquidity performance, liquidity ratio fell by 61% from 50.48% to 19.62% in the period under review. Credit performance increased by 78% from 2006-2015. Capital adequacy was between 13.15%-15.34%. Statistical results indicated the significant relationship among the variables. The R^2 of 0.893 showed that Profit margin, Return on assets, Total loans and advances, Liquidity position and shareholders fund explained 89.3% of the variation in the Return on Equity of the selected banks under study. The relationship among the stated variables was significant, and the study, therefore, recommended the adoption of ratio analysis as a good measure of commercial banks performance in Nigeria.

Keywords: Commercial Banks, Profitability, Liquidity, Dependent Variable.

INTRODUCTION

Deposit Money banks are essential to the general welfare of the economy. As a result, the Banking sector in Nigeria has undergone remarkable changes since 2005 bank consolidation which led to Central Bank of Nigeria (CBN) taking strong measures to strengthen the performance and reporting standards of the Nigerian Banks. The banks are required to comply with International Accounting Standards and making the financial statements transparent most especially in the areas of Financial Instruments and disclosure requirements. They are also mandated to use the same calendar year. These have made the landscape of Nigerian banking changed altogether. Because of these factors, the interest of the analysts and researchers got developed to evaluate the financial performance of the Nigerian banks.

Investors are always looking forward to earning good returns on their investments. They are guided by perceptions and adequate knowledge of the financial performance of an entity through financial statement analysis to make a decision. Dursun, Cemil, and Ali (2013) state that Ratio analysis can help stakeholders analyze the financial health of a company and using these

financial ratios, comparisons can be made across companies within an industry, between industries, or within a firm itself. Such a tool can also be used to compare the relative performance of different size companies.

There is, therefore, the need for evaluation of the operational performance of banks in Nigeria in order to determine and highlight performance metrics. On this premise, the study looks at levels of efficiency of Access Bank Plc, First Bank, Guarantee Trust Bank Plc, and United Bank for Africa (UBA), Union Bank of Nigeria Plc and Zenith Bank Plc regarding Profitability performance, Liquidity performance, Credit performance and **C**apital adequacy.

In his study, Kolade (2012) reported the comparative performance of 15 selected Commercial Banks Kolade in Nigeria which covered a period of five years (2005-2010). Unlike Kolade and other literature on Banks' performance, this study is unique because it analyzes the aggregate performance of selected banks in Nigeria with a view of having a broad knowledge of the banking sector performance in Nigeria. This is a gap that has been identified in the previous literature. Aside, the study is very recent; it covers a period of ten years (2006-2015). This is another gap that is addressed by this study. The study also employed the use of statistical analysis and graphical representation for a better understanding of the results which are relatively rare in the previous studies. The results of this study will provide valuable information about the financial position of these six major banks in Nigeria.

The study is structured into five sections. Section 1 deals with an introduction, section 2 contains literature review, section 3 describes the methodology, and section 4 focuses on results and discussion. The last section 5 is about conclusion and recommendations.

LITERATURE REVIEW

The factors affecting banks' performance (profitability) have been empirically examined by many authors, both in the developed and developing countries. Berger and Humphrey (1997) stated that the main reason for measuring bank performance is to identify banks that are efficient and doing well and those banks with bad results. According to them, the evaluation of the performance of financial institution can help the government to come up with the appropriate policy on deregulation, mergers and market structure relating to the efficiency of the banks. They concluded that by evaluating banks' performance about liquidity, solvency and overall performance, the regulators could screen banks to gauge the potential problems.

In the study by Saona (2011) on determinants of the profitability of the US banks during the period 995-2007. The GMM system estimator was used for the empirical analysis of banks' specific and macroeconomic variables. In other words, the study considered both endogenous and the exogenous variables. He reported that banks were operating over-cautiously and ignoring potentially profitable trading opportunities. According to him, this was evidenced by the negative relationship between the capital ratio and the profitability.

Scott and Arias (2011) also investigated the primary determinants of profitability of the top five bank holding companies in the United States. They found out that the size of capital, annual percentage changes in the external per capita income and an internal factor of size as

measured by an organization’s total assets are the determinants of the profitability of the selected banks. In 2004, Samad examined empirically the performance of Bahrain's commercial banks concerning credit facility, liquidity, and profitability during the period 1994-2001. Ten financial ratios were selected for the study. He applied student's t-test to the financial measures; this paper found that commercial banks' liquidity performance was not on par with the banking industry.

