FINANCIAL PERFORMANCE ANALYSIS OF LISTED DEPOSIT MONEY BANKS IN NIGERIA: THE CAMELS APPROACH

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Abstract
This study examines the determinants of financial performance of listed deposit money banks in Nigeria using CAMELS model; capital adequacy, asset quality, management quality, earnings ability, liquidity and sensitivity to market risk. Data were collected from the annual reports and accounts of the nine sampled banks over the period 2005-2012 and analysed using Pearson correlation and multiple regressions. The study finds that capital adequacy, asset quality, earnings ability, management quality and sensitivity to market risk are strong determinants of the financial performance of deposit money banks in Nigeria. Consequently, the study recommends an upward review of capital level periodically in order to enable deposit money banks in Nigeria diversify their business operations, absorb unexpected losses, strengthen their liquidity position and consequently compete internationally.

Key words: Financial performance, Deposit money banks, CAMELS

1.0. Introduction
Banks have attracted much attention world over due to the role they play in developing local and international economies. They facilitate economic growth through the provision of efficient monetary intermediation, by mobilising savings and channelling them between surplus and deficit units. As prime movers of economic life, banks occupy a significant place in the economy of every nation. Governments, regulators, managers and investors are concerned about how efficiently banks transform their expensive inputs into various financial products and services.

The strategic position banks occupy in the Nigerian financial system demands adequate appraisal on the determinants of their financial performance in the industry especially in the light of the notable changes that have occurred in their operating environment within the last decade. One of the notable changes include the forced consolidation exercise with regulatory option of mergers and acquisitions which brought about a landmark change in the number of deposit money banks from eighty nine to twenty five (Ani, Ugwunta, Ezeudu, and Ugwayi, 2012). The bank consolidation exercise of 2005 created scenarios where large-sized bank acquired smaller and weaker ones and large-sized banks who were notable players merged to form a bigger bank. Somoye (2008) noted that between 2005 and 2008, Nigerian banks witnessed phenomenal growth in terms of volumes of risk assets (loan) translating into huge profit and part of which was

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expropriated to reserves and expansion in branch network. Another major development in the banking industry was the bailout of some banks that failed the audit test carried out by the Central Bank as a result of high non-performing loans (Sanusi, 2010).

The evaluation of performance and its determinants is essential for policy formulation by government and regulators. The competition among banks together with the fact that some countries have transformed their banking system has resulted in the need to ascertain potential determinants of financial performance and their significance (Bashir, 2001). The CAMELS model has proved to be an appropriate tool for analysing bank performance since it touches on various aspects of bank operations as well (Tom, 2012). CAMELS was originally adopted by the regulators of North American commercial banks which covers six areas of performance namely capital adequacy, asset quality, management quality, earning ability, liquidity and sensitivity to market risk.

Though CAMELS is designed as a comprehensive benchmark for assessing the soundness of any commercial bank, it can be expected that changes in CAMELS can affect the financial performance of banks. There are quite a number of empirical studies on bank financial performance and its determinants. However, there exists little empirical works that specifically analyse financial performance using the CAMELS approach. The work of Alabede (2012) was not centred on CAMELS as it ignored sensitivity to market risk and included intervening global financial condition as independent variables. Osuka and Richard (2012) used only three CAMELS parameters of asset quality, capital adequacy and employee motivation. Hence, their study cannot reach any enduring conclusion on the use of CAMELS model in analysing financial performance of Deposit money banks in Nigeria. This provides a gap which this study aims to fill by strictly using CAMELS model to analyse financial performance of listed deposit money banks in Nigeria. This study does not aim at comparing CAMELS model with other methods of analysing financial performance of deposit money banks.

### 2.0. Review of Empirical Literature

Several studies have been conducted to ascertain the determinants of bank financial performance in both developed and developing countries. In both single and panel country studies, empirical evidence suggests that bank financial performance is a function of both internal and external factors. The internal factors influencing the bank financial performance include bank specific characteristics like capital adequacy, operating expenses, liquidity etc, while external determinants include macroeconomic variables like financial structure, inflation rate, economic growth, etc, (Aburime, 2008, 2009; Al-Tamimi, 2009; Demirguc-Kunt & Huizinga, 1999; Naceur, 2003).

