

**CORPORATE BOARD COMPOSITION AND PERFORMANCE
OF DEPOSIT MONEY BANKS IN NIGERIA**

BY

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DECLARATION

I hereby declare that this work is my original work and has not been previously presented wholly or in part for the award of other degrees.

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CERTIFICATION

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DEDICATION

This research work is dedicated to God Almighty for His infinite mercy, strength, guidance, love and protection towards the completion of my study.

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I give Almighty God the glory for His guidance, protections and sustenance throughout my stay in school and in completing this work, to Him be all the glory forever, Amen.

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ABSTRACT

This work examined the composition of corporate board of directors in monitoring managers and exercising control on Deposit Money Banks (DMBs) in Nigeria using eleven (11) Deposit Money Banks (DMBs) Access bank plc, Diamond bank plc, Eco bank plc, Fidelity bank plc, First bank plc, Guarantee Trust bank plc, Sterling bank plc, Union bank plc, United bank for Africa plc, Wema bank plc and Zenith bank plc. These banks are justified for being in existence on or before 1997 to 2016. The data used for this study were sourced from the Annual Report and Account of the respective banks for a period of 20 years spanning from 1997 - 2016. The corporate board composition was measured by board size (BRDS), Board Expertise (BRDX), Board Equity Holding (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women on the Board (WBRD) as the independent variables while performance of Deposit Money Banks (DMBs) is measured by Return on Equity (ROE) as the dependent variable. This study focuses on six research questions, six research objectives and six null hypotheses respectively. The data generated from the audited annual report of the eleven (11) banks were analyzed using E-view statistical model (OLS) and this result were estimated using Unit root, Diagnostic test. The regression model use is linear regression. The empirical result of the study revealed that Access bank, Wema bank and Zenith bank Plc have a positive linear relationship between corporate board effectiveness and performance of these banks from 1997 2016. The result also revealed that Fidelity bank, Firstbank and Union bank also tried their best but not up to the standard of the first banks mentioned while the rest banks under study failed in their compliance to corporate governance measures. The study therefore recommends that the shareholder of the banks should ensure that their banks board of director comply with CBN code of corporate governance, Deposit Money Banks (DMBs) in Nigeria should have appropriate policies in all their operations areas and strong inspection division to enforce these policies, Deposit Money Banks (DMBs) in Nigeria should increase the number of board to certain average or number according to CBN corporate governance code. This study has contributed to existing knowledge as it evolved a prediction model which is useful in explaining the impact of corporate board composition on Deposit Money Banks (DMBs) performance in Nigeria and established strong empirical evidence of corporate board composition as a major driver of Access, Wema and Zenith bank Plc performance in Nigeria between 1997 – 2016.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Given the expansion in the business world and the modern system of doing business where ownership is separated from control, the issue of board effectiveness has been the major focus of the modern corporate board composition measures. Corporate board composition simply encompasses all that pertains to the board that effectively and efficiently pursues the interest of the owners through a good governance system. It deals with all corporate board composition issues that relates solely to the board of directors. Corporate board composition is a very important subject matter that relates to the way and manner in which financial, materials and human resources available to an organization are effectively and efficiently utilized by the directors in order to achieve the overall objectives of the firm. This is so important that it keeps the firm in business and creates a greater prospect for future opportunities. It also gives the shareholders and other stakeholders more confidence over their investments (Mohammed, 2012). The overall effect of good corporate board composition measures should be evident in the activities of directors, which is expected to further strengthen the investor's confidence in the firm. Corporate board composition is about building credibility, ensuring transparency and accountability as well maintaining an effective channel of information disclosure that would foster good corporate performance (Abeysekera, 2013). Hence, it is crucial for firms in the banking sector (especially the board of directors) to observe strong corporate board composition measures. The board of directors is emphasized here because a good corporate board composition system would be evident in the effectiveness of the board.

Renewed interests on corporate board composition through the corporate board composition practices of modern firms have been recorded since 2001, and this can be traced to the failure of

a number of large firms especially in the banking sector, most of which involved accounting fraud and board ineffectiveness. The recent failure of these high profile firms around the world have shown that in all corporate matters and matters relating to governance, no firm is too big to fail. A common trend that ran through these monumental failures was poor corporate board composition culture, exemplified in poor management, fraud and insider abuses by both management and board members, poor asset and liability management, poor regulations and supervision among others. Thus, the celebrated Enron case in the United States of America, Baring Bank in the United Kingdom, Parmalat in Italy, HIH, and One Tel in Australia, the financial crisis in the South East Asian countries and a host of others attest to the significance of good governance in the public and the private sectors of the economy (Sanusi 2004). This case is not different in Nigeria as a developing country, as there have been series of official board and managerial recklessness and financial scandals that resulted to monumental and damaging effects in many financial firms in Nigeria. The list includes Rims Merchant Bank, Abacus Merchant Bank, Victory Merchant Bank, Credite Bank, Progress Bank, Republic Bank to mention just a few. Popular among them all was the saga in 1992, Bank Credit and Commerce International (including its Nigerian affiliate) went bust and lost billions of dollars for its depositors, shareholders and employees. Another company, Polly Peck, reported healthy profits in 1992 while declaring bankruptcy the next year.

However, the Nigerian banking system has undergone serious changes over the years, in terms of the number of banks, board structure, ownership structure and financial disclosure (Adewale, 2013). These changes were really influenced largely by the opportunities introduced by the deregulation of the financial sector, globalization of banking operations, technological advancements in the banking industry worldwide, the impact from global economic downturn and ultimately, the adoption of regulatory guidelines that conform to international standards.

This is because according to Adetunji and Olawoye (2009), the previous failures recorded in the banking sector said to be accruing from the absence of good corporate governance, despite the presence of other factors that may have accounted for the instability and the bank failures which had engulfed the Nigerian banking sector. The issue of corporate board composition is one that relates to the governing body of banks. The board of directors are the highest governing organ of any bank and hence, the performance of banks depends largely on the composition of the board. The issue of corporate board ineffectiveness resulting from a bad corporate board composition system took the center stage. Most of these banks were owned by individuals whose interest must be protected at the expense of the numerous depositors, creditors and other stakeholders. Unwarranted intervention in the internal management of these banks very often contributed to the banks' financial distress. Frequent board room squabbles, insider abuses, frauds and forgeries, weak/ineffective internal control systems have all reared their ugly heads under corporate governance. All these activities put the spotlight on board of directors. In the wake of corporate failures, numerous suggestions have been made about how to improve the governance of companies in order to rebuild trust. These corporate board composition reforms focus primarily on the makeup and the working of the board.