Tarawneh (2006) in his study measured the performance of Oman commercial banks using financial ratios and ranked the banks based on their performance. The study utilized Financial Ratio Analysis (FRA) to investigate the impact of asset management, operational efficiency and bank size on the performance of Oman commercial banks. The findings indicated that bank performance was firmly and positively influenced by operational efficiency, asset management, and bank size.

In a two- stage procedure, Kiyota (2009) investigated the profit efficiency and cost efficiency of commercial banks operating in 29 Sub-Saharan African countries during 2000-2007. The article employs financial ratios and the Tobit regression to provide cross-country evidence on the performance and efficiency of African commercial banks. The findings based on a range of return ratios as well as stochastic cost and profit frontier estimation suggest that foreign banks tend to outperform domestic banks regarding profit efficiency as well as cost efficiency.

Olweny and Shipho (2011) evaluated the effects of bank specific factors; Capital adequacy, Asset quality, liquidity, operational cost efficiency and income diversification on the profitability of commercial banks in Kenya and the effects of market structure factors; foreign ownership and market concentration, on the profitability of commercial banks in Kenya. 38 Kenyan commercial banks were used as samples from 2002-2009. The study used an explanatory approach for the panel data research design. Data were analyzed using multiple linear regressions method. The result indicated that all the bank specific factors had a statistically significant impact on profitability, while none of the market factors had a major impact. The study, therefore, recommended policies that would encourage revenue diversification, reduce operational costs, minimize credit risk and encourage banks to minimize their liquidity holdings.

Parvesh and Sanjeev (2014) assessed the performance of old private sector banks in India banking system using CAMELS rating model. The model incorporated various ratios for the analysis of the financial performance of banks. The analytical observations of the study revealed that six banks out of 13 selected banks showed good and excellent financial performance. The banks were also ranked in terms of performance on the basis of analysis of CAMELS ratios.

In the study, Babalola (2012) investigated the determinants of profitability in Nigerian Banks. According to him, capital adequacy ratio determined the profitability of banks in the short run. In a related study, Obamuyi (2013) employed the fixed effect regression model on a panel data obtained from the annual reports and accounts of 20 sampled banks from 2006 to 2012 to examine the effects of bank size, expense management, bank capital,interest income and the economic condition on banks’ profitability in Nigeria.. He attributed improved bank capital and

interest income, as well as efficient expenses management and favorable economic situation, to higher banks' performance and growth in Nigeria

Kolade (2013) evaluated and compared the performance of the Nigerian banks in the post-2005 consolidation through the CAMEL rating system. The study covered 2006-2010. He ranked the banks based on their performance which can be used to analyze strengths and weaknesses of a bank compared to its competitors. Adeusi, S.O., Kolapo, F.T., and Aluko, A.O (2014) carried out an empirical *examination of the relationship between size* and *profitability of six banks in Nigeria after the 2005 consolidation exercise. The study employed the static panel data regression method. The measure of profitability is a return on assets. They found that size has an insignificant negative relationship with bank profitability. This study concludes that the 2005 consolidation exercise did not enhance the cost-effectiveness of the selected banks. Also, on Bank's on determinants of profitability in Nigeria,* Osuagwu (2014) considered specific variables, industry related factors and macroeconomic influences, using a panel of selected banks in Nigeria. He reported that that bank profitability is largely determined by credit risk and Exchange rate.

The literature reviewed above have shown the consistency of some of the internal bank specific factors like capital, size and credit risks and macroeconomics variables in determining bank performance across different economies of the world. Unlike the reviewed literature, most of them investigated the factors that are responsible for banks' performance. This study, apart from investigating the factors responsible for banks' performance in Nigeria; it further examined the statistical significance of the variables by employing Multiple regression analysis using Ordinary least square (OLS). The statistical results indicated the appropriateness of this statistical model.

RESEARCH METHOD

The population of the Study.

The population of the study covers all twenty-one commercial banks listed on the Nigerian Stock exchange as at the time of carrying out this study; among which are Access Bank, Citibank, Diamond Bank, Eco bank Nigeria Fidelity Bank Nigeria, First Bank of Nigeria, First City Monument Bank, Guaranty Trust Bank, Skye Bank Plc. , Stanbic IBTC Bank Nigeria Limited, Sterling Bank, Union Bank of Nigeria Plc, United Bank for Africa, Unity Bank Plc., Wema Bank Plc, and Zenith Bank Plc.