Nurazi and Evans (2005) carried out a study on the application of CAMELS ratio as predictors of bank failure using commercial banks in Indonesia. They sourced their data in three sets namely: A, B, and C. Set A identified Indonesia commercial banks operating from 1992 to 1996; Set B identified Indonesia commercial banks operating from 1993 to 1998; and Set C identified all Indonesian Commercial Banks listed in Jakarta Stock Exchange from 1993 to 1998. They argued that a systematic source of data was used to eliminate liquidated banks within these periods. CAMELS were used as independent variables while “failed banks” and “not failed banks” were used as proxy of financial performance. After controlling bank size, the study revealed that all the
independent variables except sensitivity to market risk showed statistically significant relationship with bank failure.

Al-Tamimi (2009) conducted a study on factors influencing performance of Islamic and commercial banks in United Arab Emirate (UAE). The study considered a period from 1996-2008 by employing the regression model in its methodology. The dependent variables used were return on asset and return on equity as against the independent variables of bank size, Gross Domestic Product, financial development, liquidity, market concentration, cost, and number of branches. The study revealed that only liquidity was positively statistically significant at 5% level for conventional banks and number of branches positively statistically significant at 1% level in the case of Islamic banks.

Swarnapali (2013) investigated the impact of firm specific determinants on financial performance of licensed commercial banks in Sri Lanka for a period of four years (2009-2012). The study employed ordinary least square regression model in analysing data with operating expense, credit risk, liquidity risk, capital strength and bank size considered as independent variables. The study considered return on assets and return on equity as proxies of financial performance. The findings revealed that only operating expense and bank size showed a positive statistical significance on both proxies of financial performance. Similarly, Lelissa (2013) examines the determinants of Ethiopian Commercial Banks performance from 1990 to 2012. The study employed a multiple linear regression model with CAMEL, bank size, real gross domestic product and inflation rate identified as independent variables while only return on asset was used as the dependent variable. The study found that asset quality, management quality, earnings and inflation rate are the major determinants of performance of the commercial banks.

Ongore and Kusa (2012) studied determinants of financial performance on Kenya foreign and domestic commercial banks considering a period from 2001 to 2010 using multiple regressions for data analysis. They considered four of the CAMELS parameter aside earning and sensitivity to market risk and the addition of gross domestic product, growth rate and inflation rate as independent variables, ROA as dependent variable and ownership structure as control variable. Their study showed that liquidity and the control variable of ownership structure were not statistically significant determinants of financial performance.

Manna and Maturi (2013) carried out a similar study on determinants of financial performance on Kenya foreign and domestic commercial banks from 2006 to 2012. He also employed multiple regressions in analysing data. They considered only liquidity in the CAMELS parameter and in addition, financial structure and operational efficiency as independent variables, ROA, ROE and Net Interest Margin (NIM) as dependent variables while using ownership structure as control variable. Like Ongore and Kusa (2012), their study revealed that liquidity and the control variable of ownership structure are not statistically significant determinant of financial performance.

The recapitalisation of Banks in Nigeria in 2005 suggested that capital adequacy is a determinant of banks financial performance (Soludo, 2010). Consequently, empirical studies have been carried out on the determinants of financial performance of banks in Nigeria. For example, Osuka and Richard (2012) carried out a study on the determinants of financial performance of quoted banks in Nigeria within the period 2001 to 2010 using First Bank of Nigeria Plc, United Bank for Africa
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Plc, and Zenith Bank Plc. The study employed multiple regression analysis and identified asset quality, capital adequacy and employee motivation as independent variable and financial performance as dependent variable. The result revealed that while asset quality and capital adequacy are significant drive of financial performance for all the banks studied, employee motivation was statistically significant for only Zenith Bank and United Bank for Africa.

