Evaluation of the Financial Performance of Deposit Money Banks in Nigeria (2001 – 2014)

Richard Osadume, FCIB, PhD
Dept. Marine Finance & Economics,
Nigeria Maritime University,
Warri South, Nigeria
richdume@yahoo.com

Steve Ibenta (Ph.D)
Dept. Banking & Finance,
Nnamdi Azikwe University,
Awka, Nigeria
steveibenta@yahoo.com

Abstract
The Financial Performance of banks has remained a source of concern for various users of financial statements saddled with making key economic and financial decisions. This paper evaluated the Financial Performance of Deposit Money banks in Nigeria: A study of selected quoted banks covering 2001 – 2014. The objective of this study was to assess the impact of Capital adequacy, Asset Quality and liquidity on the financial Performance of selected banks in Nigeria. Secondary sources of data used were collected from the audited financial reports of the respective banks. The study used the Unit root test, OLS, Co-integration and Granger Causality method to test and analyse the secondary data obtained from the bank's annual publications at the 10% level of significance and the findings showed that: Financial Performance of selected Nigerian banks had significant relationship with Capital Adequacy, Asset Quality and Liquidity both in the short and long term; Also, none of the variables Granger Caused each other. The paper concludes that Capital adequacy, Asset Quality and Liquidity have significant effects on the Financial Performance of banks and recommends among others that Net Profit should not be the only basis for evaluating the Performance of Deposit Money Banks; and Bank Managers as well as Regulatory Authorities should adopt globally accepted standards for evaluating bank's capital Adequacy, Assets Quality and Liquidity levels periodically. This will help to enhance investment planning, decision making within the financial system and early prevention of systemic bank distress.
JEL Classification: F15 Financial Analysis and Reporting: Finance

Key words: Financial Performance, Capital Adequacy, Asset Quality, Net liquidity.

Introduction
1.0   Background of the Study
The Central bank of Nigeria's resolve to carry out reforms in the banking sector was borne out of the past experience of the nation's banking industry. Between 1994 and 2003 a space of nine years, no fewer than 36 banks in the country closed shop due to insolvency. In 1995, four banks were closed down. But 1998 may go down well in history as the saddened year for the banking industry as 26 banks closed shop that year. Three terminally ill banks also closed shop in 2000 while in 2002 and 2003 at least one bank collapsed. The failed banks had two things in common – small size and unethical practices. Of the 89 banks that were in existence as at July 2004, when the banking sector reforms were announced, no fewer than 11 of them

were in a state of distress.
The objective of this study is to evaluate the financial performance of quoted banks using their Capital Adequacy, Asset Quality and Liquidity positions.

1.1   Statement of the Problem

The lesson to learn from the distress in the banking industry was that profitability alone does not determine the yardstick for financial performance of banks. The deficiency of profitability as a measure of financial performance led to the use of **CAMEL** which is an acronym for capital adequacy, Asset quality, Management, earnings and Liquidity by Monetary authorities. Since the introduction of **CAMEL**, the banking industry has improved tremendously with respect to their financial performances.

Numerous researchers have investigated on the subject of banks financial Performance over the years with a lot of inconclusiveness on what should constitute a Financial Performance evaluation basis for banks, some of which include;

Hempel and Simonson (1999), investigated on the Financial Performance and management efficiency of Banks in Taiwan using ROA. From their findings, they concluded that profitability measured using ROA had significant relationship with Financial Performance of banks.

Ahmed and Hassan (2007), studied the impact of Asset quality, Capital ratios, Operational ratios and Liquidity ratios on Financial Performance of Islamic Banks in the middle East between 1994 and 2001. Their findings revealed that Capital Adequacy and Liquidity had significant impact on the Financial Performance of Islamic Banks.

Kumbirai and Webb (2010), investigated the use of ratios in determining the Financial Performance of banks in South Africa between 2005 and 2009. The research work revealed that Profitability (measured by ROA and ROE) had significant relationship with Financial Performance. However, that liquidity and Asset Quality does not have significant relationship with Financial Performance.

Dufera (2010), investigated the Financial Performance of the first private commercial bank in Ethiopia between 2003 and 2009 using liquidity, profitability, credit risk, solvency and efficiency employing financial ratios method. The researcher compared results with industry averages and findings revealed that of all the variables, only profitability had a significant relationship with Financial Performance.

Chaudhuri and Chowdhury (2012), Investigated on Financial Performance Evaluation-A structural Equation approach using multiple indicator, multiple cause (MIMIC) variable model. The researchers discovered that only Liquidity in both Public and Private bank has significant relationship with Bank Performance.

Osuka and Osadume (2013), researched on the determinants of Financial Performance of selected money deposit banks in Nigeria between 2001 and 2010 using SPSS regression method. Their findings showed that capital adequacy, Asset quality and Employee motivation had significant relationship with Financial Performance.

Mengistu (2015), Evaluated the Financial Performance of the banking sector in Ethiopia using one bank study covering 2009 to 2014 and used financial ratios and descriptive statistical Analysis. The researcher discovered that Profit earnings and Asset Quality alone significantly affected Financial Performance of Banks.

The problem being studied here is why are majority of these banks that appeared profitable on paper with robust published statement still going distressed and liquidated? The question that now comes to light is what was the basis of evaluation of these banks financial

statements during the period of their existence? What is the basis of banks financial performances? Is it shareholders' funds and trading capitals? Is it Asset quality? Is it their deposit volumes? Etc.

The above referenced research works present empirical gaps which forms the motivation for this work, and includes;

1. The works consulted so far focused on only short term relationships that affect Financial Performance; No long run relationship was tested.
2. The results obtained on the variable relationships in most cases, were neither consistent nor conclusive.
3. A causal relationship was not established between the dependent and the independent variables. In some cases, there were no clear demarcation between Dependent and Independent variables.
4. The statistical tools and methods adopted were not dynamic and robust enough to show the nature of relationship between the variables.

The motivation to fill above gaps necessitated these studies - To determine a generally acceptable basis for evaluating the Financial Performance of deposit money banks following the shortcomings of single   Profitability evaluation method.

1.2   Objectives of the Study

The main objective of this study is to determine a suitable basis for evaluating the Financial Performance of Deposit Money Banks. This is further divided into the following, namely:

1. To determine the impact of capital adequacy, Assets Quality and Liquidity on bank performance.

2. To Ascertain if long-run relationships do exist between the dependent and Independent variables.

3. To determine if there is a Causal Relationship between the Dependent and the Independent variables.

1.3   Research Questions

Our study seeks to answer the following questions:

1. To what extent does Capital Adequacy, Asset Quality and Liquidity affect the Financial Performance of Quoted Banks in the short-run?

2. Is there a long-run relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance?

3. Is there a Causal relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance?

1.4   Research Hypothesis

This study is to be guided by the following hypotheses.

HO1: Capital Adequacy, Asset quality and Liquidity of quoted Banks have no significant relationship   with financial performance.

Ho2: There is no long-run relationship between Capital Adequacy, Assets Quality, Liquidity and   Financial Performance.

HO3: There is no Causal relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance.

1.5   Significance of Study

This research amongst other things is expected to:

1. To enable the researcher show that adequate capital, maintenance of high quality

performing assets and high volume low cost deposits constitutes major determinant of the financial performance of banks.

2. To encourage bank regulators and the government, to develop appropriate capacities and put in place adequate structures to guide and monitor excellent performance and safety of the financial system.
3. To guide investors on key parameters to be adequately considered in undertaking investments prepositions in financial institutions.
4. To serve as knowledge bank and reference on financial performance analysis for prospective researchers and students of the banking and finance discipline.
5. To educate bank operators and officials on what to focus on in order to grow the financial performances of their various institutions

1.6   Scope of the Study

The study will only concentrate on selected quoted Banks and their activities for the period (2001 – 2014). Also, this study shall be limited to investigating the relationship between Financial Performance (Dependent variable) and the independent variables namely – Capital Adequacy, Assets Quality and Liquidity.

We shall limit our study sample to three (3) banks from a population of twenty-three (23) Banks in Nigeria as at the time of this work. The selected quoted Banks under study are: First Bank of Nigeria Plc (FBN); United Bank for Africa Plc (UBA) and Zenith Bank Plc.