Sample Size

The study selected six banks to represent commercial banks in Nigeria. Random sampling method was employed. These banks are Access Bank Plc, First Bank, Guarantee Trust Bank Plc, and United Bank for Africa (UBA), others are Union Bank of Nigeria Plc and Zenith Bank Plc. The results of the selected bank performance will serve as a sound basis to evaluate the performance of the remaining banks not covered.

Data Collection

The secondary data used for this study were extracted from the annual reports of the above-listed banks; the annual reports covered a period of 10 years, 2006 to 2015 will enable us to arrive at a reasonable conclusion about the performance of Nigerian banks in the recent years. The data series used for the study was processed using SPSS package.

Model Specification

The study adopted, multiple discriminant analysis methods proposed by Edward I. Altman (1968). His model uses five financial ratios weighted in order to maximize the predictive power of the model. The model produces an overall discriminate score, called a Z score or zeta model. Altman's Z-score combined various measures of profitability or risk. However, the model is adjusted to reflect the variables used for this study.

ROE = $a_0 + a_1 PM + a_2 ROA + a_3 TLATA + a_4 LATA + a_5 SFTA + U$

Where;

ROE = Return on equity

PM= Profit Margin

ROA = Return on Assets

TLATA= Total Loans and Advances on Total Assets

LATA = Liquidity assets on Total assets

SFTA= Shareholders fund on Total Assets

U = Error term which is normally distributed with mean 0 and variance σ_e^2

ROE - Return on Equity- measures the net profit after tax that is attributable to the ordinary shareholders of the bank. It is the overall profitability of the bank.

ROA- Return on Assets- measures profit generated relative to the asset of the bank.

PM - Net profit Magin- measures the ability to pay expenses and generate net income from interest and non-interest income.

TLATA- Total loan and Advances to Total Assets- it measures the percentage of total loans and advances to total assets of the bank. The higher the ratio, the better the profit of the bank is. However, significant loan loss and non-performing loans and advances will hurt the bank performance.

LATA- Liquid Asset to Total Assets (**Liquidity ratio**.) It measures liquidity assets in relation to the total asset. The compositions of this asset are cash and balance with CBN, Dues from other banks, Treasury bills. The standard liquidity ratio in Nigeria is 30%.

SFTA- Shareholders' Fund to Total Assets (Capital Adequacy)

Capital adequacy reflects the overall financial position of a bank. Adequate capital held by the bank provides protection to investors' interest, and it enhances the stability and efficiency of the bank. Capital Adequacy is an indicator which determines the financial health and soundness of a

bank. From the capital adequacy, it can be determined whether the bank has sufficient resources to bear unexpected losses in the future and bank leverage.

Apiori Expectation: PM>0; ROA>0; TLATA>0; LATA>0; SFTA>0

Analytical Techniques

The research project is quantitative; Ratio analysis was used to assess the performance of the six selected banks as listed earlier and the results were interpreted accordingly. Regression analysis (ordinary least square was used to determine how well Profit margin, Return on asset, Total loan, Liquidity position and Capital adequacy ratio predict the Return on asset (ROE).

Ordinary Least Square (OLS) multiple regression models is appropriate for this study because it confirmed the significant influence of independent variables on the dependent variable. The value of R square (0.893) shows that the independent variables PM, ROA, TLATA, LATA, SFTA explain 89.3 percent of the variation in the dependent variable (ROE). This implies that Independent variables contribute 89.3 percentages to the variation in ROE. The remaining 10.7 percent is explained by other variables which are not captured in the model. The Durbin Watson value of (2.000) indicates a complete absence of serial autocorrelation in the model. The sig value (0.012) of the F test shows that the entire variables in the model are significant and useful for prediction.