This study differs from Osuka and Richard (2012) in the sense that while they used only three parameters of CAMELS (asset quality, capital adequacy and employee motivation) and three deposit money banks, this study used all the CAMELS parameters and a sample of ten banks to analyse the financial performance of listed deposit money banks in Nigeria.

Alabede (2012) examined the intervening effect of global financial condition on the determinants of bank performance in Nigeria from 1999 to 2010. The study employed a multiple regression analysis. The independent variables employed were those of CAMEL as bank specific factors, and bank concentration, gross domestic product and inflation as external. The study also employed return on asset as the only dependent variable. From the findings, while asset quality, management quality and bank concentration showed strong negative relationships with financial performance, inflation showed a significant positive relationship. Alabede (2012) ignored sensitivity to market risk in his study and included intervening global financial condition among the independent variables. Hence, his study was not analysing financial performance of deposit money banks using the CAMELS model as this study does.

3.0. Methodology

The study used a sample of nine out of fifteen listed Deposit Money Banks existing in Nigeria as at 31 December, 2012. The selection was based on the banks that have maintained their names during the period of study from 2005 to 2012. They are Access Bank Plc, Diamond Bank Plc, Fidelity Bank Nigeria Plc, and First Bank of Nigeria Plc. Others are First City Monument Bank Plc, Guaranty Trust Bank Plc, Union Bank Nigeria Plc, United Bank for Africa Plc and Zenith Bank Plc.

Using return on asset and return on equity as proxies for financial performance, the following models are formulated:

\[
ROA_{it} = \beta_0 + \beta_1 CADCY_{it} + \beta_2 ASQTY_{it} + \beta_3 MGQTY_{it} + \beta_4 EARNG_{it} + \beta_5 LQDTY_{it} + \beta_6 SMRSK_{it} + \varepsilon_{it} \ldots \ldots i
\]

\[
ROE_{it} = \beta_0 + \beta_1 CADCY_{it} + \beta_2 ASQTY_{it} + \beta_3 MGQTY_{it} + \beta_4 EARNG_{it} + \beta_5 LQDTY_{it} + \beta_6 SMRSK_{it} + \varepsilon_{it} \ldots \ldots ii
\]

Where;

CADCY_{it} = capital adequacy of bank i in year t
ASQTY_{it} = assets quality of bank i in year t
MGQTY_{it} = management quality of bank i in year t
EARNG_{it} = earnings of bank i in year t
LQDTY_{it} = liquidity of bank i in year t
ROA_{it} = return on assets of bank i in year t
ROE_{it} = return on equity of bank i in year t
The study employs multiple regression technique as a tool for data analysis. In addition to Pearson correlation analysis, the models are estimated using linear regression analysis. Specifically, the Ordinary Least Squares (OLS). The variables of the study and their measurements are as presented in Table 3.1.

Table 3.1: Variable Definition and Measurement

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition/Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEPENDENT</strong></td>
<td></td>
</tr>
<tr>
<td>Return on Assets (ROA)</td>
<td>Profit after tax/total assets</td>
</tr>
<tr>
<td>Return on Equity (ROE)</td>
<td>Profit after tax/total shareholders’ funds</td>
</tr>
<tr>
<td><strong>INDEPENDENT</strong></td>
<td></td>
</tr>
<tr>
<td>Capital Adequacy (CADCY)</td>
<td>Equity capital/total assets</td>
</tr>
<tr>
<td>Asset Quality (ASQTY)</td>
<td>Non-performing loans/total loans</td>
</tr>
<tr>
<td>Management Quality (MGQTY)</td>
<td>Interest expense/total loans</td>
</tr>
<tr>
<td>Earnings Quality (EARNG)</td>
<td>Net interest income/earning assets.</td>
</tr>
<tr>
<td>Liquidity LQDTY</td>
<td>Total loans/total liabilities</td>
</tr>
<tr>
<td>Sensitivity to Market Risk (SMRSK)</td>
<td>Investment securities to total assets</td>
</tr>
<tr>
<td><strong>CONTROL VARIABLES</strong></td>
<td></td>
</tr>
<tr>
<td>Bank Size (BNKSZ)</td>
<td>Natural logarithm of total assets</td>
</tr>
</tbody>
</table>