The main responsibility of the board as the highest governing organ is to pursue the interest of the owners and also ensure the success of the firm they govern, and in doing these, they must also be sure to prevent possible financial crises. This implies that the board of directors must be involved in strategy development and also have access to the required information that will help them perform their oversight function effectively. Boards have to do more to ensure the effectiveness of their over-sight function (Uwuigbe and Fakile, 2012). In the last few years there has been more pressure on boards to show how they add value to their companies. How to enhance board effectiveness has become a focus of attention and debate amongst corporate board

composition experts and researchers. In Nigeria the debate is even stronger, following the Cadbury Nigeria recent scandals. The Cadbury Nigeria scandal has exposed the limited knowledge of boards in Nigeria and has brought to question the effectiveness of the board and individual directors. Hence, through this study, we try to answer such questions relating to board effectiveness and the performance of deposit money banks in Nigeria.

1.2 Statement of the Problem

Effective management of organizational resources requires good corporate board composition practice particularly in banking industry where there is management / shareholders separation. This necessitated the need for corporate board composition measures to ensure that the various activities and decisions of the board of directors of corporations especially public owned corporations conforms to these corporate board composition measures. This stems out of the bounded rationality of the shareholders (i.e. owners or equity providers) such that despite being the owners of the corporation by virtue of their largest share in the total equity, they are still faced with limited access to information regarding the daily operations of the board and the management of the corporation (acting as agent to the principal), except for the financial information presented by the board in their annual reports at the end of each financial year, and other interim reports which may be produced by the board from time to time (e.g. the annual general meeting AGM). This makes the firms owners and other stakeholders unable to directly check the activities of directors. Hence, the fate of the shareholders and other stakeholders of firms in the banking sector rest on the activities of the directors.

Although the governance system of deposit money banks in Nigeria ordinarily rests on the shoulder of the board of directors; however, given the series of financial crises and bank failures recorded in the sector over the years due to poor corporate board composition measures above, it is however evident that the boards do not live up to their expectations in discharging their

responsibilities. Studies have further revealed that even when the responsibilities of the board are clearly explained, banks do not comply with all the legal requirements and regulatory standards, except for those that suit their personal interests. Furthermore, lack of transparency has obscured the way many financial and economic activities are conducted and has contributed to the alarming proportion of financial crimes in the banking industry. Trust and fiduciary principles, which was the cornerstone of the board of directors has been completely jeopardized as banks' directors now engage in all forms of sharp practices, some of which are deliberate manipulations or distortions of financial records to conceal the correct and true statement of affairs. These financial records which form the bedrock of supervisory oversight by the regulatory authorities in monitoring the soundness of these banks has been therefore compromised, and hence, the regulatory authorities are handicapped by such concealment until the bank hits the irreversible point of total failure. These requirements of disclosure are often jeopardized in order to ensure that the sanctions for such violation are inconsequential to the offences committed. The shareholders being the original owners of the banks, and whose interests are meant to be pursued by the boards are therefore short-changed and their interests become second-class priorities to the directors employed and paid by them.

The CBN in 2006 also identified other irregularities of directors in the banking sector to include; disagreement between board and management giving rise to board mismanagement, ineffective board oversight functions, fraudulent and self-serving practices among directors and management, weak internal controls, non-compliance with laid-down internal control procedures, poor risk management practices, disregarding lending procedures, technical incompetence and poor leadership. These among others have been the shady deeds of directors and management of deposit money banks in Nigeria over the years, and have also been

responsible for board ineffectiveness and inefficiency in pursuing the interests of the owners (i.e. the shareholders).

Following the series of financial crises and board mismanagement recorded in the business sector over the years, certain corporate board composition measures were consequently put in place to uphold the shareholders confidence. These corporate board composition measures were strategically constructed to control the activities of the directors on the board. However, only very few researchers have been able to consider the presumed corporate board composition measures in the light of ensuring corporate board composition and the financial performance of banks, given that such governance measures have been intentionally constructed to check directors' activities and strengthen the board. Hence, this study aims at creating a direct link between corporate board composition (as a product of good corporate board composition measures) and the financial performance of deposit money banks in Nigeria.

1.3 Research Questions

To achieve the objectives of this study, answers are provided to the following research questions;

1. To what extent does large Board Size (BRDS) significantly affect the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria?
2. How does Board Expertise (BRDX) significantly affect the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria?
3. To what extent does Boards' Member Equity Holding (BRDE) affect the Return on Equity of Deposit Money Banks (DMBs) in Nigeria?
4. How does Board Meetings (BRDM) affect the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria?
5. Does Board Committees (BRDC) influence the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria?

6. How does the presence of Women on the Board (WBRD) affect the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria?

1.4 Objectives of the Study

Given that this study is set out with the main objective of determining the impact of board effectiveness on the performance of deposit money banks in Nigeria, the other specific objectives of this study are;

1. To determine if a large Board Size (BRDS) contributes effectively to the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
2. To determine if Board Expertise (BRDX) significantly affect the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
3. To determine the effect of Boards' Equity Holdings (BRDE) on the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
4. To determine if frequent Board Meetings (BRDM) significantly contribute to the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
5. To examine how Board Committees (BRDC) influence the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
6. To determine if the presence of Women on the Board (WBRD) have any significant effect on Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.

1.5 Research Hypotheses

Below are the hypotheses formulated for the purpose of this study and were tested to achieve the stated objectives of this study.

1. **H₀₁:** Large Board Size (BRDS) does not contribute significantly to the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.

2. **H0₂:** Board Expertise (BRDX) has no significant impact on the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
3. **H0₃:** Board's Equity Holding (BRDE) has no significant impact on the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
4. **H0₄:** Frequent Board Meetings (BRDM) makes no significant impact on the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
5. **H0₅:** Board Committees (BRDC) do not significantly impact on Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.
6. **H0₆:** The presence of Women on the Board (WBRD) has no significant impact on the Return on Equity (ROE) of Deposit Money Banks (DMBs) in Nigeria.