RATIO ANALYSIS FORMULA APPLICABLE TO THE STUDY

$$ROE = \frac{\text{Net Profit}}{\text{Shareholders fund}}$$

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$$

$$PM = \frac{\text{Net Profit}}{\text{Gross profit}}$$

$$TLATA = \frac{\text{Total Loan and Advances}}{\text{Total Assets}}$$

$$LATA = \frac{\text{Liquid Assets}}{\text{Total Assets}}$$

$$SFTA = \frac{\text{Shareholders Fund}}{\text{Total Assets}}$$

ANALYSIS AND PRESENTATION OF FINDINGS

Evaluation of Performance of Selected Commercial Banks in Nigeria Using Ratio Analysis

Table 1: Combined Performance of the selected banks (Average figures employed)

YEAR	ROE	PM	ROA	TLATA	LATA (LR)	SFTA (CAR)
2006	16.74	18.615	1.903667	26.73167	50.48833	13.15833
2007	18.35833	21.085	2.076667	26.08167	54.05333	11.99833
2008	14.815	25.99833	2.545	30.6	54.37833	18.80833
2009	-14.2917	3.393333	0.593333	45.3	33.53167	17.57833
2010	-7.29833	29.98833	3.748333	44.22667	25.965	13.11667
2011	-3.45167	-12.3917	-0.81667	40.57333	27.92333	16.51333
2012	19.295	26.04667	2.988333	37.52667	22.44667	15.93833
2013	16.94167	23.79	2.561667	41.28833	22.83167	15.40833
2014	16.74	23.135	2.525	47.85333	21.51833	15.45167
2015	15.82333	24.25333	2.325	47.49667	19.62667	15.345

Source: Researcher's computations 2017

Note: Dependent Variable: Return on Equity (ROE)
Independent Variables: PM; ROA; TLATA; LATA; SFTA.

Dependent Variable: Return on Equity (ROE)

Return on Equity (ROE) = net profit/total equity. The combined ROE of the selected banks shows an improvement of ROE from 16.74% to 18.35% from 2006 to 2007 representing an increase of 9.6%. The ROE was however reduced to 14.81% in 2008 from 18.35%. The results from 2009 to 2011 were negatives; the banks recorded negative ROE from -14.29% to -3.45%. Looking at the performance of individual banks, (see appendix 2) virtually all of them had a reduction on the ROE except Union Bank with significant negative ROE of 133.69%, -86.84% and -46.36% in 2009, 2010 and 2011 respectively. It was found out that Union Bank Plc, wrote off significant portion of its risk assets (loan and advances) during the period and it recorded a loss of 48.5 billion naira, 12.40 billion naira and 115 billion naira in 2009, 2010 and 2011 respectively hence the reason for the negative ROE of the combined banks from 2009 to 2011. In 2012 the ROE of the combined banks was 19. 29%, this was a significant improvement but reduced to 15.82 in 2015, a percentage fall of 17.99%.

The industry benchmark in term of ROE is 10%. It can be seen from the above that the selected banks ROE on the average was above the minimum expected returns.

Profitability Performance

The most common measure of bank performance is profitability. Profitability is measured using the following criteria:

Profit Margin (PM) - The combined profit margin increased by 61% from 18.61% to 29.98% from 2006 to 2010. The result was however negative in 2011 with -12.39%. This negative performance was as a result of net loss 115 billion naira recorded by Union Bank in 2011.

Return on Assets (ROA) - The combined result shows that ROA increased from 1.90% to 2.32% from 2006 to 2015. Though the higher the ratio, the better the performance of the bank is. The lower ratio is acceptable in the industry, and this is a clear indication that banks fully utilized their assets in generating profit.

Liquidity Performance

Liquidity Assets on Total Assets (LATA). The liquidity ratio in Nigeria is 30%. Some of the selected banks kept liquidity ratio above the standard regulatory requirements. Liquidity ratios between of 50.48% and 33.53% were recorded from 2006 to 2009. However, the liquidity ratio was below the regulatory requirement from 2010 to 2015. The ratios ranged from 25% to 19%. This is a clear indication of liquidity issue in the banking industry. Some of the banks were

having liquidity problems while some if the banks are considered individually have strong liquidity ratio. Zenith Bank, First Bank, and UBA had no liquidity problem throughout the period. However, Access Bank was unable to meet the minimum requirement in from 2009 to 2015. GTB was also noted as suffering from liquidity ratio, the bank recorded 23% in 2006, 15% in 2012 and 22.2% in 2015. Union Bank had 46% in 2006, 44% in 2009 but the liquidity position was so terrible from 2010 to 2015. It ranged from 9.52% to 5.46%.