Source: Authors’ Research Work

4.0. Results and Discussion
This section first presents the descriptive statistics for the data analysis of the study. The summary of the descriptive statistics of the data collected is as seen in Table 4.1 as follows;

Table 4.1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.0168</td>
<td>0.0255</td>
<td>-0.0987</td>
<td>0.1396</td>
<td>-0.2172</td>
<td>15.3791</td>
<td>72</td>
</tr>
<tr>
<td>ROE</td>
<td>0.0800</td>
<td>0.2362</td>
<td>-1.3369</td>
<td>0.3171</td>
<td>-4.0705</td>
<td>22.7217</td>
<td>72</td>
</tr>
<tr>
<td>CADCY</td>
<td>0.1589</td>
<td>0.0684</td>
<td>-0.1608</td>
<td>0.3236</td>
<td>-1.0282</td>
<td>8.3043</td>
<td>72</td>
</tr>
<tr>
<td>ASQTY</td>
<td>0.0951</td>
<td>0.0974</td>
<td>0.0045</td>
<td>0.5712</td>
<td>2.2370</td>
<td>9.6257</td>
<td>72</td>
</tr>
<tr>
<td>MGQTY</td>
<td>0.0745</td>
<td>0.0333</td>
<td>0.0291</td>
<td>0.2225</td>
<td>1.8516</td>
<td>8.0917</td>
<td>72</td>
</tr>
<tr>
<td>EARNG</td>
<td>0.1821</td>
<td>0.0689</td>
<td>0.1036</td>
<td>0.5035</td>
<td>1.9288</td>
<td>8.4568</td>
<td>72</td>
</tr>
<tr>
<td>LQDTY</td>
<td>0.6114</td>
<td>0.4098</td>
<td>0.2842</td>
<td>3.7027</td>
<td>6.0832</td>
<td>46.3503</td>
<td>72</td>
</tr>
<tr>
<td>SMRSK</td>
<td>0.1089</td>
<td>0.1241</td>
<td>0.0001</td>
<td>0.8066</td>
<td>2.9166</td>
<td>15.3463</td>
<td>72</td>
</tr>
<tr>
<td>BNKSZ</td>
<td>13.3581</td>
<td>0.9885</td>
<td>10.4618</td>
<td>14.8591</td>
<td>-0.7946</td>
<td>3.2119</td>
<td>72</td>
</tr>
</tbody>
</table>

Source: Output of data analysis using STATA, 2015

From table 4.1, the mean for ROA of the deposit money banks in Nigeria is 0.0168 which represent 1.68% with the highest at 13.96% and the lowest at -9.87%. The mean of 1.68% indicates that the sample banks assets employed were able to generate positive earnings. The difference between the
maximum value of 0.1396 and minimum value of -0.0987 clearly shows that there are large differences in the financial performance among the banks.

The mean for ROE of the deposit money banks in Nigeria is 0.0080 which represent 0.8% with the highest at 31.71% and the lowest at -13.36%. The mean of 0.8% indicates that the sample banks capital employed were able to generate positive return. The difference between the maximum value of 0.3171 and minimum value of -1.3369 clearly shows that there is improvement in financial performance among the banks.

The capital adequacy (CADCY) of the deposit money banks in Nigeria reveals a mean of 0.1589 which represents 15.89% with the highest at 32.36% and lowest at -16.08%. The mean of 15.89% indicates that the sample banks average capital adequacy ratio is above the regulatory minimum capital requirement of 15% for international bank in the industry (NDIC, 2012).

The asset quality (ASQTY) of the deposit money banks in Nigeria reveals a mean of 0.0951 which represents 9.51% with the highest at 57.12% and lowest at 0.45%. The mean of 9.51% indicates that the level of non-performing loan of the sample banks is relatively higher than the industry ratio of 3.51% as at December, 2012 (NDIC, 2012).

