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Impact of Capital Adequacy on the Financial Performance of Deposit Money Banks (DMBs) in Nigeria

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Abstract:

The banking system serves as a power house and a bridge between savers and borrowers by allocating financial resources from surplus region to deficit region to harmonize economy activities. The objective of this study is aimed at examining the impact of capital adequacy on the financial performance of deposit money banks (DMBs) in Nigeria. The study will be significant to policy makers, potential investors and academic world. The population of this study is all deposit money banks listed in the Nigerian stock exchange (NSE) from 2006 to 2016 in Nigeria. The study used secondary data obtained from financial statements of deposit money banks. However, a purposive sampling technique is used to obtain a sample size of six (6) banks out of 15 DMBs. Panel unit root test, Correlation, Panel least square and regressions was employed in the analysis of data using EVIEW statistical software version 8. The finding of the study is that there is a strong positive significant impact of capital adequacy on the financial performance of deposit money banks in Nigeria. This implies that DMBs followed the minimum capital base policy which made them highly capitalized. This study recommends that deposit money banks (DMBs) in Nigeria must keep and maintain the required minimum capital base in order to meet international standard.

Keywords: DMBs, capital adequacy, economic value added, credit risk, economic view (Eview)

1. Introduction

The pretty idea of deposit money banks (DMBs) as a financial warehouse, dwells on the fact that banks are seen to be the leading institutions of savings and allocations of credits in any given economy, like Nigeria. It is the banking system that put into work the important function of financial intermediation by transferring deposits into areas where production is needed most for investments purposes. The banking system serves as a power house and a bridge between savers and borrowers by allocating financial resources from surplus region to deficit region to harmonize economy activities. To enhance performance is very important to maintain deposit money banks (DMBs) profitability and making the banks stakeholders to have confidence in the Nigerian banking system. The connection between capital adequacy and performance of deposit money banks is a vital issue that must not be taken with laxity to avoid credit risk. For any DMBs where capital is not enough to cover daily transactions and to meet the financial demand of various stakeholders such as customers, investors, banks' management etc. cannot be said to be healthy financially. Deposit money banks play key role in economic development, and promote economic growth of any given nation. They do this through financial intermediation functions and services to the society and the country at large. The credit facilities they give bring about productive investments avenues for individuals and institutional investors. It is obvious that the efficient and effective performance of banking industry over time guarantees financial stability of any nation. How healthy a financial sector is relying mainly on sound banking system. Failures in financial intermediation due to poor adequate capital can disrupt the development process of deposit money banks whose business is money creation among others through lending.

Capital adequacy is a credit risk management indicator that details a bank financial position and strength by using its capital and assets base. A bank is said to be financially healthy if its capital adequacy ratio (CAR) is high and likely to meet its financial obligations. The purpose is to guarantee that depositors are protected and it helps in promoting the stability and efficiency of financial system the world over. The minimum capital adequacy base is fundamental in making sure that banks have enough cushion to absorb a reasonable amount of losses before they become insolvent and consequently lose depositors' funds. In order for deposit money banks (DMBs) in Nigeria to be protected so that adequate capital is maintained, the Central Bank of Nigeria (CBN) in 2005 through recapitalization exercise announced that for a bank to remain operational in Nigeria it must have a minimum capital base of twenty-five billion naira (N25b). The banking sector crisis remained a subject of concern

because of its role in facilitating and stimulating economic development. This however made the apex bank (CBN) to take a bold step in revitalizing the banking sector through the stipulation of N25 billion-naira capital bases for all deposit money banks in Nigeria. This led to the emergence of 25 deposit money banks in Nigeria as at 31st December, 2005. In 2006, the Central bank of Nigeria issued a code of corporate governance to complement the existing one and the provisions of the new code were said to be indispensable in achieving viable and successful banking practice. The fact remains that inadequate capital can jeopardize public confidence on the financial system, precisely deposit money banks in Nigeria. Therefore, credit risk management through capital adequacy to scrutinize credits/loans administrations is quite a welcome idea to minimize financial scandals and crises in deposit money banks in Nigeria.

