

Capital Adequacy and Profitability of Nigerian Banks

By

¹Ayoola, O. O. & ²Onyeiwu, C.

University of Lagos

ayoolaonline@yahoo.com & chasonyeiwu@yahoo.com

Abstract

This paper examined the effect of bank capital on profitability of Nigerian deposit money bank and it was carried out using data from GTBank, First Bank, FCMB, Access Bank, Zenith Bank and Unity Bank. The research design used is quantitative research design. Five years quantitative data were sampled from the financial reports of the banks from the year 2011 to 2015. A panel data regression utilizing the fixed effect, random effect and hausman technique was conducted. The summary of the finding reveals that there is a negative but not significant relationship between banks capital base and the profitability of the banks at 1 percent significant level. But there is a significant positive relationship between total assets of banks and value of loans and advances and bank profitability. A percentage change in banks total assets brings about 0.83 percentage change in banks profit. Also evidence from the study shows a significant contributory effect of loans and advance towards profit maximization at 5 percent significant level. This implies that loan and advances when well managed will help to boost the net income of the banks and thus could be considered a significant determinant of the profit of the banks. it is recommended that deposit money banks should maintain adequate level of capital funds and also enlarge their portfolio of loans and advances as it is in their best interest.

Keywords: Bank Capital, Deposit Money Bank, Profitability, Return on Equity

1.0 Introduction

Bank is one of these organizations whose capital adequacy is of paramount significance to its customers. The Central Bank of Nigeria has the obligation to provide protection and confer confidence on all the banks' depositors and creditors by ensuring banks' capital adequacy to absorb their loses and financial short comings. This is the main reason behind the 2005 bank reform which emphasized that banks' capital base should be increased from N2billion to N25billion (Okafor, Ikechukwu & Adebimpe, 2010). The knowledge that capital adequacy influences banks profitability is essential not only for the managers of banks, but for numerous stakeholders such as the Central Banks, bankers' associations, governments, and other financial authorities (Ikpefan, 2013). Capital adequacy refers to the amount of equity capital and other securities which a bank holds as reserves against risky assets as a hedge against the probability of bank failure. Capital adequacy is used to determine whether a bank has enough capital to support the risk on its balance sheet. However, the assessment of capital adequacy for precautionary purposes is problematic at best due to rapidly changing economic and financial services environment (Agbeja, Adelokun & Olufemi, 2015). In 1988, Basel Capital Accord defined bank capital and distinguished between core (Tier 1) capital and supplementary (Tier 2) capital. Basel Committee introduced capital adequacy regulation in 1988, which required active banks to maintain a minimum capital equal to 8% of risk adjusted assets, with capital consisting of Tier I capital (equity capital and disclosed reserves) and Tier 2 capital (including long term debt, undisclosed reserves and hybrid instruments) and this has been adopted by more than 100 countries (Jacobson et-al., 2002). Financial institutions and banks must maintain a capital adequacy at specific minimum level in order to avoid risks and bankruptcy. On the other hand, Profitability is the ability to make profit from all the business activities of an organization. It shows how efficiently the management can make profit by using all the resources available at its disposal. Profitability is the ability of a given investment to earn a return from its use (Harward & Upton 1991). Without profits, no firm can survive and attract outside capital to meet its investment target in a competitive environment. Thus, profitability plays a key role in persuading depositors to supply funds in terms of bank deposits on advantageous terms. But