The mean for management quality (MGQTY) of the deposit money banks in Nigeria is 0.0745 which represents 7.45%. This indicates that the sample banks’ management are efficient in controlling interest expenses and minimising operating cost as revealed by the minimum and maximum value of 2.91% and 22.25% respectively. Furthermore, the mean value of 7.45% is an indication that the management of the banks is operating within the accepted banking practices and compliance with internal control policies.

The mean for earnings quality (EARNG) of the deposit money banks in Nigeria has a mean value of 0.1821 with a standard deviation of 0.0689. The mean value of 18.21% of the earning assets of the sample banks is an indication of better earnings. It can be explained that the banks are more focused on strategies that would boost their profitability level.

The mean value for liquidity (LQDTY) of the deposit money banks in Nigeria is 0.6114 which represents 61.14%. The mean of 61.14% indicates that the banks’ average liquidity ratio is above the regulatory requirement of 30%(NDIC, 2012). It further shows that the banks are in a better liquidity position and with possibilities of better managing this position effectively and cautiously.

The mean value for Sensitivity to Market Risk (SMRSK) of the deposit money banks in Nigeria is 0.1089 which represents 10.89%. The mean of 10.89% indicates a low market risk for the sample banks in relation to the value of investment securities. Furthermore, the maximum rate of 80.66% explains how large changes in interest rate, equity prices can influence the earnings or equity of the sample banks.

The average bank size (BNKSZ) of the deposit money banks in Nigeria which is the natural logarithm of total assets is 13.3581 with standard deviation of 0.9885, signifying that the size deviates from both sides of the mean value by 0.9885. The minimum and maximum values of bank
size during the period are 10.4618 and 14.8591 respectively. The mean value of 13.3581 is an indication that the sample banks enjoyed economies of scale as justified by the maximum value of 14.8591. In addition, the mean value of 13.3581 describe increased in average total assets through expansion of branch network. The study summary of the Pearson correlation coefficients is as seen in Table 4.2 below.

Table 4.2: Correlation Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>ROA</th>
<th>ROE</th>
<th>CADCY</th>
<th>ASQTY</th>
<th>MGQTY</th>
<th>EARNY</th>
<th>LQDTY</th>
<th>SMRSY</th>
<th>K</th>
<th>K SZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.3175</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAD</td>
<td>-</td>
<td>0.2584</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASQT</td>
<td>0.0865</td>
<td>-</td>
<td>-</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MGQ</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.3649</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EARN</td>
<td>0.0517</td>
<td>0.0807</td>
<td>0.0464</td>
<td>0.3540</td>
<td>0.2852</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LQDT</td>
<td>-</td>
<td>0.0219</td>
<td>0.2015</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMRS</td>
<td>0.0350</td>
<td>-</td>
<td>-</td>
<td>0.0422</td>
<td>0.1499</td>
<td>-</td>
<td>-</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BNK</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.1135</td>
<td>0.2171</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Output of data analysis using STATA, 2015

Table 4.2 indicates a significant negative relationship between return on assets and capital adequacy (CADCY) of the sample banks as represented by the correlation coefficient of -0.2899. However, the result revealed a significant positive relationship between return on equity and capital adequacy (CADCY) as represented by the correlation coefficient of 0.2584. The negative relationship between ROA and capital adequacy indicates that an increase in capital ratio will lead to decrease in the return on assets while the positive relationship between ROE and capital adequacy indicates that an increase in capital adequacy ratio will lead to an increase in ROE.

In terms of asset quality the result shows a positive relationship with return on asset and a negative relationship with return on equity. The positive relationship with return on asset depicts that the sample banks could effectively manage its credit risk. However, the negative relationship with return on equity is an indication that there exists poor asset quality or high level of non-performing loans as it relates to the entire loan portfolio of the sample banks.