Capital Adequacy

The combined result shows that the selected banks had 13.15%, 17.57%, 15.93% and 15.94% in 2006, 2009, 2012 and 2015 respectively. The higher the capital adequacy ratio, the better for the banks is. The capital adequacy ratio (CAR) for banks in Nigeria currently stands at 10% and 15% for national/regional banks.

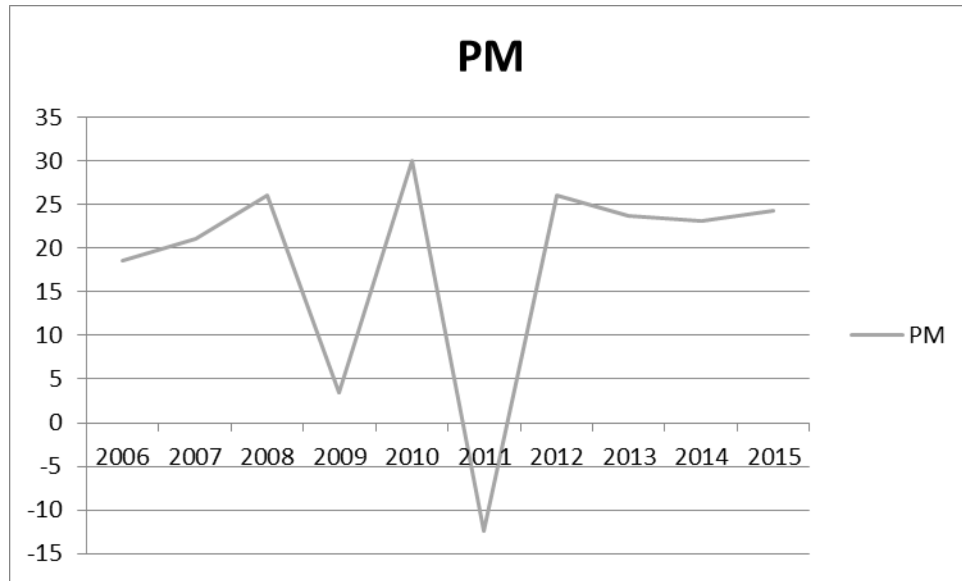
Credit Performance

Total loan and Advances to Total Assets (TLATA). This shows the percentage of total loans and progress in the property of the banks. It increased from 26.73% to 47.49% from 2006 to 2015. The higher the percentage of total loans and advances to total assets, the better is the profit of the banks. However, a significant percentage of non-performing credit will have a negative impact on the overall profitability of the banks. It is therefore important that banks must display management competency in the management of their loan portfolios.

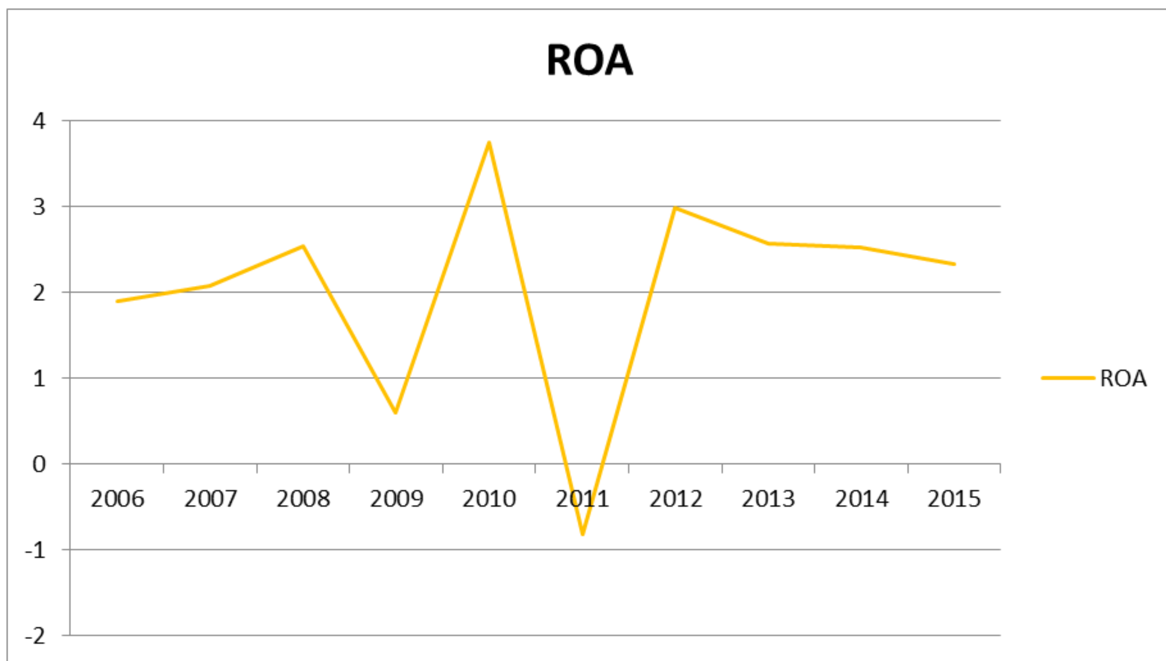
The Financial Performance of banks was indicated by the use of financial ratios analysis. This is a confirmation that financial ratios are a good measure of commercial banks performance in Nigeria. The results are more meaningful and understandable. The investors and depositors can, therefore, be in a better position to make good decisions based on the evaluation of the performance of the bank.