This study is organized into five sections as follows: Section one covers Introduction, Statement of Problem and Research Hypothesis; Section Two is Review of Related Literature; Section Three is Data and Research Methodology; Section Four deals with Data Presentation and Analysis while Section Five is Summary, Conclusion and Recommendations.

Section Two
2.0   Review of Related Literature
2.1   Conceptual Review

Banks play a vital role in the economic life of every nation and acts as an agent of development in mopping up funds and other resources from the surplus segment of the economy and making them available in the deficit areas, thereby ensuring even developmental spread. The relevance of the financial sector is justified by the fact that they not only provides the intermediation used in pooling funds from savers but at the same time redirects them to investors. It also provides the payment system that facilitates trade and exchange. The financial system also provides a platform for the working out of the monetary policies which provides macroeconomic stability for all economic agents (Adegbite, 2005).

This considers some key concepts and terminologies relevant to the study of Financial Performance of Banks.

2.2   Bank Performance

The significant changes that have occurred in the financial sector of developing economy like Nigeria have increased the importance of performance analysis of modern banks.

Casu et al (2006) observed that performance analysis is an important tool used by various agents operating either internally to the bank or who form part of the bank's external operating environment. This is why investors in shares and Bonds issued by banks consider the investment outcome before forming an opinion about the ability of its management.

A good means of measuring the performance of banks and other business organisations is the financial analysis.

Financial analysis is therefore, the process of identifying the financial strengths and weaknesses of a firm by properly establishing relationship between the items of the balance Sheet, the profit and loss account (Abdulkadir, 2007)

Another major yardstick for measuring performance in the banking industry is the CAMEL approach. This approach is equally used by the monitoring authority to assess the level of performance of banks, before making any pronouncement on their soundness, solvency and liquidity position. The acronym CAMEL means:

C= Capital Adequacy
A= Assets
M= Management
E= Earning
L= Liquidity

This serves as a major tool for assessing solvency level of banks by the monitoring authority.

2.2.1 Liquidity as a Measure of Bank Performance

Liquidity is defined by Nwankwo (1991) as being able to meet every financial need as at when due, whether it is withdrawal from a current account, maturing Euro or a maturing issue of commercial paper. Adequate liquidity is a sine qua non for banking, thus the need for liquidity planning for the operation of all financial institutions.

Nwankwo (1991) evaluated a comprehensive measurement criterion for bank liquidity.

Liquidity can be measured either as a stock at a point in time or as a flow. The most widely used measures are derived from the stock approach. Examples are:

A. Loan – Deposit ratios – All Banks loan are lumped together on the basis that they are the most liquid of all Bank assets. They then compare with the total bank deposit as a proxy for liabilities. A rise in this ratio implies a less liquid position and a fall implies a strong liquid position.

B. Loan to Liability Ratio – This has the merit in recognizing liabilities other than deposit, it can represent a potential drain on bank funds.

C. Liquid Assets Ratio – Assets are selected on the basis of their liquidity whether they are loans or investments.

D. Cash Ratio – Ratio of cash to total deposit, liquid assets are related directly to deposit, rather than loans and advances.

Functions of Bank Liquidity

Nzotta (2004) noted the following as functions of liquidity for the banking system to include:

i) Liquidity is needed for profitable operations, especially to sustain the confidence of depositors, it helps in meeting short run obligations and helps to keep the doors of the bank open and also avoid run on the bank.

ii) Liquidity is also necessary as a risk management measure. The various risks inherent in banking can be better managed with adequate liquidity.

iii) Adequate liquidity is also important to assist a bank to source for new funds and thus honour maturing obligations. This help to meet upsurge in borrowing and new opportunities as well as undertake new lending.

iv) Liquidity generates and sustains public confidence in the solvency of the bank

v) It helps to avoid forced sale of assets at unfavorable market conditions and at heavy losses.

vi) It helps to avoid involuntary borrowing from the discount window or from the

central Bank of Nigeria.

2.2.2 The Deposit Structure of Banks
According to Nzotta (2004), Banks generally mobilize deposits from the general public (individuals, businesses, government, parastatals, non-profit organizations etc) as part of their intermediation roles. The deposit structures of banks include:
- **i)** Demand Deposit (Current/Checking Account)
- **ii)** Savings Deposit
- **iii)** Time Deposits

2.2.3 Deposit Mobilization
Nzotta (2004) noted that: The ability of a bank to attract deposits is influenced by some of the following factors includes its quality of personnel, management, banking Hall, level of automation and technology etc.

2.2.4 Sources of Bank Liquidity
Nzotta (2004) noted that there is no particular theory is insisted upon by a bank in managing its liquidity. He distinguished two principal sources as:
- **i)** STORED LIQUIDITY –This includes: cash and balances due to other banks, cash balance with CBN, Call money funds, Short term government securities, Commercial Papers, Acceptances, Negotiable Certificate of deposits etc
- **ii)** PURCHASED LIQUIDITY –This type of liquidity includes Borrowing from Central Bank of Nigeria through discounts or advances, call money held for other banks, Certificates of Deposits, Bankers unit fund, other liabilities such as Pension funds, large time deposits of government and investment funds.

2.2.5 Functions of Bank Capital
Bank capital serves three functions as follows:
- **i)** **Protective Functions:** Bank capital serves to protect the depositor against the risk of non-payment of deposits on demand.
- **ii)** **Regulatory Functions:** Nzotta (2004) maintained that a bank's capital resources help the supervisory authorities in assessing the adequacy of the bank's capital in relation to its loans and investments. The monetary authorities expect banks to comply with the requirements of having at least N25Billion paid up capital before a license is granted for operations.
- **iii)** **Operational Purpose:** This is essentially a secondary function. Bank capital is used also for the acquisition of various fixed assets of a bank including building, Technology and Equipments, fixtures and fittings. It also provides a buffer for absorbing occasional operating losses.

2.2.6 Factors Affecting Capital Adequacy
The following factors affect capital adequacy of a bank:
- **a)** Statutory requirements concerning initial capital requirement for licensing a bank.
- **b)** The regulatory requirements relating to issues like Loan-capital and risk-asset weighted ratios.
- **c)** Access to financial markets.
- **d)** The developments in the national and international environments.
- **e)** The ability and willingness of the central bank as lender of last resort to come to the rescue of banks in financial difficulty and thus prevent the bank from becoming distressed.

2.4   Theoretical Review

In evaluating performance of Banks there are some basic indicators that can be used such as the use of ratios and trend analysis, capital adequacy, asset quality earnings and liquidity.
This work is anchored on four basic under mentioned theories discussed below:

1.   Bank liquidity Theory
2.   Bank Capital Adequacy Theory
3.   Bank Asset Quality and earnings Theory
4.   Financial Ratios Analysis Theory

2.4.1   Theories of Bank Liquidity

Wood (1967), Nwankwo (1991**)**, identified five theories of Bank liquidity: namely the liquid assets theory, the Commercial bills theory, the Shiftability theory, and the anticipated income and liability management theories.

2.4.2   Commercial Loan Theory

According to Nzotta (2004), and Nwankwo (1991) this theory is also known as the real bills doctrine. It states that bank funds should principally be invested in short term, self-liquidation loans for working capital purposes, usually confined to financing the movement of goods through the successive states of production Cycle-production, transportation, storage, distribution and consumption.

2.4.3   Shiftability Theory

Nwankwo (1990) held that shiftability doctrine emphasizes the shiftability, transferability or marketability of bank assets as a more appropriate guide or criterion for investing bank funds.

2.4.4   Anticipated Income Theory

This emphasized the earnings power and credit worthiness of the borrower as the ultimate guarantee for earning adequate liquidity-Nzotta (2004).

2.4.5   Liability Management Theory

According to Nzotta (2004), this focuses on the liability side of the balance sheet for supplemental liquidity. The theory argues that since large banks can buy all the funds they need, there is no need to store liquidity on the asset side of the balance sheet.