In relation to management quality (MGQTY), the results show a negative relationship with return on asset and return on equity as represented by the correlation coefficient of -0.0555 and -0.3894 respectively. This indicates that the less efficient the banks are in terms of increase in the cost of interest expense, the returns in both assets and equity tend to reduce during the period of the study. Similarly, earnings quality (EARNY) as shown in Table 4.2 reveals a positive relationship with return on asset and return on equity. This shows that an increase in banks earning assets (loans and advances) through increase in interest rate would increase the returns on assets and equity.

In terms of liquidity (LQDTY), the result in Table 4.2 reveals a negative relationship with return on assets while a positive relationship with return on equity of the sample banks. A high level of total deposit liabilities over total loans connotes the concentration of idle cash which has no significant effect on the profitability of the banks. Therefore, the result implies that an increase in
the liquidity level would lead to a decrease in the return on assets. On the other hand, where the loan portfolio of the banks is adequately invested there will be an increase in return on equity.

The result also shows that sensitivity to market (SMRSK) risk has a positive relationship with return on assets while return on equity revealed a negative relationship. This explains the possibility that an increase in the level of investment securities as a component of its total assets and with favourable interest rate would lead to an increase in return on assets. However, an increase in the level of investment securities could lead to a decrease in the return on equity in an unfavourable interest rate regime.

The control variable –‘Size’ shows a negative relationship with return on assets and return on equity. This implies that the increase in bank size resulting to additional cost could reduce both returns in terms of assets and equity.

**Regression Analysis**

The regression result of the models of the study represented by the dependent variables of return on assets and return on equity is presented in Table 4.3 below.

<table>
<thead>
<tr>
<th>Variables</th>
<th>ROA</th>
<th></th>
<th></th>
<th>ROE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>t-stat</td>
<td>P-value</td>
<td>Coef.</td>
<td>t-stat</td>
<td>P-value</td>
</tr>
<tr>
<td>CADCY</td>
<td>0.2377</td>
<td>2.28</td>
<td>0.026</td>
<td>0.3006</td>
<td>0.72</td>
<td>0.476</td>
</tr>
<tr>
<td>ASQTY</td>
<td>0.2321</td>
<td>2.88</td>
<td>0.005</td>
<td>-1.3831</td>
<td>-4.03</td>
<td>0.000</td>
</tr>
<tr>
<td>MGQTY</td>
<td>-</td>
<td>-1.62</td>
<td>0.110</td>
<td>-2.3339</td>
<td>-5.84</td>
<td>0.000</td>
</tr>
<tr>
<td>EARNG</td>
<td>-</td>
<td>-2.01</td>
<td>0.049</td>
<td>1.3455</td>
<td>7.01</td>
<td>0.000</td>
</tr>
<tr>
<td>LQDTY</td>
<td>-</td>
<td>-0.93</td>
<td>0.353</td>
<td>-0.0141</td>
<td>-0.40</td>
<td>0.692</td>
</tr>
<tr>
<td>SMRSK</td>
<td>-</td>
<td>-2.04</td>
<td>0.046</td>
<td>0.2791</td>
<td>1.54</td>
<td>0.129</td>
</tr>
<tr>
<td>BNKSZ</td>
<td>-</td>
<td>-2.56</td>
<td>0.013</td>
<td>-0.0312</td>
<td>-1.84</td>
<td>0.070</td>
</tr>
<tr>
<td>CONS</td>
<td>3.14</td>
<td>0.003</td>
<td>0.4875</td>
<td>2.42</td>
<td>0.018</td>
<td></td>
</tr>
<tr>
<td>OBS</td>
<td></td>
<td>72</td>
<td></td>
<td>72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>0.3192</td>
<td></td>
<td>0.4843</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat</td>
<td></td>
<td>3.52</td>
<td></td>
<td>17.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P-value</td>
<td></td>
<td>0.0030</td>
<td></td>
<td>0.0000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source: Output of data analysis using STATA 2015**