in Nigeria, low capitalization of banks made them less able to finance the economy and more prone to unethical and unprofessional practices. Soludo (2005) observes that many banks appear to have abandoned essential intermediation role of mobilizing savings and inculcating banking habit at the household and micro enterprise levels. Due to capital inadequacy of many banks in the country, they were faced with high cost of financial distress and this certainly affected profitability. Asedionlen (2004) opines that recapitalization may raise liquidity in short term but will not guarantee a conducive macroeconomic environment required to ensure high asset quality and good profitability. This paper therefore investigates the impact bank capital has on its profitability, ultimate viability and economic wide impact. This paper is expected to be beneficial to the banking industry as it may reduce the incidence of bank failures by ensuring that bank capital provision is sufficient to absorb possible losses, be a confidence booster and lead to stronger and more resilient banks that will aid economic growth and development. The paper would also be beneficial to bank regulators like NDIC which would be spared the hassle of stemming bank failure and its attendant consequences. To achieve the objective of this paper, the paper has been divided into five main parts. Part one, introduces the paper, part two, is the literature review, part three is methodology, part four is result and discussion of findings and part five is conclusion and policy recommendations .

2.0 Review of Literature

2.1 Theoretical Framework

In this study, financial economic theory, modern portfolio theory and agency theory were employed to guide this research.

2.1.1 Financial Economics Theory

Financial economic theory prescribes that a firm should take on a project when it increases shareholder value. Finance theory also shows that firm managers cannot create value for shareholders by taking on projects that shareholders could do for themselves at the same cost. When applied to financial risk management, this implies that firm managers should not hedge risks that investors can hedge for themselves at the same cost. This motion was captured by hedging irrelevance proposition. In a perfect market, the firm cannot create value by hedging a risk when the price of bearing that risk within the firm is the same as the price of bearing it outside of the firm (Modigliani & Miller, 1959). In practice, financial markets are not likely to be perfect markets. This suggests that firm managers likely have many opportunities to create value for shareholders using financial risk management. Bank managers have the onerous task of not only transforming short term liquid liabilities (deposits) into relatively illiquid assets in form of term loans but they try to minimize credit risk while maximizing profit at the same time.

2.1.2 Modern Portfolio Theory

Modern Portfolio Theory (MPT) was propounded by Markowitz (1952) which originated from the seminal academic work of Markowitz (1952). Modern Portfolio Theory introduced the concepts of the risk- return trade-off, correlations in returns of different assets, portfolio selection and investment optimization. This theory provides a prescriptive channel of investment choice by showing investor what is the best combination of available assets in a portfolio in order to maximize the total expected return for a given amount of risk, or, alternatively, in order to minimize the portfolio risk, for a given level of expected return. To banks which are the target of this study, this theory is relevant and important since risk management practices are indispensable for organizations that aim at sustaining customer and shareholder patronage. In the 90s, risk management was not seen as a central component of the operations of most organizations in Nigeria; rather, it was relegated to an office space at the corporate headquarters. Sanusi (2011) as cited in (Olusanmi, Uwuigbe & Uwuigbe 2015) said that confused risk management and corporate governance flaws constitute a major factor responsible for the financial crisis in Nigeria.

2.1.3 Agency Theory

Agency theory was propounded by (Smith & Stulz 1985). This theory extends the analysis of the firm to include separation of ownership and control, and managerial motivation. In the field of corporate risk management, agency issues have been shown to influence managerial attitudes toward risk taking and hedging (Smith & Stulz), 1985. Agency theory can be evaluated as highly relevant to risk management since it is concentrated mostly on the relationship between the CEO and the shareholders. The same theory

could be used to explain the internal control structure within a firm. There are different internal agents working under the CEO. The board members, top managers along with the internal agents create numerous agency relationships Frank,(2009). Assuming that the agent and principal are to maximize their interests, the agent will not always act in the favor of the principal. The agency theory is relevant to this study since the retention of public confidence, through the enthronement of good corporate governance and the establishment of a well-structured risk management system remains of utmost importance to the players and drivers in the financial industry, given the role of the industry in the mobilization of funds, the allocation of credit to the needy sectors of the economy, role in the payment and settlement system and the implementation of monetary policy.