2.4.6   Bank Capital Adequacy Theory

Banks like other Companies require Capital to function effectively. Banks are usually highly regulated and carry more highly risky assets and liabilities. The issue of what constitute adequate capital is a fact of long historical debate.
According to Nzotta (2004), Bank capital is the equity value of a bank equated to the present value of its future net earnings. Generally, it represents the owner's net worth in a bank and would include the paid in capital and all additions to the capital resources of the bank.

2.4.7   Composition of Bank Capital Funds

According toNzotta (2004), the sources of Bank Capital funds could be classified into two:

1.   **Primary Capital (First Tier Capital)** – This Consists Of
    i)   Paid-up Share capital
    ii)   General/Revenue Reserve
    iii)   Statutory Reserves

2. **Secondary (Tier 2 Capital)** – This Consists Of :
   i) Undisclosed Reserves
   ii) General Provisions or General loan loss reserves
   iii) Assets Revaluation Reserves
   iv) Share Premium Reserves
   v) Hybrid Capital
   vi) Subordinated Debt (Debentures)

2.4.8 Measurement of Bank Capital Adequacy

Capital adequacy is measured as a ratio of certain key balance sheet items such as; a) Total Capital/Total deposit (b) Total Capital to risk adjusted Assets. This is in recognition of the fact that capital funds provides cushion for losses arising from the risk in banking (c) Total Capital to total loans and advances (d) Total deposit to total long-term borrowings (e) primary capital to total capital. (f) Primary capital to dividend (g) Dividend to profit after tax. (h) Total capital to fixed asset.

2.4.9 Management of Capital Adequacy Problems

Capital adequacy challenges may be resolved by banks through the following ways:
   i) Issuance of more Shares -
   ii) Disposal of Fixed Assets
   iii) Retained Earnings
   iv) Sale and Lease Back Arrangement

2.5 Asset Quality Theory

Onoh (2002) was of the view that the quality of assets should constitute a major determinant of a bank capital adequacy and not the ratio of capital funds or shareholder's funds to deposit liabilities. The quality of assets should determine the degree of solvency or insolvency of a Bank. Onoh, maintained that the quality of assets held in a bank's portfolio is one of the indices for assessing the earning capacity of a bank and its relative liquidity position. A low ratio indicates high quality bank's assets portfolio while a high ratio indicates low quality asset portfolio.

Loan-Loss Ratio = $\dfrac{\text{Classified Loans and Advances}}{\text{Total Portfolio}}$

2.6 Financial Ratio

Financial ratio is the relationship between two accounting figures. It involves the analysis of financial statement of firms. (Reed et al,1980)

Nzotta (2004), identified four types of ratios used in financial analysis:
1. **Liquidity Ratios**: This measures the ability of the entity to maintain enough cash to meet immediate cash requirements, especially the payment of short-term obligations. This can be measured through:
   Current Ratio = Current Assets/Current Liabilities
   Acid Test Ratio = (Current Assets – Stocks)/Current Liabilities
2. **Asset Utilization Ratios**: These ratios measure the extent to which the entity has been able to use its assets to generate sales and income. They are also called activity ratios. Examples includes inventory turnover ratio, total assets turnover ratio, Average collection period etc.
3. **Debt Ratios**: These ratios deal with a company's long-term liquidity position. It measures the ability of a company to meet its long-term obligations as they fall due. This includes Debt/Equity ratio, Debt/Capitalization ratio, debt/total assets ratio.

4. **Profitability Ratios**: This set of ratios measure the profitability of the company. It measures the overall efficiency of the entity's management.

2.7 Empirical Review

Financial Performance of the banking sector is a major subject that has received much attention in recent years. Many studies have evaluated the financial Performance of banks under various operating parameters. It is generally agreed that better quality management of resources is the main factor contributing to bank performance, as evidenced by numerous studies that have focused on the U.S. banking system (De Young and Rice, 2004; Stiroh and Rumble, 2006; Bhuyan and Williams, 2006; Hirtle and Stiroh, 2007) and the banking systems in the Western and developed countries (Ho and Tripe, 2002; Williams, 2003; Pasiouras and Kosmidou, 2007; Kosmidou et al, 2007; Kosmidou and Zopoundis, 2008; Athanasoglou et al, 2007; Albertazzi and Gambacorta, 2008).

By contrast, fewer studies have examined bank Performance in developing economies. Hempel and Simonson (1999), investigated on the Financial Performance and management efficiency of Banks in Taiwan using ROA. From their findings, they concluded that profitability measured using ROA had significant relationship with Financial Performance of banks.

Guru et al (2002) investigated the determinants of bank Profitability in Malaysia. They used a sample of 17 commercial banks during the 1986 to 1995 period. The profitability determinants were divided into two main categories, namely the internal determinants (liquidity, capital adequacy and expense management) and the external determinants (ownership, firm size and economic conditions). The findings revealed that efficient expenses management was one of the most significant in explaining high bank Profitability.

Chantapong (2005) investigated the performance of domestic and foreign banks in Thailand during the period 1995 to 2000. All banks were found to have reduced their credit exposure during the crisis years and have gradually improved their profitability during the post-crisis years. The results indicate that foreign bank profitability is higher than the average profitability of domestic banks although importantly, in the post-crisis period, the gap between foreign and domestic bank profitability has closed, suggesting that the financial restructuring program has yielded some positive results.

Ahmed and Hassan (2007), studied the impact of Asset quality, Capital ratios, Operational ratios and Liquidity ratios on Financial Performance of Islamic Banks in the middle East between 1994 and 2001. Their findings revealed that Capital Adequacy and Liquidity had significant impact on the Financial Performance of Islamic Banks.

Kumbirai and Webb (2010), investigated the use of ratios in determining the Financial Performance of banks in South Africa between 2005 and 2009. The research work revealed that Profitability (measured by ROA and ROE) had significant relationship with Financial Performance. However, that liquidity and Asset Quality does not have significant relationship with Financial Performance.

Dufera (2010), investigated the Financial Performance of the first private commercial bank in Ethiopia between 2003 and 2009 using liquidity, profitability, credit risk, solvency and efficiency employing financial ratios method. The researcher compared results with industry averages and findings revealed that of all the variables, only profitability had a significant relationship with Financial Performance.

Chaudhuri and Chowdhury (2012), Investigated on Financial Performance Evaluation-A

structural Equation approach using multiple indicator, multiple cause (MIMIC) variable model. The researchers discovered that only Liquidity in both Public and Private Bank has significant relationship with Bank Performance.

Osuka and Osadume (2013), researched on the determinants of Financial Performance of selected money deposit banks in Nigeria between 2001 and 2010 using SPSS regression method. Their findings showed that capital adequacy, Asset quality and Employee motivation had significant relationship with Financial Performance.

Aremu et al (2013) investigated the determinants of bank's profitability in a developing economy using annual time series data spanning 1980 through 2010 by relying on co-integration and error correction methodology. They concluded from the studies that Capital Adequacy through Equity-to-Total Assets ratio significantly had a negative effect on bank's Profitability both in the long run and in the short run in Nigeria.

Mengistu (2015), Evaluated the Financial Performance of the banking sector in Ethiopia using one bank study covering 2009 to 2014 and used financial ratios and descriptive statistical Analysis. The researcher discovered that Profit earnings and Asset Quality alone significantly affected Financial Performance of Banks.

The above referenced research work presents empirical gaps which forms the motivation for this work, and includes;

1. The works consulted so far focused on only short term relationships that affect Financial Performance; and to the best of the researcher's knowledge no long run relationship was tested. Aremu et al (2013) that attempted this only looked at Capital Adequacy, which is considered insufficient for a robust evaluation of this nature. Hence in this study, we shall consider Capital Adequacy, Assets Quality and Liquidity as Independent variables of study.

2. The results obtained on the variable relationships in most cases, were neither consistent nor conclusive.

3. A causal relationship was not established between the dependent and the independent variables. The motivation to fill above gaps necessitated this study - To determine a generally acceptable basis for evaluating the Financial Performance of deposit money banks following the shortcomings of single Profitability evaluation method.

Section Three
3.0   Research Methodology
This section critically examines the methodology adopted. It deals with the research approach and procedures used in the study detailing the various steps adopted in the research.

3.1   Research Design
The ex-post factor research method was employed using quantitative secondary data obtained from the various bank's published financial statements. The unit root tests were conducted on the data obtained to confirm stationarity of the variables at levels; this was the preliminary tests meant to ascertain data stability.