Similar studies conducted in Nigeria covered few years mostly less than ten like (Ogboi and Unuafé, 2013; Awojobi, Amel and Norouzi, 2011). And there have been divergent results emanating from previous studies which call for more research to ascertain the consistency or inconsistency of contemporary studies. In measuring financial performance of deposit money banks in Nigeria and other countries, often times many studies used traditional accounting measures such as return on asset (ROA), return on equity (ROE), net interest margin (NIM), return on investment (ROI), return on capital employed (ROCE) etc.

Against this backdrop this study intends to cover 11 years in order to fill time gap from 2006-2016. As a contribution to knowledge, this study also intends to use Economic value added (EVA) as a proxy for financial performance, which to the best knowledge of this research has not been used in a similar study. It is a new way of measuring performance. The findings of this study would help investors to take rational decision when investing in any deposit money banks in Nigeria, guides policy makers and other stakeholders, and also contribute to academic sphere.

The objective of this study is to examine the impact of capital adequacy on the financial performance of deposit money banks (DMBs) in Nigeria. The hypothesis of the study is formulated in a null form viz: H_{01} : Capital adequacy has no significant impact on financial performance of deposit money banks (DMBs) in Nigeria.

This study is organized into five sections. Section one is introduction of the subject matter. Section two is review of related literature and studies conducted by others in order to harmonize the views held on the subject matter. Section three is the study methodology and it covers techniques of sampling, data collection and analysis. Section four is for presentation and analysis of data obtained based on the methodology of the study and section five gives conclusion, summary and recommendations.

2. Literature Review

2.1. Conceptual Framework

2.1.1. Concept of Capital Adequacy

There are different views between experts in banking and finance as to what constitutes capital adequacy. Nwankwo (1991) submits that the idea of how much capital a bank need to ensure that the stakeholders have confidence in them and maintain healthy operations is determined by the supervisory and regulatory authorities. Klise (1972) posits that capital to an economist perspective means real capital which connotes that stock of goods are gathered by means of production whereas in finance or business it is regarded as a financial capital which sometimes could stand for both tangible and intangible capital. Arogundade (1999) defines capital as the contribution and interest of owner in a business and is committed to making sure it progresses.

2.1.2. Concept of Bank Performance

Bank performance is usually measured by profitability. And profitability is commonly proxied by return on assets (ROA), which is the ratio of profits after tax to total assets and return on equity (ROE), which is profit to equity ratio. In general, return on assets shows how banks' management are able to generate profits from the banks' assets, which may be biased due to off-balance-sheet transactions. On the other way round, return on equity which is regarded as bank's equity multiplier, indicates the return to shareholders on their equity and it equals return on assets times the total assets to equity ratio. In most cases banks with high equity and low leverage in the capital structure more often than not report high return on assets, but reverse is the case in return on equity which is low. Nevertheless, the analysis of return on equity (ROE) ignores the high risk connected with high leverage, and bank financial leverage is usually determined by monetary authorities. For this reason, ROA emerges as the key ratio for evaluating bank profitability (IMF, 2002).

Therefore, for the purpose of this study economic value added (EVA) is used as a proxy for Nigerian deposit money banks performance. Using ROE for measuring performance is not sufficient enough considering the fact that it is not well refined to reflect the risk incurred in attaining such returns. One possible refinement of ROE and ROA is the EVA. The secret thing is that corporations that have been progressing at increasing shareholder wealth as shown by consistent improvements in the return from the stocks used the concept of economic profit as a measure of performance. Economic profit or economic value added (EVA) is now a popular tool for managers to measure performance and for guiding investment decisions. Under conventional accounting measures most companies shown good amount of profits. But the profit they are earning is usually less than their full cost of capital. EVA looks at the profit correctly by also appropriating a charge for all capital including equity capital. Any amount equal to the capital charge is the minimum acceptable compensation for the risk that the owners take by investing in the firm. Profit beyond that is the value a business entity

creates and it is this profit beyond the capital charge that creates value for the owners (Anil & Satish, 2010; ECB, 2010; Ashok & Rajiv, 2000; Gregory, 2006).