2.2 Empirical Framework

A plethora of studies investigated the link between capital adequacy and bank performance for different countries. Umoru & Osemwegie (2016) examined capital adequacy and financial performance of banks in Nigeria. Their study examined the degree of significance of the capital adequacy ratio in influencing the financial performance of Nigerian banks by applying the feasible GLS estimator technique on the pooled panel model for the period of 2007 to 2015. Empirical evidence supports the overriding impact of capital adequacy in enhancing the financial performance of Nigerian banks. Nevertheless, the impact of the estimated capital adequacy is below 30%. The policy stance of the result holds that depositor's money in the banking sector has not been absolutely assured. Hence, the deposit money banks might not be able to meet their liabilities and risk preference.

Alkadmani (2015) examined the impact of capital requirements on bank risk-taking during the recent financial crisis, using the simultaneous equations model. It also explored the relationship between capital and risk decisions and the impact of economic instability on this relationship. By analysing the data of 46 commercial banks between 2004 and 2014 from four Middle East countries, the study concludes a positive effect of regulatory pressure on bank capital and bank risk taking. The findings revealed also that banks close to the minimum regulatory capital requirements improved their capital adequacy by increasing their capital and decreasing their risk taking. Furthermore, the results showed that economic crisis positively affected bank risk reaction, suggesting that banks react to the impact of uncertainty by increasing their risk taking. Finally, the estimations show a positive correlation between banks profitability and increase in capital, indicating that profitable banks can more easily improve their capitalization through retained earnings rather than issuing new securities.

Aktas *et al*, (2015) evaluated the impact of bank-dimensional and environmental factors on bank's capital adequacy ratio in South Eastern European (SEE) region. Size, profitability (ROA), leverage, liquidity, net interest margin (NIM), and risk were used as bank-dimensional explanatory variables in a feasible GLS regression model. On the other hand, economic growth rate, inflation, real interest rate, Eurozone stock market volatility index, deposit insurance coverage, and governance indicator were added to the original model to control for environmental factors. Annual data from 71 commercial banks belonging to 10 different countries in the region for the period of 2007 – 2012 was used. This region mainly consists of the “transition economies” which are still experiencing the difficulties of turning into efficient market economies with high economic potentials. The results of the study showed that among the bank dimensional explanatory variables, size, return on asset (ROA), leverage, liquidity, net interest margin and risk have statistically significant effects in determining capital adequacy ratio (CAR) for the banks in the region. Among the environmental factors, economic growth rate, Eurozone stock market volatility index, deposit insurance coverage, and governance have statistically significant effects in determining CAR for the banks in the SEE region.

Agbeja, Adelokun & Olufemi (2015) investigated capital adequacy ratio and bank profitability in Nigeria using a linear approach. Their study examined whether or not capital adequacy ratio affects bank profitability. It also analysed the effect of loans and advances on bank profitability as well as the impact of capital adequacy ratio on banks' exposure to credit risk. The study utilized secondary data covering five years financial statement taking case studies of five selected commercial banks. The positive and significant relationship between capital adequacy and bank's profitability suggested that banks with more equity capital are perceived to have more safety and such advantage can be translated into higher profitability. The

higher the capital ratio, the more profitable a bank will be. It was recommended that there should be a constant review of minimum capital requirement of deposit money banks in Nigeria to the optimal level and Nigeria banks should be capitalized to enable them enjoy access to cheaper sources of funds with subsequent improvements in profit levels. This would go a long way in helping the public maintain confidence in the banks with the latter acquiring corresponding enablement to accommodate the credit needs of customers and safeguard depositors' funds.