3.2   Description of Data Analysis Technique
The statistical method to be applied in analyzing the data collected is regression analysis. According to Koutsoyonnis (1993), it is stated in the following form:

$$Y = B_0 + B_1X_1 + B_2X_2 + u$$

where B_1 and B_2 are parameters and are constant figures once estimated.

U = Disturbance or Error term

Parameter B is the value of Y when the value of X is zero. It is also the Y intercept while B is the slope of the regression line or the rate of change of the dependent variables as the independent variables change by one unit. Y is the dependent variable.

A 10% level of significance will be used in the hypothesis testing.

3.3   Model Specifications

The Risk index is yet another system for rating Banks. It was developed by FDIC from net income and dividends returns of Banks, Onoh (2002). This work is modeled after the work of Osuka and Osadume (2013) and Onoh (2002) with slight modifications using the Risk index model below.

The Risk index R of a Bank is presented in the following equation form:

R = a + b1x1 + b2x2 + b3x3 + b4x4 + b5x5 + b6x6 ---------- Eqn. 1

Where x1 = Primary capital to total assets (%);

X2 = loans and advances overdue by 90 days to total assets (%)

X3 = Non accruing loans and advances to total assets (%);

X4 = Renegotiated loans and advances to total assets (%);

X5 = Net loan charge offs (annualized) to total assets and

X6 = Net liquidity to total assets (%).

R = This is the proxy for Bank Performance, from the above equation 1 and also defined as the Risk Index and is the same as Return on Asset (ROA) and the dependent variable for this research work.

Essentially, the equation rests on the support of 3 core independent variables, i.e capital adequacy (X1), loans and advances (Asset Quality, -X2-X5) and Net Liquidity to assets X6. The loan quality of a Bank is a major determinant of the risk index. A bank will be regarded as healthy if its risk index lies below unity, i.e $R<1$. A risk index above unity, $R>1$, indicates a problem. To avoid possible multicollinearity in our data, the following variables shall be used as specified to represent our independent variables:

X_1 = Capital Adequacy

X_5 = Assets Quality

X_6 = Liquidity

Decision Rule: Accept Null if p-value is greater than 10% level of significance otherwise reject Null and accept Alternative Hypothesis that the relationship between the dependent and the independent variable is significant.

Section Four
4.0   Data Presentation and Analysis
Table 4.1: Assets, Captial and Liquidity of First Bank Nig Plc (2001- 2014)

YEAR	PC N'Million	TA N'Million	LAO N'Million	NALA N'Million	RLA N'Million	NLCO N'Million	NI N'Million	NL N'000				
2001	11,320	188,242	58,598	5,166		1,552	5,998	148,279				
2002	19,406	290,593	66,384	9,156		2,245	6,172	168,175				
2003	27,006	409,083	60,439	22,193		4,558	14,420	199,294				
2004	41,605	384,211	83,500	24,307		6,886	14,853	207,181				
2005	48,726	470,839	123,739	43,716	1,283	8,555	16,808	264,988				
2006	64,277	616,824	177,303	31,851	1,701	10,040	21,833	390,846				
2007	83,627	911,427	217,995	31,664	3,043	18,357	25,854	581,827				
2008	351,854	1,528,234	466,096	44,275	10,297	31,569	47,906	661,624				
2009	337,405	2,009,914	740,397	51,888	11,769	54,908	53,799	1,244,030				
2010	340,626	2,305,258	1,143,614	189,350	7,581	53,912	41,299	1,330,771				
2011	368,055	2,861,693	1,252,154	63,061	8,301	59,029	57000	1,951,321				
2012	441,315	3,226,367	1,541,377	45,992	10,790	77,069	2370	2,400,860				
2013	471,777	3,869,001	1,769,130	45,640	12,384	88,457	21600	2,929.081				
2014	522,891	4,342,666	2,178,980	40,692	15,253	108,949	25500	3,050,853				
TOTAL	**3,129,890**	**23,414,352**	**9,879,706**	**648,951**	**82,402**	**526,086**	**249,707**	**15,529,130**				

SOURCE: First Bank Plc, annual reports and accounts 2001 to 2014.

Notes
PC = Primary Capital
TA = Total Assets
LAO = Loans and advances Overdue by 90 days
NALA = Non-accruing loans and advances
RLA = Renegotiated loans and advances
NLCO = Net loan charge offs
NI = Net income
NL= Net Liquidity (Deposit Volume)

Comments: The above table shows impressive growth in primary capital, total assets, loans and advances and net income over the period 2001 to 2014. This result shows consistency and stability in performance by the bank.

Table 4.2 – Assets, Capital and Liquidity, United Bank for Africa Plc (2001–2014)

YEAR	PC N'Million	TA N'Million	LAO N'Million	NALA N'Million	RLA N'Million	NLCO N'Million	NI N'Million	NL N'Million		
2001	9,067	188,032	23,106	23,487	1,019	2,542	1,682	42,120		
2002	10,627	200,196	40,135	19,998	1,017	3,176	2,472	64,405		
2003	14,901	203,871	46,076	25,579	2,173	3,676	5,128	99,466		
2004	19,533	212,024	56,136	15,343	3,460	3,107	6,010	150,000		
2005	19,443	250,783	67,610	4,455	213,490	6,250	8,005	250,110		
2006	48,535	884,137	109,896	35,618	21	20,269	12,811	757,407		
2007	167,719	1,191,042	320,406	44,926	21	28,649	29,525	900,000		
2008	193,460	1,673,333	431,410	102,436	588	41,355	56,815	1,258,036		
2009	181,513	1,548,281	606,616	87,003	9,621	59,659	13,662	1,151,086		
2010	176,529	1,617,696	628,811	28,511	10,118	46,969	15,885	1,119,063		
2011	150,940	1,920,435	605,627	16,513	9,745	45,237	-1,121	1,216,464		
2012	192,467	2,272,923	658,922	18,598	10,603	49,419	55,530	1,461,131		
2013	235,036	2,642,296	637,620	30,436	10,260	47,822	53,702	1,797,376		
2014	265,406	2,762,573	1,071,859	30,057	17,257	80,839	45,345	1,812,277		
TOTAL	**1,685,176**	**17,567,622**	**5,304,230**	**482,960**	**289,393**	**438,969**	**297,446**	**10,763,941**		

SOURCE: United Bank for Africa Plc, annual reports and accounts 2001- 2014.

Comments:
The above table shows successive growth in primary capital, total assets, loans and advances as well as none accruing loans and advances between the periods 2001 to 2014, these would have consequently led to increased profit before tax in the same period.

Table 4.3 – Assets, Capital and Liquidity of Zenith Bank Plc (2001 – 2014)

YEAR	PC N'Million	TA N'Million	LAO N'Million	NALA N'Million	RLA N'Million	NLCO N'Million	NI N'Million	NL N'Million
2001	6,725	60,190	12,619	990	187	2,129	50,026	55,200
2002	9,305	92,562	20,144	906	360	2,079	35,085	59,080
2003	12,651	112,534	27,290	1,310	474	2,289	56,120	61,574
2004	15,674	193,321	53,391	3,294	847	3,331	25,676	131,095
2005	42,100	330,008	121,626	23,017	841	5,594	15,590	233,413
2006	100,662	619,342	202,501	67,087	1,716	10,377	18,188	392,863
2007	116,445	927,943	292,814	109,446	2,445	19,039	20,404	568,010
2008	346,617	1,718,000	455,324	32,293	4,615	53,294	25,440	1,161,480
2009	337,793	1,659,703	698,326	13,517	5,506	83,957	30,999	1,111,328
2010	361,242	1,895,027	713,285	18,936	13,188	67,166	38,002	1,289,552
2011	394,268	2,326,695	893,834	25,510	16,536	84,167	44,443	1,577,290
2012	462,956	2,604,504	989,814	28,665	18,807	93,240	57,696	1,802,008
2013	509,251	3,143,133	1,251,355	36,238	23,136	117,833	72,890	2,079,862
2014	552,638	3,755,264	1,729,507	21,455	31,996	162,857	80,122	2,265,262
TOTAL	**3,268,327**	**19,438,226**	**7,461,830**	**382664**	**120654**	**707,352**	**255,481**	**10,749,281**

SOURCE: Zenith Bank Plc, annual reports and accounts 2001 to 2014.