2.2. Theoretical Framework

2.2.1. Portfolio Regulation Theory

The theory postulates that regulation of banks is indispensable to uphold soundness and safety of the banking sector in order to be in a better position to meet its liabilities with ease. As a result of doing this, regulatory authorities ensure that solvency and liquidity on each and every bank is mandatory instead of being optional. It ensures conformity to standard in liquidity position of banks as liquid asset-deposit (LAD) ratio. The higher the capital adequacy ratio, the better the liquidity and solvency of the individual banks (Obiakor, 2016; Ikpefan, 2013).

2.2.2. Buffer Theory of Capital Adequacy

Every bank would desire to have a bulk 'buffer' that exceeds capital in order to trim down the likelihood of falling below the legal capital requirements, particularly in a situation where capital adequacy ratio is very unstable or volatile. Failure by banks to fulfill the stipulated capital requirements is a serious offence against the laid down laws guiding banking legislation which the Central Bank of Nigeria (CBN) would not tolerate. Some banks license was withdrawn after giving them time to meet up but still remain undercapitalized for too long during recapitalization of banks in 2005, in Nigeria. Capital is necessary for long-term forecast; therefore, banks need to and should be able to mobilize deposits enough to avoid the capital base from dwindling (Obiakor, 2016; Ikpefan, 2013). The submission of Calem and Rob (1996) predicts in the buffer theory that, a bank approaching the regulatory minimum capital ratio may have an incentive to boost capital and reduce risk in order to avoid the regulatory costs triggered by a breach of the capital requirements. There is a general belief that the higher the risk the higher the return and vice-versa. Because of this, some deposit money banks (DMBs) that are not well capitalized were carried away by taking more risk through granting of credits/loans in anticipation that they would have greater expected returns to boost their capital. It is in this manner that risk affiliated to lower capital adequacy influences banking operations.

2.2.3. Earnings Theory of Capitalization

This theory is of the view that an exact value i.e. capitalization of any firm relies on its earning power. This theory is saying that capitalization or value of a banking firm is the same as the capitalization or value of its expected earnings or returns. An enterprise like deposit money banks that is doing business should prepare an expected profit and loss account. And the incomes the company is expecting or estimating need to be compared with the actual earnings of similar companies within the same industry and adjustments should be done if it is necessary. A study on the rate of how other companies place their earnings is carried out by company's promoters who are in the same industry. The way a firm earns return as a root for capitalization has the advantage of valuing certain amount a company realizes which is openly linked to its earning ability. New companies would not find it easy to come by and is still risky to rely only on the estimate of their earnings as the main expected return in a business (Torbira, and Zaagha, 2016).

The study intends to adopt the three theories because they are relevant and relates to capital adequacy and credit risk management of deposit money banks (DMBs) in Nigeria in one area or the other in the study under review.

2.3. Empirical Review

2.3.1. Capital Adequacy and Financial Performance

Zou (2014) study the impact of credit risk management on profitability of commercial banks: A study of Europe. The results revealed that a credit risk management proxy by CAR (capital adequacy ratio) has an insignificant effect on both return on equity (ROE) and return on assets (ROA). It indicates that credit risk management has a positive effect on profitability of commercial banks. It is consistent with the study of Million, Matewos and Sujata (2015) that study the impact of credit risk on profitability performance of commercial banks in Ethiopia by employing descriptive statistics and panel data regression. Through their findings, credit risk indicators of capital adequacy show significant impact on the profitability of commercial banks in Ethiopia. In another study, Ara, Bakaeva and Sun (2009) study Credit Risk Management and Profitability in Commercial Banks in Sweden and had a mixed result within the time frame of the study from 2000 to 2008. The findings and analysis shown that credit risk management has influence on profitability, among the 4 banks. Non-performing loans ratio (NPLR) and capital adequacy ratio (CAR) represent credit risk management indicators. Between the two indicators, NPLR (non-performing loans ratio) has a significant effect on profitability (proxy by ROE) than the way CAR (capital adequacy ratio) does on profitability (ROE i.e. return on equity). Go by the analysis of every individual bank level it pins points the fact that the impact of credit risk management on profitability is not equal.