Olalekan & Adeyinka, (2013) investigated capital adequacy and banks' profitability: an empirical evidence from Nigeria. Their paper presented primary data collected by questionnaires involving a sample of 518 distributed to staff of banks with a response rate of 76%. Also published financial statement of banks were used from 2006 - 2010. The findings for the primary data analysis revealed a non-significant relationship but the secondary data analysis showed a positive and significant relationship between capital adequacy and profitability of banks. This implies that for deposit-taking banks in Nigeria, capital adequacy plays a key role in the determination of profitability. It was discovered that capitalization and profitability are indicators of bank risk management efficiency and cushion against losses not covered by current earnings. Ejoh & Iwara (2014) empirically assessed the impact of capital adequacy on Deposit Money Banks' profitability in Nigeria, taking a case study of five selected banks. The empirical analysis covered the period from 1981 to 2011. The data for the study were obtained from secondary sources including the financial statements of the selected banks and Central Bank of Nigeria (CBN) statistical bulletin. The study adopted the Engle and Granger two steps procedure in co-integration. The study revealed that capital adequacy plays an important role in explaining banks Returns on Assets (ROA) which is a measure of banks' profitability. The positive and significant relationship between capital adequacy and banks' profitability suggest that banks with more equity capital are perceived to have more safety and such advantage can be translated into higher profitability.

Ikpefan (2013) investigated capital adequacy, management and performance in the Nigerian commercial bank (1986 - 2006). The objectives of their paper were: to determine to what extent bank capital adequacy ratios impact on bank performance and also to investigate the extent to which operation expenses has impacted on the return on capital. The study captured their performance indicators and employed cross sectional and time series data of banks obtained from Central Bank of Nigeria (CBN) and Financial statements of the sampled banks. The formulated models were estimated using ordinary least square regression method. The overall capital adequacy ratios of the study shows that Shareholders Fund/Total Assets (SHF/TA) which measures capital adequacy of banks (risk of default) have negative impact on ROA. The efficiency of management measured by operating expenses index is negatively related to return on capital. The implication of this study, among others, is that adequate shareholders fund can serve as a veritable stimulant in strengthening the performance of Nigerian commercial banks and also heighten the confidence of customers especially in this era of global economic meltdown that has taken its toll in the Nigerian financial system.

2.3 Nigerian Experience

The financial performance of most of the banks in Nigeria over the some years has been unimpressive. The case in point is the fact that the profit before tax (PBT) of the banking system in Nigeria oscillated between 2000 and 2005, and has since 2006 declined progressively. The PBT which was 80.8 percent in 2000 reduced with a loss value of 13.95% (Abreu and Mendes, 2002). Even when the PBT peaked at 287.62 percent in 2007, it further declined to 49.14 percent in 2008 (Obamuyi, 2011). By intuition, the environment for Nigerian banks to make profits is sinking. The decline in profits could be attributed to the worldwide economic crises although the in 2005, the Central Bank of Nigeria (CBN) increased the lowest amount of capital that is required by banks to stay in business to N25 billion (Somoye, 2008). So, taking the footsteps of Tomola (2013), it appears that Nigerian banks are yet to come to terms to realizing optimal capital structure.

In their research, Somoye (2008), Osuka and Richard (2013) ascertained that asset quality has no link with capital base of the Nigerian banks. Dore (2013) found that capital adequacy and liquidity of banks are negatively associated with bank profitability. Obadan (2004) opined that there are other critical factors, which combined with capital adequacy, would guarantee a healthy banking sector. According Oluitan

(2004), “Capital inadequacy has affected the financial health of banks. He explained that an analysis of bank capitalization revealed that as at the end of 1992, almost all banks (120) operating in Nigeria required additional capital totaling N0.6billion to support their volume of trading. This amount was the variance between the amount stipulated by the monetary authorities for prudential minimum capital and the aggregate capital outlay. By 1993, this variance further deteriorated to N9.1 billion”. This problem of inadequate capitalization has forced the Central Bank of Nigeria to stipulate minimum capitalization requirement for Nigerian banks as can be seen from the table below

Table 2.1

Minimum bank capital requirements for various periods

Year	Existing banks	New banks
2000	N500million	N1Billion
2002	N1Billion	N2Billion
2005	N25billion	N25Billion

Source; Authors extract from CBN bulletins

The capital adjustment of the years preceding 2004, were not drastic but strengthened the banking system as financially handicapped applicants for bank license could not qualify and existing banks were giving sufficient time to adjust to the higher capital requirements. But it has been widely argued that the reforms initiated by the CBN in 2004, particularly, raising the bank capital from mere N2 billion to N25 billion had tremendous impact on the banking industry and the economy at large.