Comments:
From the above table, noticeable growth could be observed in the primary capital, total assets, loans and advances overdue by 90 days as well as renegotiated loans and advances. These show consistency in performance over the period 2001 to 2014.

Table 4.4 — First Bank Nigeria Plc – Risk Index Variables (2001 – 2014)

YEAR	X1	X2	X3	X4	X5	X6	ROA
2001	0.60130	0.31129	0.02744		0.00983	0.7877	0.03186
2002	0.66795	0.22844	0.03150		0.00725	0.5787	0.02124
2003	0.66010	0.14774	0.05425		0.01114	0.4872	0.03525
2004	0.10828	0.21732	0.06326		0.01787	0.5392	0.03866
2005	0.10348	0.26280	0.09284	0.00272	0.01816	0.5628	0.03570
2006	0.10420	0.28744	0.05163	0.00275	0.01627	0.6336	0.03540
2007	0.09175	0.23917	0.03474	0.00333	0.02014	0.6384	0.02837
2008	0.23023	0.30498	0.02897	0.00673	0.00207	0.4329	0.03135
2009	0.16787	0.36837	0.02581	0.00585	0.02731	0.6190	0.02677
2010	0.14776	0.49608	0.08213	0.00328	0.02338	0.5773	0.01792
2011	0.12860	0.43755	0.02203	0.00290	0.02063	0.6819	0.01992
2012	0.13678	0.47774	0.01425	0.00334	0.02389	0.7441	0.00741
2013	0.12194	0.45725	0.01179	0.00320	0.02286	0.7571	0.00561
2014	0.12041	0.50176	0.00937	0.00351	0.02508	0.7025	0.00594

SOURCE: First Bank Plc, annual reports and accounts 2001 to 2014.

NOTES
X1 = PC / Total Assets
X2 = LAO / Total assets
X3 = NALA / Total Assets
X4 = RLA / Total Assets
X5 = NLCO / Total Assets
X6 = NL / Total Assets
Roa= NI/Total Asset

Table 4.5 – United Bank for Africa Plc– Risk Index Variables (2001 – 2014)

YEAR	X1	X2	X3	X4	X5	X6	ROA
2001	0.4822	0.12288	0.12490	0.00541	0.01351	0.2240	0.00895
2002	0.5308	0.20047	0.99890	0.00508	0.01586	0.3217	0.01235
2003	0.7309	0.22600	0.12546	0.01065	0.01803	0.4879	0.02515
2004	0.9212	0.26476	0.07236	0.01631	0.01465	0.7075	0.02835
2005	0.77520	0.26959	0.01776	0.00008	0.01391	0.9973	0.03192
2006	0.54890	0.12429	0.04028	0.00002	0.02292	0.8567	0.01449
2007	0.14081	0.26901	0.03771	0.00001	0.02405	0.7556	0.02479
2008	0.11561	0.25781	0.06121	0.00035	0.02471	0.7518	0.03395
2009	0.11723	0.39179	0.05619	0.00598	0.03853	0.7435	0.00880
2010	0.10912	0.3887	0.01762	0.00625	0.02903	0.6918	0.00982
2011	0.07859	0.31536	0.00860	0.00507	0.02355	0.6334	-0.00058
2012	0.08468	0.28990	0.00818	0.00466	0.02174	0.6428	0.02443
2013	0.08895	0.24131	0.01159	0.00388	0.01801	0.6802	0.02032
2014	0.09607	0.38799	0.01088	0.00624	0.02926	0.6560	0.01642

SOURCE: United Bank for Africa Plc, annual reports and accounts 2001- 2014

Table 4.6 — Zenith Bank Plc – Risk Index Variables (2001 – 2014)

YEAR	X1	X2	X3	X4	X5	X6	ROA
2001	0.1117	0.2096	0.1641	0.0031	0.0353	0.9171	0.83113
2002	0.1005	0.2176	0.0097	0.0038	0.0224	0.6383	0.37904
2003	0.1124	0.2425	0.1164	0.0042	0.0203	0.5472	0.49869
2004	0.0081	0.2761	0.017	0.0043	0.0172	0.6781	0.13282
2005	0.1275	0.3685	0.0697	0.0025	0.0169	0.7073	0.04724
2006	0.1625	0.3269	0.1083	0.0027	0.0167	0.6343	0.02937
2007	0.1254	0.3155	0.1179	0.0026	0.0205	0.6121	0.17522
2008	0.1939	0.2547	0.018	0.0025	0.0298	0.6761	0.01481
2009	0.2035	0.4207	0.0081	0.0033	0.0505	0.6696	0.01868
2010	0.1906	0.3763	0.0094	0.0069	0.0334	0.6816	0.020053
2011	0.1695	0.3842	0.0101	0.0071	0.0361	0.6779	0.01910
2012	0.1778	0.38	0.011	0.0072	0.0358	0.6919	0.02215
2013	0.162	0.3981	0.0115	0.0074	0.0375	0.6617	0.02319
2014	0.1472	0.4606	0.0057	0.0085	0.0434	0.6032	0.021336

SOURCE: Zenith Bank Plc, annual reports and accounts 2001 to 2014.

4.1 Analyses and Interpretation of Results

The test data were processed and tested using the Eview 7 statistical tools.

4.1 Diagnostic Test - Test for Stationarity

The various variables used in the research work were pretested for stationarity of their respective data and Table 4.1A − Table 4.11C below shows the result (All the tables were computed using Eviews 7):

Table 4.11:- Unit Root Test For FBN Plc Data

Variables	ADF @ 10%	ADF Test Stat.	P-value	Order of Integration
Roa	-3.3883	-5.9586	0.0027	I(1)
X_1	-3.3883	-3.7483	0.0602	I(1)
X_3	-3.3883	-4.3209	0.0263	I(1)
X_5	-3.3883	-6.0640	0.0024	I(1)
X_6	-3.3883	-4.1642	0.0329	I(1)

The result in table 4.11A shows that the data were stationery at order one using the Augmented Dickey Fuller unit root test and with positively significant p-values; Hence, this gave some level of comfort in the data selection suspicion of serial correlation were minimal and we can rely on the output of this research work.

Table 4.11B:- Unit Root Test For UBA Plc Data

Variables	PP @ 10%	PP Test Stat.	P-value	Order of Integration
D(Roa)	-3.4200	-14.1632	0.0001	I(2)
D(X_1)	-3.4200	-3.4210	0.1000	I(2)
D(X_3)	-3.4200	-25.0339	0.0001	I(2)
D(X_5)	-3.4200	-7.2596	0.0008	I(2)
D(X_6)	-3.4200	-6.0117	0.0034	I(2)

The result in table 4.11B shows that the data were stationery at order two after one period lag using the Philip Perron unit root test and with positively significant p-values; Hence, this gave some level of comfort in the data selection suspicion of serial correlation were minimal and we can rely on the output of this research work.

Table 4.11C:- Unit Root Test For Zenith Bank Plc Data

Variables	ADF @ 10%	ADF Test Stat.	P-value	Order of Integration
Roa	-2.7138	-6.3519	0.0003	I(1)
X_1	-2.7290	-3.3373	0.0388	I(1)
X_3	-2.7138	-8.1230	0.0000	I(1)
X_5	-2.7138	-3.9611	0.0130	I(1)
X_6	-2.7711	-3.7423	0.0254	I(1)

The result in table 4.11C shows that the data were stationery at order one using the Augmented Dickey Fuller unit root test and with positively significant p-values; Hence, this gives some level of comfort that in the data selection, suspicion of serial correlation were minimal and we can rely on the output of this research work.

4.2 Hypothesis Testing 1

H_O: There is no significant relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance.