From the determination coefficients it can be noted that there is a relationship between dependent and independent variables given an \( R^2 \) values of 0.3192 and 0.4843 for model one and model two respectively. This results shows that the explanatory variables of capital adequacy, asset quality, management quality, liquidity, sensitivity to market risk as moderated by bank size accounts for 31.92% and 48.43% on the variations in financial performance as measured by ROA and ROE respectively. This implies that the explanatory variables of CAMELS play a significant role in bank financial performance.
Similarly, the result from the table shows that the model is fit at 99% confidence level as indicated by the F-Statistic of 3.52 which is statistically significant at 1% level (P-value of 0.0030) for model one and with model fit at 99% indicated by the F-Statistic of 17.66 statistically significant at 1% level (P-value of 0.0000) for model two. The regression coefficients in table 4.3 are used to tests the research hypotheses.

**Capital Adequacy Ratio and Financial Performance**

The result in table 4.3 shows that the coefficient of capital adequacy has a significant positive impact on financial performance in relation to return on asset at 5% level (β=0.2377, p>0.05). On the other hand, the coefficient of capital adequacy was positive but not statistically significant in relation to return on equity. The findings of the study that there exists a significant positive impact of capital adequacy on financial performance implies that banks with larger capital are able to diversify their business operations by strengthening their ability to assume risk and attract funds at low cost which consequently enhance their liquidity position. The overall effect will be an improvement of their lending position resulting to positive impact on returns. As Athanasoglou et al. (2006) observed that a bank with a sound capital position would be able to pursue business opportunities more effectively and would have more time and flexibility to deal with problems arising from unexpected losses, thus achieving increased in returns.

This result is consistent with previous studies of Bashir and Hassan, 2003; Srairi 2010; Ongore and Kusa, 2012 providing evidence to the argument that banks with a strong capital base are able to pursue business opportunities more effectively than less capitalised banks. The suggestion that a higher capital is a positive signal to the market value of a bank is consistent with the signalling theory noted by Ommeren (2011).

**Asset Quality and Financial Performance**

Table 4.3 shows that the coefficient of asset quality has a significant positive and negative impact on financial performance in relation to return on asset and return on equity at 1% level respectively. The evidence from the study that there exists a significant positive impact of asset quality on financial performance explained the fact that banks that institute a quality credit administration and management as a guide to paying particular attention to asset quality tend to be very profitable in terms of their returns. Zantioti (2009) argues that the presence of higher credit risk leads to higher performance and subsequently brings more returns to financial institutions. The finding is consistent with the study of Fuentes and Vergara (2003), Hassan (2005) and Srairi (2010).

The significant negative impact on financial performance can be explained by the fact that the value of loans and advances in a bank’s financial statement is a critical success factor on the returns of a bank; hence, a poor asset quality arising from high level of non-performing loan tends to reduce the earnings significantly. More so, provisioning as an expense has inverse relationship to returns. This is consistent with study of Ongore and Kusa (2012), Jha and Hui (2012), Chen (2009).

**Management Quality and Financial Performance**

Table 4.3 provides evidence that the coefficient of management quality has a negative impact on financial performance in relation to return on asset but not significant. On the other hand the coefficient shows a significant negative impact on return on equity at 1% level. The result implies
that inefficient management of banks’ interest expenses leading to rise in cost of operations reduces the financial performance of the banks in terms of returns. More so, it is important to know that reducing the cost of operations could reduce the incidence of failure of the banks and hence strengthens the confidence of the shareholders and the public through improved financial performance of the banks.

The findings is consistent with the study of Mhiri and Ben Ameur (2013) who posits that the more efficient a bank is the higher its performance in terms of returns. Also the finding is in line with Athanasoglou et.al, (2006), Olweny and Shipho (2011) and Alabede (2012).The study is also in consistence with the efficiency structure theory which suggests that a well-managed bank will earn higher profit than the less efficient ones.