3.0 Methods

The research design used in this study is quantitative research design; this was based on data from the financial statements obtained from six sampled Nigerian banks namely; Gtbank, first bank, FCMB, Access Bank, Zenith bank and Unity bank from 2011 to 2015. Convenient and purposive sampling technique was adopted. The choice of these banks was informed by the reality that most of the banks in the sample may be described as peers considering their operational visibility. Econometric analysis was employed to determine the nature of the relationship existing between banks profitability (NI) as the dependent and the independent variables consisting of banks total assets (TA), bank deposit (BD), shareholders fund (SE), loan and advances (LA) and size effect (SIZEF) as the explanatory variables. Share holders’ fund is used as proxy for capital adequacy and other explanatory variables are control variables. A panel regression analysis involving consistent fixed effect estimates, efficient random effect estimates and hausman test was carried out.

3.1 Model specification

The model is specified as follows

Banks profitability (NI) is the dependent variable and the independent variables consisting of banks total assets (TA), bank deposit (BD) shareholders fund (SE), loan and advances (LA) and size effect (SIZEF) are the explanatory variables. Size effect is used to distinguish between big and small banks with aid of dummy variable. Management role in the bank involves assets and liability management and the relevant theory in the model building involves the modern portfolio theory by Markowitz (1952) as discussed in theoretical framework.

Using regression modeling technique we have

$$NI = f(TA, BD, SE, LA, SIZEF)$$

The regression model will be

$$NI_{it} = \beta_0 + \beta_1 TA_{it} + \beta_2 BD_{it} + \beta_3 SE_{it} + \beta_4 LA_{it} + \beta_5 SIZEF + U_{it}$$

Where

TA= Banks total assets

NI= Profit After Tax /Total asset

BD= Bank deposit/Total assets

SE= Shareholders fund/Total assets

LA= Loan and advances/Total assets

SIZEF=Size effect

B_0 = Constant

B_1 - B_5 = Co-efficient

U = error term, representing factors other than those specified in the model

i = number of firms showing the cross sectional dimension of the data

t = number of time periods showing that it involves time series data.

A priori **Specification:** the expected signs of the coefficients of the explanatory variables are:

$b_1 > 0$, $b_2 > 0$, $b_3 > 0$, $b_4 > 0$, $b_5 > 0$.

4.0 Results

4.1.1 Descriptive Statistics of the variables in the model

Table 4.1 Summary Result of the descriptive statistics

Variable	Observation	Mean	Std. Dev.	. Minimum	Maximum
Lni	30	12.07691	.3852687	11.22206	12.62284
Lta	30	14.36239	.4911558	13.30738	15.11655
Lbd	30	13.92739	.4911046	12.92558	14.76364
Lse	30	12.31683	.2739936	11.79499	12.91314
lla	30	13.44983	.6403769	12.30459	14.52693

The result of the summary statistic in table 4.1 shows that from the total of 30 observations analyzed, the average growth of the banks net income, total asset, bank deposits, shareholders equity and loan and advances are, 12.07691, 14.36239, 13.92739, 12.31683, 13.44983 percent respectively. It could therefore be observed that total banks assets has the highest average growth while banks net income indicates the lowest growth rate within the period covered by this study. The standard deviation 0.3852687, 0.4911558, 0.4911046, 0.2739936, 0.6403769 for the banks net income, total asset, bank deposits, shareholders equity and loan and advances indicates that the banks' loan and advances with an average growth of 13.45 percent exhibits the highest variability among the variables considered. The Min and Max values shows the minimum (11.22206, 13.30738, 12.92558, 11.79499 and 12.30459) and maximum scores (12.62284, 15.11655, 14.76364, 12.91314, and 14.52693) for banks net income, total asset, bank deposits, shareholders equity and loan and advances. This implies that banks asset base is associated with the highest range of values while their net income portrays the lowest range of values.