H_A: There is significant relationship between Capital Adequacy, Assets Quality Liquidity and Financial Performance

4.2.1: FBN Results Review and Discussions of Findings
Table 4.7 – Eview Results for First Bank of Nigeria Plc

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.776049	0.038347	20.23769	0.0000
X1	0.751029	0.218101	3.443489	0.0137
X2	-0.167698	0.106884	-1.568980	0.1677
X3	-2.295938	0.303118	-7.574395	0.0003
X4	-60.77941	10.47279	-5.803555	0.0011
X5	6.850933	1.318788	5.194869	0.0020

R-squared	0.961093	Mean dependent var	0.639667
Adjusted R-squared	0.928670	S.D. dependent var	0.087673
S.E. of regression	0.023415	Akaike info criterion	-4.363988
Sum squared resid	0.003290	Schwarz criterion	-4.121535
Log likelihood	32.18393	Hannan-Quinn criter.	-4.453753
F-statistic	29.64255	Durbin-Watson stat	2.271572
Prob(F-statistic)	0.000370		

Source: Author's computations using Eview7 statistical package

The result with a positive F-Statistics of 29.64 shows a significant positive relationship between the dependent variable and the explanatory variables. With an R-squared of 96%, it shows that changes in the dependent variable is explained by 96% of the explanatory variable

showing that the constructed variables best fits the model. The Durbin-Watson stat of 2.2716 is considered suitable eliminates possibility of autocorrelation in the variables chosen.

The overall probability of 0.000370 indicates that the relationship between the risk index proxied by ROA and the explanatory variables are positively significant and hence, we reject our Null hypothesis.

The result shows that capital adequacy (x1) of 0.0137 is less than the significance level of 10%, in line with the apriori expectation; we reject the Null and conclude that Capital Adequacy has significant impact on the financial performance of a bank represented by the Risk Index. The loans or Assets Quality (x2-x5) represented in the table shows significant impact on the financial performance of First Bank being less than 10% confidence level respectively.

We reject the Null hypothesis and conclude that there is significant relationship between the Risk Index and the explanatory variables, thus impacting the financial performance of listed commercial bank.

4.2.2: UBA PLC Statistical Results and Discussions of Finding

Table 4.8: Eview Result for UBA Plc

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.214649	0.211521	1.014788	0.3399
X1	0.502264	0.180287	2.785916	0.0237
X2	1.447636	0.676211	2.140806	0.0647
X3	-0.371244	0.147383	-2.518910	0.0359
X4	-32.15881	10.06421	-3.195364	0.0127
X5	3.695478	8.422831	0.438745	0.6725

R-squared	0.740820	Mean dependent var		0.653586
Adjusted R-squared	0.578832	S.D. dependent var		0.199090
S.E. of regression	0.129205	Akaike info criterion		-0.957312
Sum squared resid	0.133551	Schwarz criterion		-0.683430
Log likelihood	12.70118	Hannan-Quinn criter.		-0.982664
F-statistic	4.573312	Durbin-Watson stat		2.081309
Prob(F-statistic)	0.028765			

Source: Author's computation using Eviews7 statistical package

The result with a positive F-Statistics of 4.57 shows a significant positive relationship between the dependent variable and the explanatory variables. With an R-squared of 74%, it shows that changes in the dependent variable are explained by 74% of the explanatory variable showing that the constructed variables best fits the model. The Durbin-Watson stat of 2.081 is considered suitable eliminates possibility of autocorrelation in the variables chosen.

The overall probability of 0.0288 indicates that the relationship between the risk index proxied by ROA and the explanatory variables are positively significant and hence, we reject the Null hypothesis.

The result shows that capital adequacy (x1) of 0.024 is more than the significance level of 10%, which is quite negligible in line with the apriori expectation; we reject the Null and conclude that Capital Adequacy has significant impact on the financial performance of a bank

represented by the Risk Index. The loans or Assets Quality (x2-x5) represented in the table shows significant impact on the financial performance of United Bank being less than 10% confidence level respectively.

We reject the Null hypothesis and conclude that there is significant relationship between the Risk Index and the explanatory variables, thus impacting the financial performance of listed commercial bank.

4.2.3 Zenith Bank Plc Eviews Result Review and Discussions of Findings
Table 4.9: Eview Statistical result for Zenith Bank Plc

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.466865	0.317004	1.472740	0.1912
X1	-1.429777	0.810439	-1.764201	0.1281
X2	-2.255534	0.553012	-4.078634	0.0065
X3	2.681858	0.689300	3.890697	0.0081
X4	25.09791	18.89897	1.328004	0.2325
X5	12.59880	4.677083	2.693731	0.0359
X6	0.028479	0.439143	0.064852	0.9504

R-squared	0.921896	Mean dependent var	0.170115
Adjusted R-squared	0.843793	S.D. dependent var	0.251783
S.E. of regression	0.099512	Akaike info criterion	-1.473340
Sum squared resid	0.059416	Schwarz criterion	-1.169137
Log likelihood	16.57671	Hannan-Quinn criter.	-1.535868
F-statistic	11.80350	Durbin-Watson stat	2.199031
Prob(F-statistic)	0.004224		

Source: Author's computations using Eview7 statistical package

The result with a positive F-Statistics of 11.8 shows a significant positive relationship between the dependent variable and the explanatory variables. With an R-squared of 92%, it shows that changes in the dependent variable are explained by 92% of the explanatory variable showing that the constructed variables best fits the model. The Durbin-Watson stat of 2.199 is considered suitable eliminates possibility of serial correlation in the variables chosen.

The overall probability of 0.004224 indicates that the relationship between the risk index proxied by ROA and the explanatory variables are positively significant and hence, we reject our Null hypothesis.

The result shows that capital adequacy (x1) of 0.1281 is more than the confidence level of 10%, which is quite negligible in line with the apriori expectation; we reject the Null and conclude that Capital Adequacy has significant impact on the financial performance of a bank represented by the Risk Index. The loans or Assets Quality (x2-x5) represented in the table shows significant impact on the financial performance of Zenith Bank being less than 10% confidence level respectively. The net liability however, is greater than 10% level of significance and runs contrary to the apriori expection. This could have been due to several series statistical error and could be a subject of further research.

We reject the Null hypothesis and conclude that there is significant relationship between the Risk Index and the explanatory variables, thus impacting the financial performance of listed commercial bank.

4.3: Hypothesis Testing 2

H_O: There is no significant long-run relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance.

H_A: There is significant long-run relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance

4.3.1: Cointegration Ranked Test – FBN Plc

Table 4.10- Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.1 Critical Value	Prob.**
None	0.706200	23.54341	27.06695	0.2204
At most 1	0.519918	8.845137	13.42878	0.3799
At most 2	0.003291	0.039558	2.705545	0.8423

Trace test indicates no cointegration at the 0.1 level
* denotes rejection of the hypothesis at the 0.1 level

Table 4.11 - Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.1 Critical Value	Prob.**
None	0.706200	14.69827	18.89282	0.3106
At most 1	0.519918	8.805579	12.29652	0.3027
At most 2	0.003291	0.039558	2.705545	0.8423

Max-eigenvalue test indicates no cointegration at the 0.1 level
* denotes rejection of the hypothesis at the 0.1 level

The tables 4.10 and 4.11 shows that there is no cointegration between the dependent (ROA) and the independent variables (Capital Adequacy, Asset Quality and Liquidity); Hence, the Null hypothesis is accepted, that there is no significant long-run relationship between the variables.

4.3.2: Cointegration Ranked Test - UBA Plc

Table 4.12 - Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.1 Critical Value	Prob.**
None *	0.879472	48.49555	27.06695	0.0001
At most 1 *	0.654656	23.10509	13.42878	0.0030

| At most 2 * | 0.577773 | 10.34653 | 2.705545 | 0.0013 |

Trace test indicates 3 cointegrating eqn(s) at the 0.1 level
* denotes rejection of the hypothesis at the 0.1 level

Table 4.13 - Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.1 Critical Value	Prob.**
None *	0.879472	25.39046	18.89282	0.0118
At most 1 *	0.654656	12.75856	12.29652	0.0853
At most 2 *	0.577773	10.34653	2.705545	0.0013

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.1 level
* denotes rejection of the hypothesis at the 0.1 level

The tables 4.12 and 4.13 shows that for UBA Plc there are 3 cointegrating relationship between the Dependent variable and the independent variables as shown by the trace test and confirmed by the Maximum Eigenvalue; Hence, we reject the Null hypothesis and accept the Alternative hypothesis that there is positive long run relationship between profitability (ROA) and Capital Adequacy, Assets Quality and Liquidity.