1.6 Scope of the Study

Following the purpose of this study which is to determine the effect of corporate board composition on the performance of deposit money banks in Nigeria, emphases was laid on the eleven deposit money banks that are majorly old generation banks which have been in existence on or before 1997, and also listed on the Nigerian stock exchange in Nigeria.

The scope considered the variables such as board size, board independence, board expertise, board equity, board meetings, board committees, women board directors and corporate board composition rating as the independent variables while return on equity (ROE) as the dependent variable i.e. the value of the share holders profitability as a measure of banks' performance in Nigeria. The return on equity (ROE) captures the ability of the board to pursue the interest of the shareholders in terms of profit maximization, this will in-turn reveal how much profit each of the bank generates with the money invested by the shareholders. It is the amount of net income or profit after tax (PAT) expressed as a percentage of shareholders equity. It is called the earning power of shareholders.

Data on the selected variables were obtained from the annual reports and statement of accounts of each of the eleven respective deposit money banks considered, over a period of twenty (20) years statistical bulletin of CBN years spread from 1997 to 2016. The banks under study are access bank plc, (1989), diamond bank plc (1991), ecobank plc (1985), fidelity bank plc (1988), firstbank of Nigeria plc (1997), guaranty trust bank plc (1991), sterling bank plc (1960), union bank of Nigeria plc (1979), united bank for Africa (1949), wema bank (1945) and zenith bank plc (1990) in Nigeria.

1.7 Significance of the Study

This study would be of significance in the following ways;

1. In relating corporate board composition measures to board effectiveness and how an effective board affects the performance of deposit money banks in Nigeria, there are little or no contributions from prior studies to justify this very sensitive aspect of modern corporations. This study hence, will contribute immensely to knowledge by providing empirical evidence to justify the effect of corporate board composition on the performance of deposit money banks in Nigeria.
2. This study will direct the attention of financial authorities, shareholders and other stakeholders to the need for an effective board of directors and management. This study moves from the traditional view of directors' responsibility which is primarily to monitor management in the best interest of the shareholders of the firm. This study further believes that the directors can and should add value to the firm. This value-added approach to evaluating an effective board suggests that directors are responsible for the strategic guidance of the firm in addition to monitoring management.
3. Another major importance of this study is in its ability to adopt a method of capturing the effectiveness of a board in relation to the compliance level of such boards to the

corporate board composition code for all banks in Nigeria. This will boost the confidence of shareholders and prospective investors when evaluating the quality of investments available to them. This is because banks with board of directors that show a high level of compliance with the corporate board composition code is assumed to be effective and have the tendency of achieving higher financial performance.

4. This study adopted the presence of women on the board, as an indicator of corporate board composition. This issue is not addressed by the CBN's corporate board composition code and hence, has not really been considered by prior researchers in Nigeria. However, this study also provides evidence on how the presence of women on the board affects the performance of deposit money banks in Nigeria.

1.8 Limitations of the Study

There is hardly any form of business research today that is without certain factors that either affect the research process or threaten the research findings. Given these assumptions therefore, this study was not exceptional, as the research process was a very tough one. We hereby state the following as the already identified limiting factors to the study currently under investigation:

1. The measures of deposit money banks' performance (the return on equity) as indicated by the researcher is purely accounting in nature, subject to approximations used by professional accountants in the calculation of reported earnings and as such, the results may not fully reflect the actual earning power of shareholders' equity or assets.
2. Also, the selected deposit money banks used were limited to those listed on the Nigerian stock exchange (NSE), out of which a sample of eleven (11) were drawn for the purpose of the study. This places limitation on the ability of the researcher to generalize the findings on the profound effect of corporate board composition on the performance of deposit money banks in Nigeria.

3. Non availability of material and data: Poor record keeping culture in Nigeria (i.e. difficulty in accessing the required material and data) is another profound limitation of this study. Following the study period considered, it was very difficult task for the researcher to gain access to the annual reports of the selected deposit money banks. After visiting the Nigerian stock exchange (NSE), the researcher further reduced the proposed study period of 30 years to 20 years in accordance with the amount of data available.

1.9 Definition of Terms

Corporate Governance

Corporate governance can be defined as a system of law and sound approaches by which corporations are directed and controlled focusing on the internal and external corporate structures with the intention of monitoring the actions of management and directors. It is a mechanism of power control that checks the operations of all parties to a firm (i.e. the shareholders, directors and management).

Corporate Board Composition

Corporate board composition simply encompasses all that pertains to the board that effectively and efficiently pursues the interest of the owners through a good governance system. It deals with all corporate board composition issues that relates solely to the board of directors and it is made up of the following.

Return on Equity (ROE)

The return on equity is a measure of financial performance. It is the amount of net income or profit after tax (PAT) expressed as a percentage of shareholders' equity. It measures a corporation's profitability by revealing how much profit a firm generates with the money invested by the shareholders. It is otherwise referred to as the earning power of shareholders' equity.

Bounded Rationality

This simply means that the shareholders, being the owners of the corporation have limited access to information about the operations of the board of directors and yet, they are expected to make rational decisions from this limited information. Hence, their decisions are bounded around the limited information.

Shareholder

A shareholder is a stakeholder of an entity or corporation by means of capital contribution in form of shares of the entity or corporation held by them. The shareholders are the only stakeholders of an entity or corporation recognized by law.

Agency Relationship

The agency relationship is one that exists between the principals and agents in business. The principals here are the shareholders while the agents are the directors, while the agency theory is concerned with resolving problems that can exist in agency relationships; that is, between principals (such as shareholders) and agents of the principals (for example, company executives).

1.10 Organization of the Study

This study is organized into five different chapters in an attempt to examine the effect of board composition on the performance of deposit money banks in Nigeria. The current chapter has provided a comprehensive background to the study, the objectives and scope of the study. The remainder of this study will be organized as follows.

The second chapter (i.e. literature review) was organized into five sections, including a brief introduction to the current status of the study, a conceptual framework on corporate governance, corporate board composition and measures of banks' performance; a theoretical framework with theories emphasizes on the agency theory, stakeholder theory, stewardship theory and the political

theory; and then, an empirical framework on the relationship between the selected corporate board composition indicator and the performance of deposit money banks in Nigeria.

The third chapter (i.e. research methodology) was organized into an introduction, and statements on the research design to be employed in the study, the population and sample size to be studied, the sampling technique with which the study sample is to be drawn, and the technique to be used for data collection and analysis.