Afriyie and Akotey (2012) in an empirical study also revealed that rural banks with higher capital adequacy ratio would be in a good position to give more loans and absorb credit losses whenever they happen and as a result witness better performance through profitability. In the same vein Yuga, (2009) study the Effect of Credit Risk on the Performance of Nepalese Commercial Banks. This study adopted descriptive and causal comparative research design, and find out that there

was a significant relationship between bank performance and credit risk indicators. Zribi and Younes (2011) study about the Factors Influencing Bank Credit Risk: The Case of Tunisia using panel data. The findings of this study show that the public ownership increases the bank credit risk. In addition, the prudential regulation of capital decreases the credit risk taken by Tunisian banks. The result accounts for the readiness of these banks to respect the bank regulations. Moreover, the characteristics of banks are also regarded as important factors that affect the levels of risks taken by Tunisian banks. Certainly, the ratio of return on assets is positively related with credit risk and the ratio of capital adequacy is negatively related with credit risk.

Similarly, Poudel (2012) empirically study the impact of credit risk management on financial performance of commercial banks in Nepal. The study finding is that risk management indicators have direct relationship with performance. Also, Muhmad and Hashim (2014) in a study carried out to analyze the performance of domestic and foreign bank operating in Malaysia by utilizing a CAMEL framework. The period for the study is from 2008 to 2012 and regression analysis was used. The result indicates that capital asset quality and liquidity have a significant effect on the execution of Malaysian banks. Similarly, Rajkumar and Hanitha (2015), study Impact of Credit Risk Management (CAMEL) on Financial Performance a Study of State Commercial Banks in Sri Lanka, using Pearson correlation analysis and multiple (Ordinary least square) Regression. The study finding concludes that capital adequacy, has negative relationship with state commercial banks in Sri Lanka. This agreed with Nurazi and Evans (2015) in an empirical study using CAMEL Model find that capital adequacy ratio, is statistically significant in the explanation of bank collapse.

Alshatti (2015), in a study aims at examining the effect of credit risk management on financial performance of the Jordanian commercial banks, by identifying the indicators of credit risk and financial performance ratios using panel regression. The findings indicate that there is a negative effect of the Capital adequacy ratio on banks' financial performance when measured by return on equity (ROA). Another finding is that capital adequacy ratio does not influence the profits of the Jordanian commercial banks as measured by return on equity (ROE), demonstrating that other factors other than capital adequacy ratio effect on banks' profitability. Mosei (2015) study the Effects of Credit Risk Management on the Financial Performance of Microfinance Banks in Kenya. The study findings are that correlation matrix of the CAMEL indicators to financial performance showed different results. Capital adequacy has a weak relationship with financial performance of microfinance banks in Kenya. Therefore, the study established that credit risk management represented by CAMEL Model has a strong impact on the financial performance of Micro Finance Banks in Kenya.

Awojobi, Amel and Norouzi (2011), in Nigeria empirically conducted a study to analyze Risk Management in Banks: Evidence of Bank Efficiency and Macroeconomic Impact from. They employed panel regression analysis from 2003 to 2009. It was discovered that macro-determinant economic growth, has positive impact on risk management efficiency among Nigerian banks; inflation is negatively related to bank's capital adequacy, in accordance to a priori theoretical expectation. The study findings suggest that risk management within Nigerian banks has not been efficient. Before the introduction of Basel II rules to the system, banks were under-capitalized. The analysis proves that bank capital adequacy is positively related with liquidity, bank size and market risk. Kolade (2012) in an empirical study has analyzed the performance of the Nigerian banking sector in the post 2005 through the CAMEL rating system. The study revelation is that, First City Monument Bank (FCMB) is a highly capitalized bank (shareholders' fund/total assets), while WEMA Bank Plc is depicted as the least rating of capital adequacy. First Bank of Nigeria Plc. did better than other banks in asset quality. Access Bank Plc performed better than any other bank in term of management quality. Stanbic IBTC Bank Plc proved to be the best bank in utilizing assets to generate return. Zenith Bank Plc exceeds other banks in protecting the short-term creditors. Two banks Guarantee Trust Bank Plc (GTB) and Diamond Bank Plc. demonstrated performance by consistently ranked among the first best 10 performing banks based on all the Group Ranking on the CAMEL parameters for the study period from 2006 to 2010.