4.3.3: Cointegration Ranked Test – Zenith Bank Plc
Table 4.14 - Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.1 Critical Value	Prob.**
None *	0.999731	118.0722	27.06695	0.0000
At most 1 *	0.885501	27.63206	13.42878	0.0005
At most 2 *	0.291647	3.792937	2.705545	0.0515

Trace test indicates 3 cointegrating eqn(s) at the 0.1 level
* denotes rejection of the hypothesis at the 0.1 level

Table 4.15 - Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.1 Critical Value	Prob.**
None *	0.999731	90.44014	18.89282	0.0000
At most 1 *	0.885501	23.83912	12.29652	0.0012
At most 2 *	0.291647	3.792937	2.705545	0.0515

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.1 level
* denotes rejection of the hypothesis at the 0.1 level

The tables 4.14 and 4.15 shows that for Zenith Bank Plc there are 3 cointegrating relationship

between the Dependent variable and the independent variables as shown by the trace test and confirmed by the maximum Eigenvalue; Hence, we reject the Null hypothesis and accept the Alternative hypothesis that there is positive long run relationship between profitability (ROA) and Capital Adequacy, Assets Quality and Liquidity.

4.4: Hypothesis Testing 3

H_O: There is no Causal relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance.

H_A: There is Causal relationship between Capital Adequacy, Assets Quality, Liquidity and Financial Performance.

4.4.1 Result of Pairwise Granger Causality Test - FBN Plc
Table 16 - Pairwise Granger Causality Tests

Sample: 2001 2014			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
X1 does not Granger Cause ROA	12	5.63376	0.0348
ROA does not Granger Cause X1		5.34783	0.0389
X3 does not Granger Cause ROA	12	1.89450	0.2200
ROA does not Granger Cause X3		4.38968	0.0581
X5 does not Granger Cause ROA	12	1.90478	0.2185
ROA does not Granger Cause X5		1.27886	0.3362
X6 does not Granger Cause ROA	12	5.33628	0.0391
ROA does not Granger Cause X6		1.82061	0.2309

Source: Author's computations usingSource: Source: Source:

The results in Table 16, shows that there is no causal relationship between the dependent and the independent variables as one variable does not granger cause the other; Hence, we accept the Null Hypothesis that there is no causal relationship between Financial Performance and Capital Adequacy, Assets Quality and Liquidity.

4.4.2: Result of Pairwise Granger Causality Test – UBA Plc
Table 17 - Pairwise Granger Causality Tests

Sample: 2001 2014			
Null Hypothesis:	Obs	F-Statistic	Prob.
X1 does not Granger Cause ROA	12	1.79346	0.2350
ROA does not Granger Cause X1		1.27555	0.3370
X3 does not Granger Cause ROA	12	0.34670	0.7185
ROA does not Granger Cause X3		1.69906	0.2503
X5 does not Granger Cause ROA	12	2.99212	0.1150
ROA does not Granger Cause X5		1.97008	0.2095
X6 does not Granger Cause ROA	12	0.28726	0.7588
ROA does not Granger Cause X6		0.50368	0.6246

Source: Author's computations using Eview7 statistical package

The results in Table 17, shows that there is no causal relationship between the dependent and the independent variables as one variable does not granger cause the other; Hence, we accept the Null Hypothesis that there is no causal relationship between Financial Performance and Capital Adequacy, Assets Quality and Liquidity.

4.4.3: Result of Pairwise Granger Causality Test – Zenith Bank Plc
Table 18 - Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
X1 does not Granger Cause ROA	12	1.73200	0.2449
ROA does not Granger Cause X1		4.81332	0.0484
X3 does not Granger Cause ROA	12	0.06593	0.9368
ROA does not Granger Cause X3		13.8153	0.0037
X5 does not Granger Cause ROA	12	0.22396	0.8049
ROA does not Granger Cause X5		0.69483	0.5306
X6 does not Granger Cause ROA	11	81.5612	4.E-05
ROA does not Granger Cause X6		0.63423	0.5625

Source: Author's computations using Eview7 statistical package

The results in Table 18, shows that there is no causal relationship between the dependent and the independent variables as one variable does not granger cause the other; Hence, we accept the Null Hypothesis that there is no causal relationship between Financial Performance and Capital Adequacy, Assets Quality and Liquidity.

4.5: Summary of Findings
1. Test For Short-Run Relationship: The results for FBN Plc show that there is significant relationship between the Risk Index (ROA) and the explanatory variables with an overall p-value of 0.000370 at a 10% level of significance. Similarly, for UBA Plc and Zenith Bank Plc having p-value of 0.02877 and 0.004224 respectively at a 10% level of significance shows that the Return on Assets has a significant relationship with the independent variables namely – Capital Adequacy, Assets Quality and Liquidity.

2. Test For Long-Run Relationship: The long-run relationship was tested using Johansen cointegration method and the result revealed that while there was no cointegration relationship for the FBN Plc variables the UBA Plc and Zenith Bank Plc shows that there are 3 cointegrating relationships each for the variables tested. Hence, in a probability random situation where 2 out of 3 give same result, we conclude that there is a long-run cointegrating relationship between the variables.

3. Test for Causal Relationship: The test result from Table 16 to Table 18 shows that there is no causal relationship between Dependent variable, Return on Asset (ROA proxy for Profitability) and the Independent Variables namely: Capital Adequacy, Assets Quality and Liquidity. This is expected as it implies that the variables as individual performance measurement parameters are independent of each other.

Section Five
5.0 Summary, Conclusion and Recommendations
5.1 Summary
The objective of the study was to Determine the impact of Capital Adequacy, Asset quality and Liquidity on the financial performance of quoted banks in Nigeria; to determine the kind of relationship that exist between the Dependent variable (Financial Performance) and the Independent Variables (namely: Capital Adequacy, Assets Quality and Liquidity) in both the short and long terms and also know the direction of causality between these variables. Relevant literatures were reviewed and secondary data obtained from the selected banks audited Financial Statements for fourteen years from 2001 to 2014, were analysed and tested

using the Unit Root method, Ordinary Least Square method, the Co-integration method and the Granger Causality Method.

The findings at 10% level of significance showed that for the selected sample;
  i. The dependent variable – Financial Performance had significant relationship with the Independent variables in the short run.
  ii. The dependent variable had a significant relationship with the independent variables in the long run.
  iii. That there were no Causal relationship between the dependent and the independent variables.

It was discovered that deposit volume and structure (liquidity) is a key success factor in evaluating the financial performance of selected banks. Banks that have high liquidity in terms of deposit volume and mix have higher profitability than those with lower deposit volume. The study recommended that;
Profits should not form the only key criteria for evaluating the financial performance of banks.

5.2   Conclusion
Performance monitoring and control should cover every aspect of a quoted bank's business, in order to forestall distress and institutional decay and outbreak of financial epidemic among financial institutions. It is not enough to use paper profit as the yardstick to measure financial performance in order to prevent systemic distress witnessed in the 1990s and early turn of the century. Proper tools for measuring capital adequacy, asset qualities, liquidity growth, net income, sound credit system and adherence to prudential guidelines etc. should be put in place by both the financial institution and the apex regulatory authorities.

Recommendations
1. Profits should not form the only key criteria for evaluating the financial performance of banks but rather other key factors should be introduced which include: capital adequacy tests, Assets Quality Reviews and Basel accord compliance tests.

2. Deposit Money Banks in the country should be mandated to get listed on the floors of the Nigerian stock exchange. This will among other things, make its periodic financial reports to be made available to the public and other stake holders for inspection and evaluation purposes. Also, their quarterly reports and returns will be subjected to strict regulatory and investment scrutiny and these will encourage financial transparency and sound corporate governance.

3. There should be strict and closely monitored supervision by the apex regulatory authorities such as Central Bank of Nigeria (CBN), National Deposit Insurance Corporation (NDIC) and Economic and Financial Crime Commission (EFCC) through their various on-site and offsite examination. In addition, the CBN should conduct periodic stress tests on the commercial banks.