The fourth chapter (i.e. data presentation and analysis) was organized into an introduction, data presentation, data analysis, test of hypotheses already formulated, and a summary of the research findings.

The last chapter of this study included the discussion of findings, conclusion on findings and recommendation of areas for further research and also contribution to existing knowledge.

1.11 Summary

A quick review of the background of study has awakened our consciousness to the need to investigate the relationship between the board of directors, the shareholders and the performance of deposit money banks in Nigeria. This study focuses on such corporate board composition measures that are geared towards an effective board, and then tries to determine the effect of an effective board on the performance of deposit money banks in Nigeria. We considered several indicators of an effective board including board size, board equity holding and other, while banks' performance is captured by the return on equity (ROE). For the purpose of this study, we have also proposed a sample of eleven (11) deposit money banks for a period of twenty years (20) years. However, the next section of this study will focus on an empirical review of past literatures.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Introduction

The Nigerian banking sector has experienced many cases of financial crises over the years, with majority of these crises proving to have originated from poor corporate board composition systems. These crises resulted to the introduction of banking reforms that ushered in series of banking regulations and governance codes and the stipulation of minimum capital requirement for consolidation. These measures culminated to a drastic reduction in number of banks in the Nigerian banking sector. During the period 2000 and 2009 specifically, the Nigerian banking sector experienced significant restructuring and direct intervention by the monetary authority. Among such direct intervention and regulation was the introduction of corporate governance. These guidelines and regulatory frameworks were put in place with the primary objective of ensuring financial operational efficiency in the financial industry, checking majorly the activities of the board and the prevention of excessive spending by the board of directors. According to Abu, Okpeh and Okpe (2016), effective boards and corporate practices are essential ingredients in achieving and maintaining public trust and confidence in the financial system. Corporate board composition scandals in various parts of the world have again put the spotlight on board of directors. In the wake of corporate failures, numerous suggestions have been made about how to improve the governance of companies in order to rebuild trust.

In the last few years there has been more pressure on boards to show how they add value to their companies. How to enhance board effectiveness has become a focus of attention and debate amongst corporate board composition experts and researchers. In Nigeria the debate is even stronger, following the Cadbury Nigeria recent scandals. Cadbury Nigeria deliberately overstated

its financial position over a number of years (2004-2006) to the tune of between ₦13 and ₦15 billion (\$1 = ₦120). Over this number of years, Cadbury Nigeria had assigned itself an ambitious growth target. To achieve these targets, several systems abuses occurred and the overstatements were directly traceable to these systems abuses. The Cadbury Nigeria scandal has exposed the limited knowledge of boards of directors and has brought to question the effectiveness of the board and individual directors.

In Nigeria, like most developing countries, good corporate board composition and public governance are critical to economic survival and growth. It is therefore important to understand the role of boards in ensuring good governance practices. Recent and current developments in Nigeria's financial services industry have added more pep to the discussion on board effectiveness and good corporate governance. A number of financial failures, frauds and questionable business practices had adversely affected investors' confidence and customers' trust in the industry.

2.1.2 The Concept of Corporate Governance

Following the nature of modern firms where ownership (by the shareholders) is separated from control (by the board), the issue of corporate board composition has remained a subject matter in most corporate issues. Researchers over the years have also carried revealed empirical evidences on the need for an effective corporate board composition system. Hence, there have been series of explanations on the concept of "Corporate Governance" as revealed in those studies, including the cases stated in Shkendije Himaj (2014), the strategy for addressing the challenges of corporate board composition has taken various forms at both the national and International levels and have culminated in initiatives such as: the Cadbury Report; the Basel Committee Guidelines on Corporate Governance. Corporate board composition involves a system by which governing institutions and all other organizations relate to their communities and stakeholders to improve

their quality of life. It is therefore important that good corporate board composition ensures transparency, accountability and fairness in reporting. In this regard, corporate board composition is not only concerned with corporate efficiency, it relates to a much wider range of company strategies and life cycle development. It is also concerned with the ways parties (stakeholders) interested in the wellbeing of bankers to ensure that managers and other insiders adopt mechanism to safeguard the interest of the shareholders. Corporate board composition is based on the level of corporate responsibility a company exhibits with regard to accountability, transparency and ethical values. Corporate board composition is the set of processes, customs, policies, laws, and institutions affecting the way a corporation is directed, administered or controlled. Corporate board composition also includes the relationships among the many stakeholders involved and the goals for which the corporation is governed. In simpler terms it means the extent to which companies are run in an open and honest manner. Corporate board composition has three key constituents namely: the Shareholders, the Board of Directors and the Management. Other stakeholders include employees, customers, creditors, suppliers, regulators, and the community at large. It emphasis, accountability, transparency and fairness in the management of a company by its Board, so as to achieve sustained prosperity for all the stakeholders. Onuorah and Imene (2016), Adeusi, Akeke, Aribaba and Adebisi (2013) and Zain-aldini Maymand (2011) among other most recent studies. These definitions conceptualize corporate board composition as a system of rules and regulations upon which organizational objectives are established and run.

Although the study of Onuorah and Imene (2016) made reference to Zain-aldini Maymand (2011) which defines corporate board composition system as a mechanism for managing, directing and supervising the activities of the company with the aim of creating value for shareholders. However, Onuorah and Imene (2016) considered a definition that embraces a wider

view (i.e. including the shareholders' perspective) of corporate governance. Hence, they defined corporate board composition as the set of structures, processes, customs, policies, laws, and procedures that define the way owners' resources are administered or controlled in a corporation, in order to protect the interests of the owners. According to Mehrani and Safarzade (2011), these structures, processes, customs, policies, laws and procedures determine the way a corporation is being governed; guides the self-seeking and opportunistic tendencies of directors; and also protects the owners' interest, and hence, require certain costs (agency costs) to maintain them.

The study of Adeusi, Akeke, Aribaba and Adebisi (2013), explained the concept of "corporate governance" as a set of rules and incentives through which the management of an organization is being directed and controlled. This means that shareholders invest in the corporate board composition system as a way of getting the directors to pursue their interest (maximizing returns) in a fair manner (Onuorah and Imene, 2016).