Ogboi and Unuafe (2013) examine Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria. The study used of Panel data model to estimate the relationship. And the empirical finding evidenced that sound credit risk management strategies and enhanced capital requirement can promote banks profitability. It is also imperative to state that the strategy of making provision for loan loss or reducing non-performing loan has never been misleading. To a certain extent, some other factors could have been the main reason why these policies were less effective.

3. Research Methodology

3.1. Population and Sample Size

The population of the study is all deposit money banks quoted in the Nigerian Stock Exchange (NSE). Secondary data is used by extracting information from the published annual reports of financial statement of 11 years (2006-2016) of the deposit money banks. A purposive sampling technique was used to arrive at a sample size of six (6) banks out of 15 banks quoted. The banks are: Access bank, united bank for Africa (UBA), First bank of Nigeria (FBN), Guaranty Trust bank (GTB), First City Monument bank (FCMB) and Diamond bank. The research design is correlational design

3.2. Variable Description

3.2.1. Independent Variable

The independent variable is capital adequacy proxy by capital adequacy ratio = Shareholders funds/Total assets.

3.2.2. Dependent Variable

The dependent variable is performance proxy by economic value added (EVA). The EVA formula is:

$$EVA = NOPAT - (WACC \times \text{Capital Invested})$$

Where:

NOPAT = Net operating profit after tax

WACC = Weighted Average Cost of Capital.

WACC \times Capital Invested = capital charge

In computing EVA, deduct capital charge (Weighted Average Cost of Capital WACC multiply by Capital Invested) from NOPAT (Net Operating Profit after Taxes)

3.3. Model Specification

The study used deposit money banks (DMBs) performance variable as the dependent variable proxy by economic value added (EVA) whereas capital adequacy represents independent variable. The analysis was carried out using regression models.

$$Y = f(\text{CAR})$$

$$Y = \beta_0 + \beta_1 \text{CAR}_t + \varepsilon$$

Y = Performance (proxy by EVA)

β_0 = Constant

β_1 = Regression Coefficient or change included in performance independent variable CAR

CAR_t = Capital Adequacy Ratio of bank at year t

ε = Error term

4. Results and Discussions

This section is where presentation and analysis of data takes place and test of hypothesis as formulated in section one in the introduction. This study employed correlational research design using EVIEW statistical software. The study used information obtained from annual reports of deposit money banks in Nigeria for the period under review.

4.1. Interpretation and Discussions

$$Y = \beta_0 + \beta_1 \text{CAR}_t + \varepsilon$$

$$EVA = 1.12350 + 2.4605 + \varepsilon$$

The coefficient of capital adequacy ratio (CAR) is reliable with priori expectations $\beta_0 = 1.12350 > 0$, $\beta_1 = 2.4605 > 0$. The explanation is that the greater the proportion of capital adequacy ratio the better the performance (proxy by EVA) of deposit money banks in Nigeria and vice - versa. A point to note here is that for probability to be statistically significant, the probability value (P-value) must be less than 0.05 (5%) in order to make it significant. In table 3. Panel unit root test of economic value added (EVA) probability is 0.0000 which is said to be strongly and statistically significant because it is less than 5%. Therefore, the null hypothesis that states thus: Capital adequacy has no significant impact on financial performance of deposit money banks (DMBs) in Nigeria should be rejected. Panel unit root test for both economic value added (EVA) and capital adequacy ratio (CAR) in tables 3. and 4. respectively handles normality test. And it is meant to test the stationarity of the data. Both variables are stationary at level, meaning there is no unit root and there would not be a spurious result or effect. Therefore, multiple linear regressions can be used to run this analysis.

The study finding is that capital adequacy strongly and positively impacts financial performance of deposit money banks in Nigeria. This aligns with the findings of (Ogboi and Unuafé, 2013; Kolade, 2012; Nurazi and Evans, 2015) and contrary to the findings of (Rajkumar and Hanitha, 2015; Ara, Bakaeva and Sun, 2009; Adeusi, Akeke, Adebisi and Oladunjoye (2014). The reason behind this could be as a result of recapitalization exercise spearheaded by the Central Bank of Nigeria (CBN) in 2005. The policy stipulated that deposit money banks (DMBs) can only remain operational and relevant if they maintain the minimum capital base of N25 billion. This made DMBs to be highly capitalized thereby boosting confidence of the investing public in banking sector.