4.2 Presentation of Regression Results

The hausman test was employed to determine between the fixed and random effect estimates and the result is shown in table 4.2 below;

Table 4.2 Hausman Test to facilitate choice between fixed and random effects

Variables	Coefficients (b) Fe	Coefficients (B) Re	(b-B) Difference
Lta	.8318491	.7325409	.0993082
Lbd	-.2356606	-.0519087	-.1837519
Lse	-.0352922	.0304025	-.0656947
lla	.1291761	.0713854	.0577907
sizef	.0066216	-.006686	.0133076

Source: Author's Compilation 2017

b = consistent under H_0 and H_a ; obtained from xtreg

B = inconsistent under H_a , efficient under H_0 ; obtained from xtreg

Test: H_0 : difference in coefficients not systematic

$\chi^2(5) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 14.52$

Prob>chi2 = 0.0126

Table 4.3 Long run co efficient Estimates based the fixed effect

<i>Variables</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>z</i>	<i>P> z </i>	<i>[95% Conf. Interval]</i>
TA	.8318491	0.1546146	5.38	0.000	0.5093286 1.15437
BD	-.2356606	0.1642378	-1.43	0.167	-0.5782547 0.1069334
SE	-.0352922	0.0885692	-0.40	0.695	-0.2200444 0.1494599
LA	.1291761	0.0571736	2.26	0.035	0.009914 0.2484381
SIZEF	.0066216	0.0706432	0.09	0.926	-0.1407375 0.1539808
<i>Cons</i>	2.105907	1.275255	1.65	0.114	-0.5542291 4.766044

$F(5,20) = 64.91; corr(u_i, Xb) = 0.1854 \quad Prob > F = 0.0000$

Source: Author's Compilation 2017

The long run estimated coefficients of the model are as presented in table 4.3 above. In the model banks net income (NI) the dependent variables is expressed as a function of banks total asset (TA), bank deposit (BD), shareholders' equity (SE), loan and advances (LA) and size effect (SIZEF) as the explanatory variables.

4.3 Discussion of Results

The result of the F-statistic (5, 20; Probability>F=0.0000, =64.19) with level of significance at 1 percent suggests the statistical significance of the entire bank profitability. The overall explanatory power for all the banks combined (R-squared = 0.9242) result further reveals that 92.42 percent of the total variations in bank profitability were explained by the captured exogenous factors in the model; hence the model is of good fit. The explanatory power of the mode between the banks was 89.2 percent while the explanatory power within the bank was 94.2 percent. The hausman test (table 4.2) for the fixed and random effect co-efficient reveals that fixed effect co-efficient estimates are more consistent than the random effect estimate and hence, the fixed effect result is preferred to random effect in this analysis.

Table 4.3 shows the relationship between banks total assets, bank deposits, shareholders fund, loan and advances and profitability of deposit money banks in Nigeria. Also the effect of capital adequacy on profitability was examined with respect to small and large banks. The distinction was made between small and large banks. An average total assets was calculated for the sampled bank. The banks with total assets below average were categorized as small banks while the banks with asset base above average were categorized as large banks. The groupings were however captured with the introduction of dummy variables for these banks. Analysis of the result shows that the asset base of the banks was the most significant factor that determines the profitability of the banks. A significant positive relationship was observed between banks asset base and the profitability of the banks at 1 percent significant level. A percentage change in banks asset base brings about 0.83 percentage change in banks profit.

Though bank deposits and shareholders' equity reveal an inverse relationship with the profitability of the banks, these parameters were not significant enough. Further evidence from the study shows a significant contributory effect of loans and advance towards profit maximization at 5 percent significant level. This implies that loan and advances if well managed will help to boost the net income of the banks and thus could be considered a significant determinant of the profit maximization of the banks. This finding is consistent with proposition of Modiglianni and Miller (1952) which concluded that the profitability of a business is influenced by the quality of the assets (investment) and not by how such investment is financed (liabilities and capital). This assertion underlies the capital structure irrelevancy theory.