"The various definitions and views of the concept of corporate board composition have revealed a similar understanding of the need for an effective corporate board composition system. However, for the purpose of this study, we would define corporate board composition as a set of structures, processes, customs, policies, laws, and procedures that define the way directors should run the affairs of the firm on behalf of the shareholders or owners, in order to achieve the interest of the shareholders or owners. This definition encompasses the views of Onuorah and Imene (2016) and Demaki (2011).

2.1.3 Corporate board composition

Corporate board composition simply encompasses all that pertains to the board that effectively and efficiently pursues the interest of the owners through a good governance system. This effectiveness is measured by a lot of factors, ranging from the measurable ones (e.g. size, independence, ownership structure, and returns to shareholders) to the immeasurable ones (e.g.

quality decisions, establishment of positive values) (Ahmad and Mensur, 2012). The board of a firm consists of directors appointed by the shareholders (i.e. owners) of the firm to manage their resources and pursue their interests.

The traditional view of directors is that they serve primarily to monitor management in the best interest of the shareholders of the firm. However, there is an emerging school of thought arguing that the directors can and should add value to the firm. This value-added approach is to evaluate an effective board which suggests that directors are responsible for the strategic guidance of the firm in addition to monitoring management. Therefore, the board has a definite function to ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the corporation and shareholders.

The performance of a corporate firm is dependent on the quality of the directors and the effectiveness of its board. According to Akingunola, Adekunle and Adedipe (2015), an effective board of directors and an effective management team should be able to produce positive financial performance. Conversely, poor board effectiveness and poor management effectiveness will lead to poor corporate performance. A critical evaluation of some of the factors that enables boards of directors to be effective in conducting their roles and ultimately creating shareholder wealth centers around the size of the board, the independence of the board, how much of the firm is owned by directors and the frequency of board meetings among others (Bebeji, Mohammed and Tanko, 2015). The roles of an effective board are discussed in paragraphs below.

1. The fiduciary role of an effective board of directors is to serve as an agent of the principal (i.e. shareholders) and hence, pursue the sole interest of the shareholders, for which reason they were appointed and paid.

2. The legal control role of an effective board of directors is to oversee the firm's operations and monitor top management performance in order to protect shareholders' interests in terms of returns and continuity.
3. The service role of an effective board of directors can be explained from the resource dependence perspective, such that they are charged with the responsibility of engaging in business dealings that enhance the sole interest of the shareholders. Such service roles are divided into four categories (1) co-opting external influencers; (2) establishing contacts and raising funds for the organization; (3) enhancing the organization's reputation; and (4) giving advice and counsel to the organization.
4. The strategic role of an effective board of directors includes the development of a corporate strategy, creation of a corporate vision and pursuit of strategic change.

In the Nigerian banking sector, the series of bank failures over the years have resulted to the issuance of several corporate board composition codes by various authorities in their respective areas of control. For example the CBN corporate board composition code, the FRCN corporate board composition code and the NSE code of governance for listed firms are all addressing various corporate board composition issues for banking and non-banking firms in Nigeria. These codes address governance issues relating to all parties to a firm and most especially the board of directors. For example, the CBN code of corporate board composition addresses specifically, the need for an effective board of directors that is composed of directors with different backgrounds may be more effective in terms of bringing important expertise, experience and skills to facilitate advice and counsel. However, for the purpose of this study, we have identified few indicators of board effectiveness and these included the size of the board, board equity holding, board meetings, board expertise, board committees and the presence women on the board.

2.1.4 Ensuring Board Effectiveness through Corporate board composition Principles

The principles of corporate board composition simply refers to those general principles or measures upon which corporate board composition operates, or that must be observed or applied in the corporate board composition system of a firm, in order to ensure smooth operation of the corporate board composition system of the corporation, and also to ensure that goals and objectives which the corporate board composition system advocates are effectively and efficiently achieved; among which is the need to ensure high financial performance.

According to Chris (2006), the key elements of good corporate board composition principle also include honesty, trust and integrity, openness, performance orientation, responsibility and accountability, mutual respect and commitment to the organization. However, the most important element here is how directors and management develop a model of governance that aligns the values of the corporate participants and then evaluate this model. For the corporate board composition principles to be more effective, senior executives should conduct themselves honestly and ethically especially concerning actual or apparent conflict of interest and disclosure in financial report. Their decisions and actions should be channeled in line with the principles highlighted by the Basel Committee on Banking Supervision (2006). The Basel Committee on Banking Supervision developed a set of corporate board composition principles which are aimed at making boards of banks more effective. These principles border on the knowledge and skills of the directors, their oversight functions, and the control mechanisms used in the banks. These principles are summarized below;

1. Principle One: “Board Structure”

Board members should be qualified for their positions, have a clear understanding of their role in corporate board composition and be able to exercise sound judgment about the affairs of the bank. This is because the board of directors is ultimately responsible for the operations and financial soundness of the bank.

“This involves having a board that is structured to add value to the corporations at large, in terms of its composition, size, independence, qualifications and experience among others. A good corporate board composition system should ensure that the board is well structured to add value to the corporation. The CBN Code (2006) emphasize that the directors of banks in Nigeria should be people of integrity, and people who have a working knowledge of the Nigerian banking industry.”

2. Principle Two: “Oversight Management”

The board of directors should approve and oversee the bank’s strategic objectives and corporate values that are communicated throughout the banking.

“This involves recognizing and publishing the respective roles, functions, duties and responsibilities of the Board of Directors and Management, and clearly drawing the line between them in terms of “Who is superior, and who reports to whom”. The structure of modern corporations has placed the board above the management. Hence, the board needs sufficient relevant skills and understanding to review and challenge management performance.”

3. Principle Three: “Ethical and Responsible Decision Making”

The board of directors should set and enforce clear lines of responsibility and accountability throughout the bank.

“This means that the corporate board composition system of a corporation should actively promote ethical responsible decision making. Following the OECD’s view on the principles of

corporate governance, it emphasizes that with regards on the aspect, integrity should be a fundamental.”

4. Principle Four: “Enhanced Performance”

The board should ensure that there is appropriate oversight by senior management consistent with board policy

“This principle of corporate board composition lays much emphasis on the need for the corporate board composition system of a corporation to fairly review and actively encourage the enhanced performance of the board and management, including their efforts faithfully representing the overall interest of the owners, and in ensuring that the major goals and objectives of the corporation are achieved.”