Table 1. is a computation of Economic Value Added (EVA) of 6 (six) Deposit Money Banks in Nigeria. Where the outcome of EVA is positive or > 0 (greater than zero) it means the income is greater than the cost of capital which is an indication of good performance. But if the outcome is negative or < 0 (less than zero) it means the return is less than the cost of capital, indicating loss or bad performance. Whereas, if EVA is equal to zero it is a break-even point where performance was not increased but succeeded in recovering the cost of capital. Access bank EVA result in (2006) is = 0.5, (2007) = 21.43, (2008) = 9.335, (2009) = 6.5, (2010) = 7.085, (2011) = 7.35, (2012) = 15.07, (2013) = 10.69, (2014) = 14.568, (2015) = 18.27, (2016) = 15.32. From 2006 to 2016 Access bank had positive economic value added (EVA) which implies that the bank performance was encouraging however there was fluctuation especially in 2015 to 2016 this could be due to recession. United Bank for Africa (UBA) EVA in (2006) is = 24.08, (2007) = 12.03, (2008) = 21.26, (2009) = 6.866, (2010) = 1.154, (2011) = -4.369, (2012) = 21.5, (2013) = 17.9, (2014) = 14.217, (2015) =

14.085, (2016) = 12.52. UBA had positive EVA in other years with the exception of 2011 which had negative EVA of -4.369 which implies that the return was less than the cost of investment indicating poor performance. First Bank of Nigeria (FBN) in (2006) EVA = 27.21, (2007) = 4.837, (2008) = -0.209, (2009) = 0.4, (2010) = 7.9, (2011) = 4.64, (2012) = 0.3, (2013) = 14.97, (2014) = 58.23, (2015) = 23.25, (2016) = 87.24. In 2008 First Bank of Nigeria had a negative EVA, which is an indication that it performed below the expected return against the rest of other years with good performance (having positive EVA). Guaranty Trust Bank (GTB) result in (2006) = 21.69, (2007) = -27.4, (2008) = 13.34, (2009) = 14.42, (2010) = 17.85, (2011) = 22.057, (2012) = 29.589, (2013) = 25.95, (2014) = 165.07, (2015) = 12.02, (2016) = 181.542. GTB performance in 2007 was -27.4 EVA which is negative indicating performing below expected return which is less than the cost of capital invested. Whereas the rest of the years had positive EVA, that shows good performance. As for First City Monument Bank (FCMB) in (2006) = 10.76, (2007) = 18.747, (2008) = 103.727, (2009) = 2.719, (2010) = 5.438, (2011) = 98.556, (2012) = 1, (2013) = 4.58, (2014) = 4.1, (2015) = 1.965, (2016) = 2.18. FCMB performance throughout the years was positive. Diamond Bank (DBANK) (2006) = 11, (2007) = 12.86, (2008) = 10.105, (2009) = 5.947, (2010) = 5.58, (2011) = -23.98, (2012) = 21.5, (2013) = 20.639, (2014) = 10.72, (2015) = 16.827, (2016) = 28.892. DBANK had a negative EVA of -23.98 in the year 2011 and the other years had positive EVA.

In the appendix, table 2. descriptive statistics have it that the mean value for performance (EVA) is 20.39536 for DMBS Banks; while capital adequacy have a mean value of 29594.78 within the period under review. The maximum performance is 181.5420 while the minimum is -27.43000. Capital adequacy has a maximum of 33045.98 and a minimum of -1955321. In table 5. the R-squared (R^2) is 0.529284 (53%). That is a change in performance via EVA is caused by a change in capital adequacy whereas 47% left is explained by other factors that are not in the model. The F-statistic p-value is 0.000069 which indicates that the model is statistically significant at 5% level of significance; thus, the p value is less than 0.05 (5%). The Durbin Watson statistics is 1.72 which is a pointer that the null hypothesis should be rejected.

5. Conclusion and Recommendations

The general objective of this study is to examine the impact of capital adequacy on the financial performance of deposit money banks (DMBs) in Nigeria, covering 2006 to 2016 study periods. In conclusion capital adequacy strongly and positively impact financial performance of deposit money banks in Nigeria. This shows that deposit money banks (DMBs) in Nigeria became highly capitalized due to recapitalization programmes that compelled them to comply with the stipulated minimum capital base announced by Central Bank of Nigeria (CBN).