Hence, it could be seen that the banks' asset base plays a dominant role in determining the profitability of the banks and this asset is mostly represented not only by the size of loans and advances but the quality of loans granted. The result further shows that capital adequacy has negative and insignificant impact on bank profitability. This can be explained from the fact bank capital plays a confidence boosting and financial risk mitigating role and is not likely to have a direct effect on profitability. Further bank size has positive effect on profitability though not significant. This size effect is understandable given that the selected bank are not significant different in size.

5.0 Conclusion

This study has examined the impact of capital adequacy on profitability of Nigerian deposit money banks and it revealed that capital adequacy relates negatively to profitability of banks though this is not significant. This result is not to be interpreted that capital is not important in the bank but that it is not an earning asset but a confident booster for depositors while mitigating the effects of credit risk exposure. As pointed out by Modigliani and Miller,(1952) in their capital structure irrelevancy hypothesis the source of earning comes from the quality of assets (investment) and not the nature of liability (financing). It can be observed from the descriptive statistics in table 4.1 that the sampled banks are well capitalized as the average capital adequacy ratio was 12.317 percent and the minimum and maximum capital adequacy figure were 11.795 and 12.913 percent both which are above the 8 percent tier 1 risk capital recommended by the basle accord 1of 1988. This is even more so as risk capital captured in this study is wholly equity capital. It can be concluded that most Nigerian banks are adequately capitalized especially banks in operation since 2009 upwards. However, the banks need to continue to improve on their capital base while critically reducing their credit risk exposure to the lowest level possible. This finding is at variance with most the previous studies especially does cited in this study but is line with the theoretical conclusion of Modigliani and Miller (1952).

5.1 Recommendations

It is therefore recommended that the regulatory authority should ensure that the gains of the banking reforms processes are sustained and should take more decisive measures aimed at tightening the risk management framework of the Nigerian banking sector as this will have a positive effect on the their profitability.

Regulators and bankers should take a broader view of the costs that are relevant and associated in setting the strategy for establishing an adequate level of capital requirements. From the bank stockholders' viewpoint, capital is to earn a reasonable and satisfactory rate of return. This can only happen if depositors are assured of their deposit through effective loan recovery strategy and adequate capital provision. Any feasible and practical standard for measuring capital adequacy should be expressed in terms of the benefit to bank and also in the public interest.

Banks should maintain a significant and adequate level of capital to avoid bank failures and boost depositors' confidence. There should be a constant review of minimum capital requirement of deposit money banks in Nigeria in order to maintain an optimal level of capital consistent with bank size and risk exposure of each bank.

6.0 References

- Abadan, M., (2004). Foreign direct investment in Nigeria, an empirical analysis: <http://doi.org/10.2307/523993>.
- Abreu, M. & V. Mendes, (2001). Commercial banks' interest margins and profitability, evidence from E.U. Countries, Porto Working Paper Series available at <http://www.uf.uk/paper/Abreu.pdf>.
- Agbeja, O. Adelakun, O. J., & Olufemi, F. I. (2015). Capital adequacy ratio and bank profitability in Nigeria: a linear approach. *International Journal of Novel Research in Marketing Management and Economics*, 2 (3), 91-99.
- Aktas, N., E. Croci & D. Petmezas, (2015) Is working capital management value enhancing? Evidence from firm performance and investments, *Journal of Corporate Finance*, pp 98-113.
- Alkadamani, K. (2015). Capital adequacy, bank behavior and crisis, evidence from emerging economies, *European Journal of Sustainable Development* Vol 4. No. 2