5. Principle Five: “Fair and Responsible Remuneration”

The board should ensure that compensation policies and practices are consistent with the bank’s corporate culture, long-term objectives and strategy, and control environment.

“This principle simply states that the corporate board composition system of a corporation should ensure that the level and composition of remuneration is sufficient and reasonable, and that its relationship to corporate and individual performance is defined.”

6. Principle Six: “Transparent, Timely and Balanced Disclosure”

The bank should be governed in a transparent manner since transparency is essential for sound and effective corporate governance.

“This principle believes that good corporate board composition system helps to promote timely and balanced disclosure of all material matters concerning the corporation. Hence, Organizations should clarify and make publicly known the roles and responsibilities of board and management to provide stakeholders with a level of accountability. They should also implement procedures to independently verify and safeguard the integrity of the company's financial reporting. Disclosure

of material matters concerning the organization should be timely and balanced to ensure that all investors have access to clear, factual information.”

2.1.5 Parties to Corporate Governance

The parties to corporate board composition simply refer to those stakeholders who are directly or indirectly involved and affected by the governance system of a corporation. Prior studies have established that in all spheres of life and most especially the corporate world, a good corporate board composition system is dependent upon the values, attitudes and practices of the parties to an entity or endeavour. Bebeji, Mohammed and Tanko (2015), believe that these values center on the: Accountability of power, based on the fundamental belief that power should be exercised to promote human well-being; Democratic values, which relate to the sharing of power, representation and participation; The sense of right and wrong; Efficient and effective use of resources; Protection of human rights and freedoms, and the maintenance of law and order and security of life and property; Recognition of the government as the only entity that can use force to maintain public order and national security; and Attitude towards the generation and accumulation of wealth by hard work. These parties to governance can be classified into two major groups; the internal stakeholders and the external stakeholders.

2.1.5i Internal Stakeholders

The internal stakeholders are those stakeholders of the corporation who are directly involved in the corporation either by means of capital provision, oversight control and direct operations. These internal stakeholders are grouped into shareholders, management, and the board of directors.

- I. ***The shareholders*** are the owners of the corporation. Their stake in the corporation is borne out of their capital contributions into the corporation in form of shares held by

them. Their interest is taken as the major priority in the corporation. In the agency theory, they act as principal to the board of directors.

- II. ***The board of directors*** is a group of persons professionally selected by the owners of the business to represent their interest in the corporation by directly taking decisions, actions and carrying out operations on behalf of the owners of the corporation (i.e. the shareholders). In the agency theory, they act as agents to the shareholders.
- III. ***The Management*** Comprises of individuals who are employed by the board of directors of a firm, to implement the plans, decisions and policies of the board in the firm, in order to achieve the major goals and objectives of the firm, and to protect the interest of the firm. In the agency theory, the management act as agents to the board of directors, and are responsible to them being their employers.

2.1.5ii External Stakeholders

The external stakeholders are those stakeholders of the corporation who may not be directly involved in the corporation, but have a somewhat relationship with the corporation and hence, may be directly or indirectly affected by the corporation. This group of stake holders may fall into any of the following categories; creditors, auditors, customers, suppliers, government agencies, and the community at large etc.

2.1.6 How the Board of Directors Achieve High Performance through a Sound Corporate board composition System

The importance of ensuring a good corporate board composition system within a firm cannot be overemphasized. Following the rise in globalization as evident in the increased scale of trade and other economic activities, increase in the volume of bank transactions, increase in the size and complexity of modern firms and finally, the bureaucratic system constructed in an attempt to

control it, the need for a good corporate board composition system and/or “internal control” have been identified, as it becomes increasingly difficult to regulate firms externally (Babalola, 2010). However, as established in the earlier findings of Onuorah and Imene (2016), Adeusi, Akeke, Aribaba and Adebisi (2013) and Zain-aldini Maymand (2011), corporate board composition is a set of rules that define the relationship between stakeholders, management, and board of directors of a company and influence how that company is operating. At its most basic level, corporate board composition deals with issues that result from the nature of modern firms where ownership is separated from control. Although corporate board composition entails much more than just creating a clear-cut relationship between shareholders and directors, it embraces all that pertains to the firm (i.e. including its personality, the need for profit and going concern).

It is important to note that firms with strong governance standards provide better access to capital and aids profitability. Furthermore, Uadiale (2010) believes that corporate board composition also has broader social and institutional dimensions, such that the designed rules of governance should focus on implementing the values of fairness, transparency, accountability, and responsibility to both shareholders and other stakeholders. Hence, in order to ensure an effective, efficient and ethical system of governance, firms need more than just solid internal governance. Firms also need to operate in a sound institutional environment. Therefore, on this note, such elements as secure private property rights, functioning judiciary, and free press are necessary to translate corporate board composition laws and regulations into on-the-ground practice (Afolabi and Dare, 2015).

Finally it is also important to note that a good corporate board composition system ensures that the business environment is fair and transparent, and that the parties to firms can be held accountable for their actions. On the other hand, a weak corporate board composition system results to waste of financial and non-financial resources, mismanagement, and corruption.

2.1.7 Explanation of Variable Indicators

2.1.7.1 Banks' Performance Indicators (Dependent Variable)

There are various indicators of banks' performance, ranging from financial-based to non-financial based indicators. However, most empirical findings on the issue of corporate board composition have focused on the financial indicators of banks' performance (Dagsson, 2011). However, it is important that we highlight the various forms of measuring banks performance. For the non-financial indicators, these are measures that are not related to profit or return, but also indicate good performance e.g. the volume of customer deposit and customer base among other, while the financial indicators are profit or returns-related e.g. profit after tax (PAT), return on equity (ROE), return on assets (ROA), return on capital employed (ROC) and return on investments (ROI).

Prior researchers on corporate board composition have used different dimension to measure banks' performance. For example, Akinyomi and Olutoye (2015), Ogege and Boloupremo (2014), Ayorinde, Toyin and Leye (2012), Bawa and Lubabah (2012), Heravi et al., (2011), Haslindar and Fazilah (2011), Dagsson, (2011) and Uwuigbe (2011) among others considered the return on equity (ROE) as a measure of banks' financial performance, while other researchers like Adeusi, Akeke, Aribaba and Adebisi (2013), Priya and Nimalathan (2013) and Duchin et al. (2010) among others considered the return on assets (ROA) as performance indicators for banks. Although other studies have either used the return on equity (ROE) or the return on assets (ROA), however, for the purpose of this study, we have decided to capture the performance of deposit money banks from two different financial perspectives; the return on equity (ROE) which allows investors to assess how effective the board and its management team manage resources to generate income for the shareholders. According to Edem (2015), it is also attractive

to shareholders, and the return on assets (ROA) which allows investors to measure how the board and its management team manage the assets of the firm.