GRAPHICAL PRESENTATION OF THE RESULTS

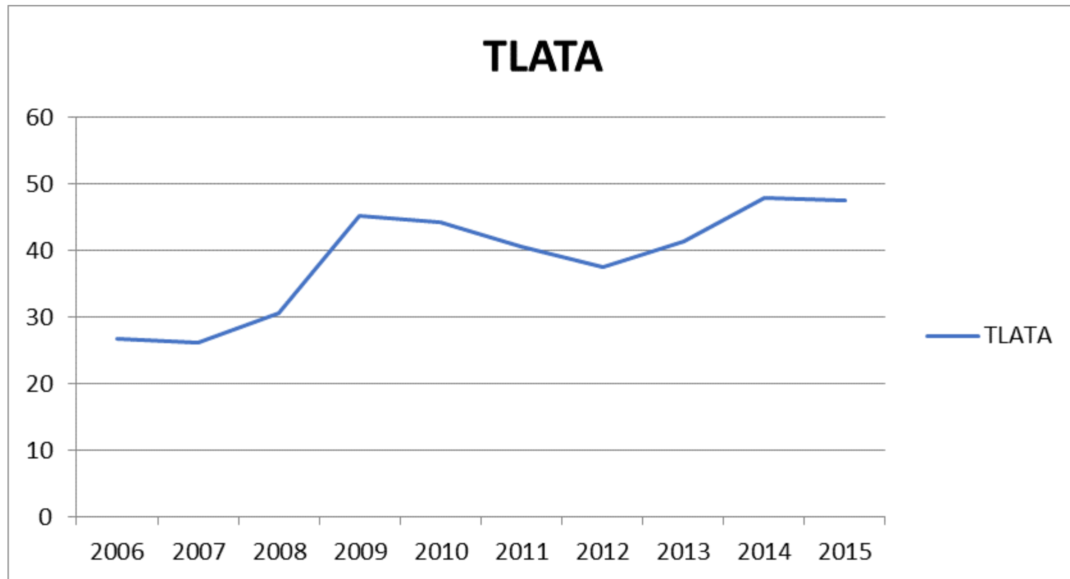
The figure above shows that there is a fall in the ROE of the banks between 2008 and 2011. However, from 2011 the ROE of the banks rises.