- Asegiolun, (2004). For the economic and financial interest of Nigeria. *Nigerworld*, 1(2),
- Asika N. (2012). *Research Methodology in the Behavioural Sciences* Lagos: Learn Africa Plc Publication.
- Athanasoglou, P., Brissimis, S. and Delis, M. (2006). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Money and Finance*, 19(6), 813-832.
- Dore, M. (2013). *An empirical analysis of bank profitability in Ghana: Evidence from bank specific and macroeconomic factors*. Eastern Mediterranean University (EMU).
- Ejoh, N & U. Iwara, (2014) The impact of capital adequacy on deposit money banks' profitability in Nigeria, *The Research Journal of Finance and Accounting*.
- Frank, D., (2009) *Inventing equal opportunity*, Princeton NJ, Princeton University Press-Google Scholar
- Harward, P. & Upton, A. (1991). *Introduction to business finance*. New York; Mc Graw Hill.
- Hassan, M. K. & Bashir, A. H. M. (2003). Determinants of islamic banking profitability, in the 10th ERF Annual Conference. Morocco, December 16-18
- Ikpefan O. A., (2013). Capital adequacy, management and performance in the Nigerian commercial bank (1986 - 2006). *African Journal of Business Management*. 7 (30), 2938-2950.
- Jacobson, T., J. Linder & K. Roszbach, (2002). The IRB approach in the basel committee proposal for new capital adequacy rules, some simulation based illustration, *Economic Reviews* 4, pp 3-72
- Markowitz, H. (1952). Portfolio Selection, *The Journal of Finance*, Vol 7, No. 1. Pp 77-91
- Modigliani, F & M. Miller, (1958). The cost of capital, corporate finance theory and the theory of investment, *the American Economic Review*, pp 261-296.
- Obamuyi, T. M., (2011): Incessant bank distress and the policies of central bank of Nigeria. *International Journal of Finance and Accounting*, 1(1), 121 – 13.
- Okafor, C., Ikechukwu, K. & Adebimpe, U. (2010). The Effect of capital adequacy on banks' performance. *African Journal of Business Management*, 1 (1), 1-17.
- Olalekan, A. & Adeyinka, S. (2013). Capital adequacy and banks' profitability: An empirical evidence From Nigeria. *American International Journal of Contemporary Research*. 3 (10), 87-93.
- Olsanmi, O., Uwuigbe, U. & O. Uwuigbe, (2015) Effects of risk management on bank's financial performance in Nigeria, *Journal of Accounting, Research & Practice* p 1-71
- Osuka, B. O., & Richard, O.C., (2013): The Determinants of financial performance of quoted banks in Nigeria: a study of selected deposit money banks (DMBs) (2001-2010). *International Journal of Education and Research*, 1(10), 1-18.
- Rivard, R. J. & Thomas, C. R. (1997). The effect of interstate banking on large bank holding company profitability and risk. *Journal of Economics and Business* 49(1): 61-76.
- Saunsi, L. S. (2010). The Nigerian banking industry: What went wrong and the way forward. Being an address delivered at the convocation Square.
- Smith, C. & R. Stulz, (1985), The determinants of firms' hedging policies, *Journal of Financial and Quantitative Analysis*, pp 391-405
- Soludo, C., (2005). 25billion naira capitalization, the journey so far and its likely implication for a Nigerian economy. <http://www.nigeriabusinessinfo.com>
- Somoye, R.O.C., (2008). The performance of commercial banks in post consolidation period in Nigeria: an empirical review. *European Journal of Economics, Finance and Administrative Sciences*, 14(1), 62-73.
- Tomola, M., (2013). Determinants of bank's profitability in a developing economy: evidence from Nigeria, *Organization and Markets in Emerging Economies*, Vol 4, No2 (8) pp 97-111
- Umoru, D. & Osemwegie, J. O. (2016). Capital adequacy and financial performance of banks in nigeria: empirical evidence based on the fgls estimator. *European Scientific Journal September 2016 edition*. 12 (25), 295-305.