2.1.7.2 Corporate board composition Indicators (Independent Variables)

1. Board Size (BRDS)

Board size for the purpose of this study is captured by the number of directors on the board of directors, which usually includes executive and non-executive directors. The daily operation of the company is the sole responsibilities of board of directors. Hence, the size of the board could have a significant impact on the performance of deposit money banks in Nigeria

2. Board Expertise (BRDE)

Board experience for the purpose of this study is measured by the percentage of young directors between the age of twenty (25) and fifty (50) years on the board. Shiah-Hou and Cheng (2012) examined how director's experience and their compensation affect firm performance through the quality of their monitoring and advising when the traditional board structure do not seem to work well. Using the two-way fixed effects and least squares regression models, the study established that directors' experience has a positive and significant impact on the performance of banking firms. This result builds on the conclusion of Alänge and Steiber (2009) that the creation of board commitment for sustainability of major organizational change and higher financial performance is dependent on important factors such as board competence and experience, board meeting dynamics and board as a provider of critical resources among others.

3. Board Equity Holdings (BRDE)

Board equity holding for the purpose of this study is captured by the percentage of the total outstanding shares of the selected banks owned by the directors of such banks. Since the corporate board composition code allows directors to own certain proportions of the total equity, this has formed part of the ways of compensating some directors over the years Ayorinde, Toyin

and Leye (2012). With such shares, directors earn a status of 'affiliate.' Affiliate means a person who controls, and control is defined as the power to direct control. Independent directors should own shares but not substantial. It should not be more than 0.01% of the total paid up capital of the company, and the detail of such holdings must be disclosed in the annual reports of the company

4. Frequent Board Meetings (BRDM)

Frequent board meetings as used for the purpose of this study is captured by the number of meetings held by the board of directors in single financial year. On the importance of board meetings, Bebeji, Mohammed and Tanko (2015) emphasized the need for corporate board meeting in the Nigerian banking structure. They observed that corporate board composition has significant effect on the performance of banks in Nigeria. They also realized that, while some corporate board composition characteristics such as board composition positively influenced the performance of banks in Nigeria. Hence, they further emphasized through their findings that when the frequency of board meetings is high, it results to board effectiveness and then ultimately higher bank performance as measured by the return on equity (ROE).

5. Board Committees (BRDC)

Board committees as used for the purpose of this study are captured by the number of active board committees in the selected banks and for the selected study period; with special emphases on the audit committee. Board committees are established to check the activities of directors and also to ensure that the directors prefer the interest of the shareholders or owners of the firm above their own personal interests. These committees are necessary for committing the directors towards fulfilling their fiduciary responsibilities towards the firm's owners. The major objective of the shareholders is to maximize profit (which can be interpreted into higher return on their investment) and also to ensure going concern (which is a guarantee for continuous returns on

their investment). These committees include audit committee, remuneration and compensation committee, nomination committee, and the risk assessment and management committee among others. The audit committee is one of the subcommittees that are established by the companies with the responsibility of supplying the assurance on financial and compliance issues. Its role includes choice and monitoring of accounting principles and policies, overseeing appointment, dismissal of external auditors, monitoring internal control process, discussing risk management policies and practice with management and overseeing the performance of internal audit function.

6. The Presence of Women on the Board (WBRD)

The presence of women as directors on the board as used for the purpose of this study is captured by the number of women directors to the total number of directors on the board of the selected banks in a given financial year. The issue of women on board has gained attention globally. Prior studies have maintained that the presence of women on the board cannot be overemphasized (Upadhyaya and Puthenpyrackal, 2013). Specifically, it has been argued that women are meticulous, risk averse, skilled in accounting and finance, and good decision-makers (Azmi and Barrett, 2013). This is why several researchers have focused on the effects that female executives and directors on firm's financial performance and market value.

Joeckset, Pull and Vetter (2013) revealed through their study that the presence of female directors is important driver of corporate board composition. Furthermore, they explained that those boards with women are related to higher financial performance. They also emphasized that women are better monitors than men because they attend board meetings more regularly, promote the attendance of their male peers, and are more likely to work on monitoring committees.