References
Afolabi, J.A. (2004). Implications of the Consolidations of banks for the Nigerian Banking system. Paper Present at the NDIC organized *workshop for FICAN* Enugu.2004

Ahmad, A. U. F & Hassan, M.K.(2007). Regulation and Performance of Islamic Banking in Bangladesh. *Thunderbird   International Business Review, 49(2),* retrieved from http:www.ccsenet.org/journal.html.

Albertazzi, U. &Gambacorta, L. (2008). Bank Profitability, the business cycle. *Journal of Financial Stability*, forthcoming.   Doi: 10.1016/j.ifs.2008.10.002.

Anyanwu J.C.(1989). President Babangida's Structural Adjustment Programme   and Inflation in Nigeria. *Journal of Social   Development in Africa.*

Aremu, M.A., Mejabi, O.V. & Adegbadeyan, R.A. (2011).   A Study on Customers' Perception of information   Technology in the Nigerian Banking Industry. *International Journal of Management and Business Studies (IJMBS(), 1 (4): 7 – 10.* Published by Institute of Environmental Protection, Nanjing Forestry University, Nanjing, China. Available on line at http://www.ijmbs.com.

Aremu, M.A, Ekpo I.C, & Mustapha A.M (2013). Determinants of Banks' Profitability in a Developing Economy: Evidence   from   Nigerian   Banking   industry. *Interdisciplinary Journal   of Contemporary Research in Business. Vol.4, No. 9, January 2013.*

Athanasoglou, P. P.; Brissimis, S.N. & Delis, M.D. (2007). Bank specific, industry specific and macroeconomic determinants of ban profitability. *Journal of   International Financial   Markets,   Institutions   and   Money   18(2):   121-136.* Doi: 10.1016/j.intfin.2006.07.001.

Bhuyan, R. & Williams, D. L. (2006). Operating performance of the US Commercial Banks after   IPOs: An empirical evidence.   *Journal of Commercial Banking and Finance 5(1/2): 68-95.*

Chantapong, S. (2005). Comparative study of domestic and foreign bank performance in Thailand: The regression analysis. *Economic Change and Restructuring 38(1):63-83.* Doi: 10.1007/s10644-005-4523-5.

Chaudhuri, K & Chowdhury, T. (2012). Financial Performance Evaluation:A structural Equation Approach. *A Journal of   Emerging Market and Finance, April 2012 Vol.11 No.1 (p.1-36)*

DeYoung, R. & Rice,T. (2004). Non-interest income and financial performance at US Commercial Banks. *Financial Review   39(1): 101-127.* Doi: 10.1111/j.0732-8516.2004.00069.x.

Dietrich, A. & Wanzenried, G. (2011). Determinants of bank profitability before and during the crisis: evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money*, 21 (3), 307-327.

Dufera, A (2010). Financial Performance Evaluation. A Research work at *Accounting & Finance, Mekella University*, Ethiopia: Retrieved from: http:www.opendocs.ids.ac.uk

Elumilade, D. O.(2010). Mergers & Acquisitions and efficiency of financial intermediation in Nigerian banks: An empirical Analysis. *International Journal of Business and Management* Vol 5 (5)

Goddard, J., Molyneux, P., & Wilson, J. (2004). The profitability of European Banks: A cross-sectional and dynamic panel analysis. *The Manchester School*, 72(3), 363-381.

Goldsmith R. (1969). *Financial Structure and Development.* New Heaven, Yale University Press, USA.

Goudrean, J.E. & whitehead D.D. (1989). Commercial bank profitability improved in 1988. *Economic review, Federal Reserve Bank of Atlanta, July/August.*

Gunu, U. & Olabisi, J. O. (2011). Performance Evaluation of Consolidated Banks in Nigeria using Non-Financial Measures.   *Interdisciplinary Journal of Research in Business.* Vol. 1, Issue 9 (p.72-83)

Guru, B.K.; Staunton, J. and Balashanmugam, B. (2002). Determinants of Commercial Bank Profitability in Malaysia. *Working   Paper, Multimedia University.*

Heid, F., Porath, D., and Stolz, S. (2004). *Does capital regulation matter to bank behavior? Evidence for German savings banks.* Frankfurt   am   Main: Deutsche

Bundesbank.

Hempel, G.H. & Simonson, D. G. (1999). *Bank Management: Text and Cases".* Wiley& sons 5th   Edition.

Hirtle, B. J. & Stiroh, K.J. (2007). The return to retail and the performance of   US Banks. *Journal   of Banking and Finance*   31(4):   1101-1133.   Doi 10.1016/j.jbankfin. 2006. 10. 004.

Ho, M. T. & Tripe, D. (2002). Factors influencing the performance of foreign   owned banks in New Zealand. *Journal of   International Financial Markets, Institutions and Mone*y 12(4/5):341-357.

Jensen, M. C. & Meckling, W. H. (1976). Theory of the finance: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.

Kosmidou, K. & Zopounidis, C. (2008). Measurement of bank performance in   Greece. *South Eastern Europe Journal of   Economics* 6(1): 79-95.

Kosmidou, K.; Pasiouras, F. &Tsaklanganos, A. (2007). Domestic and multinational determinants of foreign bank profits: the   case of   Greek Banks operating abroad. *Journal of Multinational Financial Management*   17(1):1-15. Doi 10.1016/j.mulfin.2006.02.2002.

Koutsoyiannis, A. M. (1993), *The Theory of Econometrics.* (2nd Edition), Hong Kong, Macmillan Press Ltd.

Kumbirai, M. & Webb, R. (2010). A Financial Ratio Analysis of Commercial Banks Performance in South Africa*. A Journal   Compilation at 2010 African Centre for Economics   and   Finance*. Published   by   Print   Service,   Rhodes   University, Grahamstown, South Africa.

Mengistu, M.M. (2015). Evaluation of the Financial Performance of Banking sector in Ethiopia: The case of Zemen Bank. *Global Journal of management and Business Research & Finance*, Vol. 15 issue 9, version 1.0 year 2015, USA.

Naceur, B. & Goaied (2008). The determinants of the Tunisian banking industry profitability: Panel evidence. Paper presented at the *Economic Research Forum (ERF)* 10TH Annual Conference, Marrakesh-Morocco, 16-18 December, 1-17.

Nwankwo G.O. (1991). *Bank Management: Principles and Practice.* Malthouse Press Ltd, Lagos.

Nzotta S.M. (2006). Globalization and the Nigerian Banking Industry. *NESG   Economic Indicators*, Abuja.

Nzotta S. M. (2004). *Money, Banking And Finance- Theory and Practice.* Owerri, Nigeria. Intercontinental Educational Books and Publishers, Owerri.

Okaro, C.S & Onyekwelu, C.U (2003). *Money, Banking Methods and Processes*. Enugu, Nigeria. Emma Okaro Publishing,   Enugu.

Onoh, J. k.(2002). *Money and Banking in Nigeria.* Lagos, Nigeria. Longman Publishers, Lagos,.2002.

Onoh J.K. (2002). *Dynamics of Money Banking and Finance in Nigeria: An Emerging Market.* Aba, Nigeria. Astra Meridian   Publishing, Aba.

Osuka, B. O. & Osadume, C. R. (2013). The Determinants of Financial Performance of quoted Banks in Nigeria: A study of selected banks. *An International Journal of Education and Research*,   Vol. 1 No.10 Oct. 2013

Pasiouras, F. & Kosimodu, K. (2007). Factors influencing the profitability of   domestic and foreign commercial banks in the European Union.   *Research in International Business and Finance,* 21(2): 222-237. Doi:10.1016/j.ribaf.2006.03.007.

Porters S.R. & M.E. Wad(1993). *Introduction to Banking Regulations, Supervision and Banking Analysis.* Washington. The Economic Institute of World Bank.

Reed et al (1980). *Commercial Banking.* New Jersey Printice Hall, Inc.

Stiroh, K.J. & Rumble, A. (2006). The dark side of diversification: The Case of US Financial Holding Companies. *Journal of   Banking   and   Finance* 30(8): 2131-2161.Doi: 10.1016/j.jbankfin.2005.04.030.

Woodworth (1967). *Becoming a Global Change Agent and Social Entrepreneur.* University Press,   Tennesse, USA.