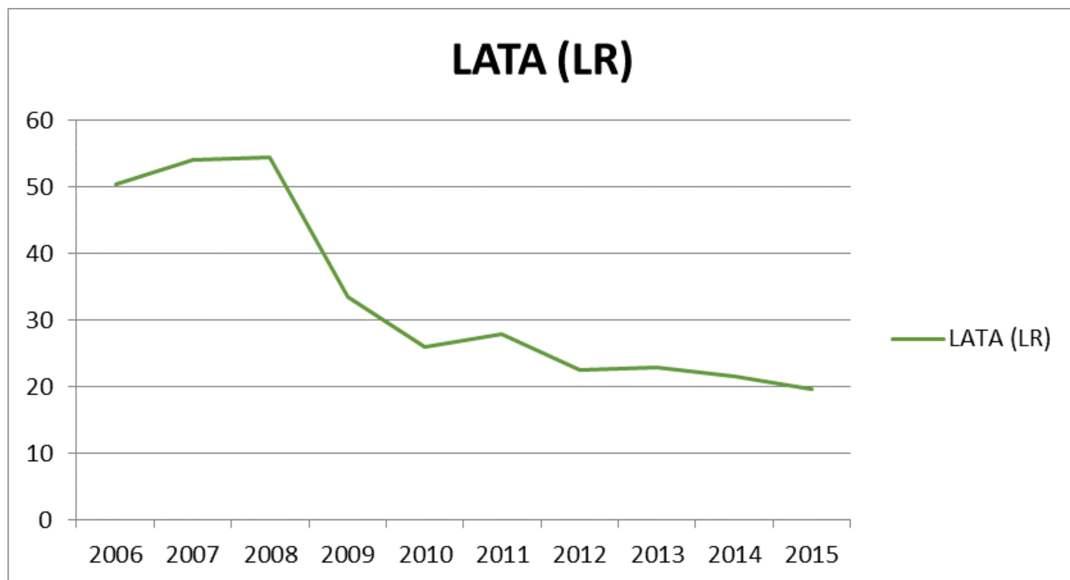
The figure above obviously shows that there is a fall in the PM of the banks in 2011 and a sharp rise from 2011 and then becomes steady between 2012 and 2015.



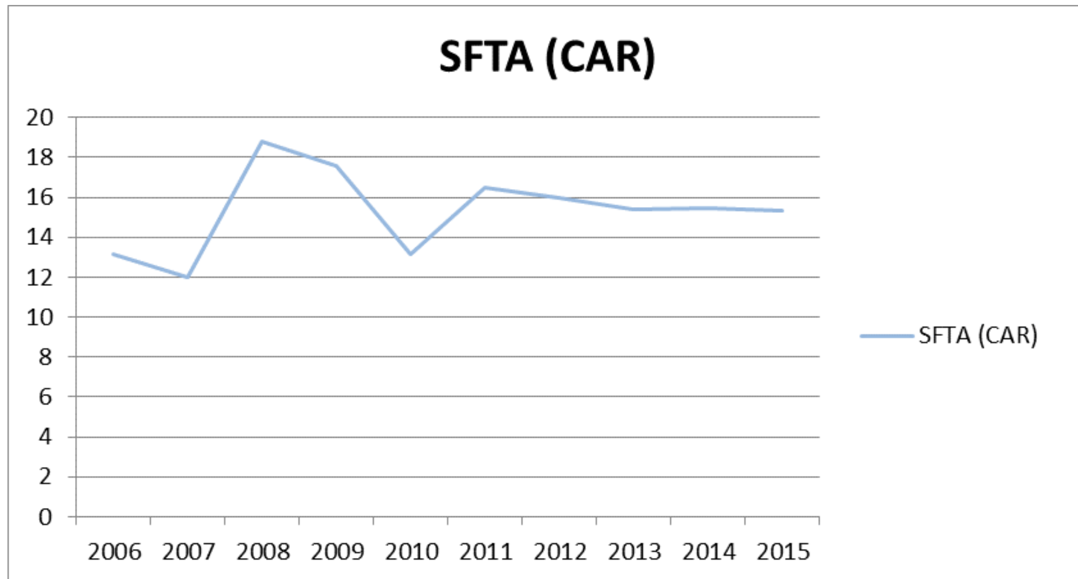
The figure above obviously shows that there is a fall in the ROA of the banks in 2011 and a sharp rise from 2011 and then drops gradually between 2012 and 2015.



The figure above obviously shows that there is a steady increase in the TLATA of the banks in from 2006 and a little drop between 2008 and 2012. However, there is rise from 2012 to 2014 and becomes steady between 2014 and 2015.



The figure above obviously shows that there is a fall in the LATA of the banks from 2006 to 2015.



The figure above obviously shows that there is an irregular pattern in the SFTA of the banks between 2006 and 2010 but becomes steady from 2011 to 2015.

4.2 Regression Analysis

The regression model was estimated using the ordinary least square regression equation.