Therefore, this study recommends that deposit money banks (DMBs) in Nigeria must keep and maintain the required minimum capital base in order to meet international standard.

The study also recommends constant supervision and monitoring by CBN as the apex bank of Nigeria to ensure total compliance with the laid down guidelines.

6. Appendix

DMBs	Yr 1 2006	Yr 2 2007	Yr 3 2008	Yr 4 2009	Yr 5 2010	Yr 6 2011	Yr 7 2012	Yr 8 2013	Yr 9 2014	Yr 10 2015	Yr 11 2016
ACCESS	0.5	21.43	9.335	6.5	7.085	7.35	15.07	10.69	14.568	18.27	15.32
UBA	24.08	12.03	21.26	6.866	1.154	-4.369	21.5	17.9	14.217	14.085	12.52
FBN	27.21	4.837	-0.209	0.4	7.9	4.64	0.3	14.97	58.23	23.25	87.24
GTB	21.69	-27.4	13.34	14.42	17.85	22.057	29.589	25.95	165.07	12.02	181.542
FCMB	10.76	18.747	103.727	2.719	5.438	98.556	1	4.58	4.1	1.965	2.18
DBANK	11	12.86	10.105	5.947	5.58	-23.98	21.5	20.639	10.725	16.827	28.892

Table 1: Economic Value Added (EVA) Computation

Source: Authors' computation

	EVA	CAR
Mean	20.39536	29594.78
Median	12.69000	162.1231
Maximum	181.5420	33045.98
Minimum	-27.43000	-1955321.
Std. Dev.	34.65159	241011.5
Skewness	3.092409	-7.905589
Kurtosis	13.34212	63.67176
Jarque-Bera	399.3312	10810.40
Probability	0.000000	0.000000
Sum	1346.094	-1953256.
Sum Sq. Dev.	78047.62	3.78E+12
Observations	66	66

Table 2: Descriptive statistics

Panel unit root test: Summary				
Series: EVA				
Date: 11/20/17 Time: 10:38				
Sample: 1 66				
Exogenous variables: Individual effects				
User-specified lags: 1				
Newey-West automatic bandwidth selection and Bartlett kernel				
Balanced observations for each test				
Method	Statistic	Prob.**	Cross sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.30053	0.0000	6	48
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.60517	0.0002	6	48
ADF - Fisher Chi-square	36.7635	0.0002	6	48
PP - Fisher Chi-square	86.3513	0.0000	6	54
** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.				

Table 3: Panel unit root test for EVA

Panel unit root test: Summary				
Series: CAR				
Date: 11/20/17 Time: 10:39				
Sample: 1 66				
Exogenous variables: Individual effects				
User-specified lags: 1				
Newey-West automatic bandwidth selection and Bartlett kernel				
Balanced observations for each test				
Method	Statistic	Prob.**	Cross sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5805.96	0.0000	6	54
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1473.17	0.0000	6	54
ADF - Fisher Chi-square	18.6555	0.0972	6	54
PP - Fisher Chi-square	50.2669	0.0000	6	60
** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.				

Table 4: Panel unit root test for CAR

Dependent Variable: EVA				
Method: Panel Least Squares				
Date: 11/20/17 Time: 10:43				
Sample: 1 66				
Periods included: 11				
Cross-sections included: 6				
Total panel (balanced) observations: 66				
Variable	Coefficien t	Std. Error	t-Statistic	Prob.
CAR	2.4605	1.77E-05	2.389496	0.0195
C	1.12350	4.267401	4.949969	0.0000
R-squared	0.529284	Mean dependent var		20.3953 6
Adjusted R-squared	0.014116	S.D. dependent var		34.6515 9
S.E. of regression	34.40614	Akaike info criterion		9.94418 2
Sum squared resid	75762.09	Schwarz criterion		10.0105 3
Log likelihood	- 326.1580	Hannan-Quinn criter.		9.97040 1
F-statistic	1.930700	Durbin-Watson stat		1.71838 3
Prob(F-statistic)	0.000069			

Table 5

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