**Earnings Quality and Financial Performance**

Table 4.3 shows that the coefficient of earnings quality has a significant negative impact on financial performance in relation to return on assets at 5% level and a significant positive impact on financial performance in relation to return on equity at 1% level. The finding implies that the earning assets of the banks were not efficiently utilised to generate sufficient interest income. This is supported by the study of Guisse (2012). On the other hand, a significant positive impact reveals that banks management has been able to keep the growth of interest income ahead of interest expenses. In other terms, it connotes efficient utilisation of bank assets in forms of personal and commercial loans, mortgages and securities. In addition, it justifies the efficiency of the banks and their ability to respond to the changes in economic conditions. This study is consistent with the findings of Jha and Hui (2012), Jannatu (2012).

**Liquidity and Financial Performance**

Table 4.3 provides evidence that the coefficient of liquidity has a negative impact on financial performance in relation to return on asset and return on equity and not statistically significant. The negative relationship between liquidity and financial performance implies that high excess liquidity decreases bank profitability in terms of performance. Saxegaard (2006) argued that excess liquidity is a sign that bank lending is low owing to banks holding more money than statutorily required for precautionary purposes. The result is contrary to our expectation on the understanding that liquidity is a double edged effect on banks because more of it implies idle cash which results to reduction in profits and lack of it implies liquidity risk which can endanger bank smooth operations due to adverse shocks. The result of the study is consistent with Al-Tamimi (2009); Molyneux and Thorton (1992); Berger and Bowman, (2009).

**Sensitivity to Market Risk and Financial Performance**

The result in table 4.3 shows that the coefficient of sensitivity to market risk has a significant negative impact on financial performance in relation to return on asset at 5% level while it shows a positive relationship with return on equity but not statistically significant. The significant negative relationship between sensitivity to market risk and financial performance is premised on the fact that market risk denotes the change in the value of an investment due to movement in market factor such as interest rate, stock price. A typical example is the crash of the Nigerian Stock market due to the global crisis on sub-prime mortgage which consequently affected the stock market. In view of this, the stock market investments created a negative return for banks by writing off non-performing loans secured by stock. The negative impact is supported in the study of Choi
et al. (1992); Tai (2000); Wetmore and Brick (1994) who suggested that banks with low market power and less efficient in their operations may not efficiently manage their risk exposures resulting in negative effects of interest rate risk from the maturity mismatching of their assets and liabilities and consequently affect returns.

The positive impact on financial performance is supported by Demirgur–Kunt and Huizinaga (1999) in their study which posits that high interest rate is associated with higher interest margins and profitability. This finding is corroborated in the study of Dietrich and Wanzennried (2009).

5.0 Conclusion and Recommendations

From the analysis conducted using multiple regressions, the study reveals that Capital adequacy, Asset quality and Earnings quality has a significant impact on financial performance of Nigerian Deposit money banks in a positive manner while Management quality and Sensitivity to market risk has significant but negative effect on the financial performance of deposit money banks in Nigeria. Liquidity of Deposit Money Banks in Nigeria has no significant impact on their financial performance taking Return on Equity and Return on Assets. Consequently, the study concludes that Capital adequacy, Asset quality, Earnings quality, Management quality and Sensitivity to market risk are determinants of financial performance of the deposit money banks in Nigeria.

In line with the findings and conclusions from this research, the study recommends the followings:

i. the upward review of capital adequacy level should be done periodically in order to enable deposit money banks in Nigeria diversify their business operations, absorb unexpected losses, strengthen their liquidity position and consequently compete internationally.

ii. since asset quality has a significant impact on financial performance, deposit money banks in Nigeria should institute a strong credit risk management and administrative system in order to assist in the identification, measurement, monitoring and supervision of non-performing loans knowing fully well that increase in loans result to increase in profitability and increase in non-performing loan reduces banks’ returns.

iii. Nigerian deposit money banks should focus more on demand deposit which attract low interest expense and explore the possibility of borrowing from the foreign debt market which usually provides cheaper financing than the local debt market. However, the effects of the interest rate parity should be considered before going to the global debt market.

iv. Nigerian Deposit Money banks should diversify their income through having a good mix of income in order to strengthen the earning quality of the banks. More so considerable attention should be accorded to fee based incomes arising from guarantees which are less exposed to credit risk.
REFERENCES


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