Table 3: Table Showing the Regression Coefficients

VARIABLES	REGRESSION COEFFICIENTS	SIG.
(Constant)	109.825	.029
PM	3.438	.019
ROA	-30.703	.029
TLATA	-1.784	.036
LATA	-1.051	.034
SFTA	.211	.862
TESTING MODEL ADEQUACY		
R SQUARE	.893	
DURBIN WATSON	2.00	
F TEST	6.565	0.012

Source: Extracted from Regression analysis result using SPSS

The value of R square (0.893) shown above shows that the independent variables PM, ROA, TLATA, LATA, SFTAexplain 89.3 percent of the variation in the dependent variable (ROE). This implies that Independent variables contribute 89.3 percentages to the variation in ROE. The remaining 10.7 percent is explained by other variables which are not captured in the model. The Durbin Watson value of (2.000) indicates a complete absence of serial autocorrelation in the model. The Sig. value (0.012) of the F test shows that the entire variables in the model are significant and useful for prediction. The table also gives the result of the

regression coefficients of the variables captured in the regression model. The model is given to be ROE = 109.825 + 3.438PM – 30.703ROA – 1.784TLATA – 1.051LATA + 0.211SFTA.

The positive coefficient of Profit margin confirmed a direct relationship between it and the bank performance. The inverse relationships of ROA, TLATA and LATA were explained by unfavorable results of UBN and UBA during the years under study. Union Bank had significant negative ROE of 133.69%, -86.84% and -46.36% in 2009, 2010 and 2011 respectively. It was found out that Union Bank Plc, wrote off significant portion of its risk assets (loan and advances) during the period and it recorded a loss of 48.5 billion naira, 12.40 billion naira and 115 billion naira in 2009, 2010 and 2011 respectively hence the reason for the negative ROE of the combined banks from 2009 to 2011. Also, UBA had a negative ROE, PM, AND ROA in 2011. For the negative relationship between ROE and Total loan and advances, this resulted from the facts that huge bad loans were written off by some of these banks during the year under study. Otherwise, the result could have been positive. ROE and SFTA (Capital adequacy) are positively related, but the relationship is not statistically significant. The Significant values for the intercept, PM, ROA, TLATA, and LR which are 0.029, 0.019, 0.029, 0.036 and 0.034 respectively are less than the level of significant (0.05); this shows that the variables are important in the regression model. That is, they have a powerful effect on the dependent variable ROE.

The positive relationship between ROE and PM is in line with the apriori expectation of this study. Also, shareholders' fund (capital) had a positive coefficient in consonance with the apriori expectation. Capital adequacy ratio should have a positive impact on the bank's performance. The result of this is in agreement with the results of Macit (2011) and Babalola (2012). However, the positive effect of capital adequacy ratio was not significant. In the same manner, a positive relationship was expected between ROE as independent variable and TLATA in line with apriori expectation, but the reverse was the case. The performance of Union Bank had affected the performance of the combined banks. This resulted in the negative outcome. The bank wrote off 176 billion between 2009 to 2011. Non- performing loan to total loans had a significant negative effect on banks performance. Therefore amount written off as bad loans and provision for bad loans will have a negative impact on the profitability of the banks.

The negative ROA could also be explained by the poor performance recorded by Union Bank from 2009 to 2011 and also the loss made by UBA in 2011. It was also discovered that others banks though recorded reduction in profit from 2009-2011. A positive relationship was expected between ROE and Liquid asset in consonance with apriori expectation, but the reverse was the case. The liquidity positions of some banks were below the regulatory standard. GBT was rated 6th, UBN 5th, and First Bank 4th. These results impacted the combined result negatively.

Therefore the result of this study established a significant relationship between ROE and Bank's profitability and Liquidity but insignificant relationship between ROE and capital adequacy.

CONCLUSION, IMPLICATIONS, AND RECOMMENDATION

This study investigated the relevance of Financial Ratios as a measure of Performance of Commercial Banks of Nigeria using selected banks as a representation of other commercial banks. It was established that Financial Ratios are a very good measure of performance of commercial banks in Nigeria.

Financial ratio analysis is a good choice for uncomplicated and immediate analysis of the financial position of the banks with considerable prediction power. With the help of financial ratio analysis future performance of the bank can be predicted by studying the past trend of return. This allows the investors and shareholders to invest by fact and figures rather than on different assumptions. The study is important because it provides a better understanding of the workings of the banks by providing reliable information that will enable managers and regulators to analyze the performance of banks and to know the strength of commercial banks in Nigeria. The study demonstrated how conventional profitability and efficiency analyses could be used in evaluating the performance of commercial banks in Nigeria.

This study recommends the use of financial ratios as a measurement of performance of commercial banks in Nigeria.

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