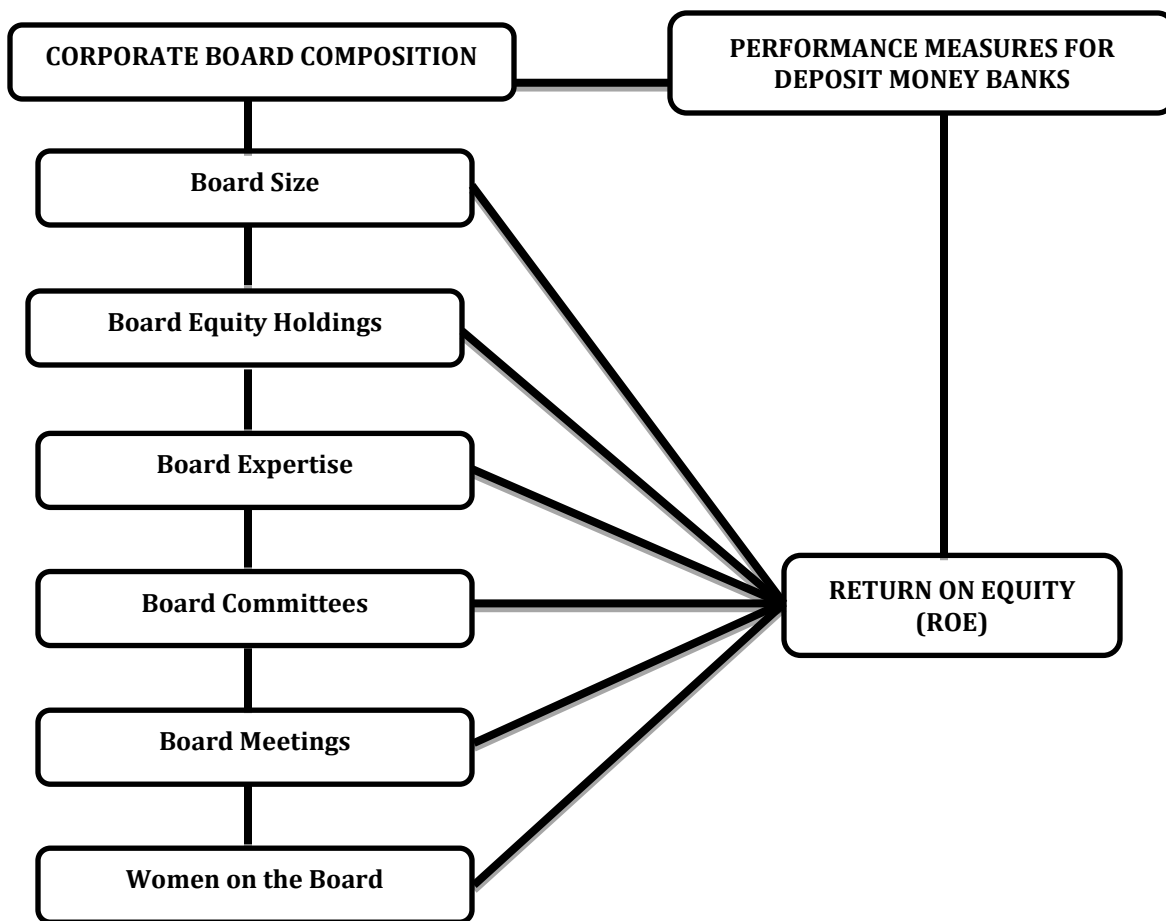


Figure 2.1: Conceptual Framework of Corporate board composition and Banks' Performance as captured by the Return on Equity (ROE)

Source: Researchers Conceptual Framework 2017

The figure presents the conceptual framework of Corporate board composition and Deposit Money Banks performance. Corporate board composition is measured by Board Size, Board Expertise, Board Equity Holdings, Board Meetings, Board Committees and Women on the Board while performance for Deposit Money Banks is measured by Return on Equity (ROE).

2.1.8 Brief History of the Banks under Study

1. Access Bank Plc

Access bank Plc commonly known as Access Bank Plc is a Nigerian multinational commercial bank, owned by Access Bank group. It is licensed by the Central Bank of Nigeria, the national banking regulator. It was founded in 1989. Its headquarter is located at Plot 999c, Danmole Street off Adeola Odeku/Idejo Street, Victoria, Lagos State, Nigeria.

2. Diamond Bank Plc

Diamond Bank Plc is a Nigerian multinational financial service provider. Diamond Bank Plc offer public trading and industry finance. It was found by Pascal G. Dozie in 1990. Diamond Bank Plc began private limited liability company on March 21, 1991 (the company was incorporated on December 20, 1990). Diamond Bank Plc is a financial services provider from Nigeria. Headquarters at Victoria Island in Lagos State, Nigeria.

3. Ecobank Plc

Ecobank was founded in 1985. Ecobank, whose official name is Ecobank Transnational Inc. (ETI), is a pan-African banking conglomerate, with banking operations in 36 African countries. It is the leading independent regional banking group in West Africa and Central Africa, serving wholesale and retail customers. It also maintains subsidiaries in Eastern and Southern Africa.

ETI has two specialized subsidiaries: Ecobank Development Corporation (EDC) and eProcess International (eProcess). EDC was incorporated with a broad mandate to development Ecobank's investment banking and advisory businesses throughout the countries where Ecobank operates. EDC operates brokerage houses on all 3 stock exchanges in West Africa: the Douala Stock Exchange in Cameroon and the Libreville Exchange in Gabon. The mandate of eProcess is to manage the Group's information technology function with a view to ultimately centralizing the

Group's middle and back office operations to improve efficiency, service standards and reduce costs.

4. Fidelity Bank Nigeria

Fidelity Bank, also known as Fidelity Bank Plc is a commercial bank in Nigeria. It is licensed as a commercial bank by the Central Bank of Nigeria, the central bank and national banking regulator. Fidelity Bank of Nigeria was incorporated in the year 1987 and began its operations in 1988. It initially started with a Merchant Banking license, with the objective of positively impacting on the Nigerian economy through participation and contribution to the growth of the Nigerian Economy with the provision of quality and timely financial services. They offer industry financial services, loans, credit cards, savings, investment, mortgages and was founded in 1988 headquartered at Fidelity Place, 2 Kofo Abayomi Street, Lagos State, Nigeria. Fidelity Bank converted to a commercial bank in the year 1999 in an attempt to grow, as a private limited company and became a Public Limited Company also in the year 1999, in the month of August. It re-branded to Fidelity Bank Plc that year.

5. First Bank of Nigeria Plc

First Bank commenced business in 1894 in what was then the British colony of Nigeria, as the Bank of British West Africa. The bank originally served British shipping and trading agencies in Nigeria. The founder, Alfred Lewis Jones, was a shipping magnate who originally had a monopoly on importing silver currency into West Africa through his Elder Dempster shipping company. It was delisted from the NSE and replaced with FBN Holdings Plc. in 2012. First Bank has been named "The Best Bank in Nigeria" for five (5) years in a row – 2011, 2012, 2013, 2014 and 2015 – by The Banker magazine of the Financial Times Group, and "Most Innovative Bank in Africa" in the EMEA Finance African Banking Awards 2014. First bank has now become a Nigerian multinational bank and financial services headquartered in Lagos. It is the biggest bank

in Nigeria by total deposits and gross earnings and operates a network of over 750 business locations across Africa, the United Kingdom and representative offices in Abu Dhabi, Beijing and Johannesburg set up to capture trade-related business between geographies. It specializes in retail banking and has the largest retail client base in Nigeria.

6. Guaranty Trust Bank Plc

Guaranty Trust Bank Plc was incorporated as a limited liability company licensed to provide commercial and other banking services to the Nigerian public in 1990. The bank commenced operations in February 1991, and has since then grown to become one of the most respected and service focused banks in Nigeria. Its Headquarter is located at 635 Akin Adesola, Victoria Island, Lagos State, Nigeria.

Guaranty Trust Bank undertook its second offering in 2004 and successfully raised over ₦11 billion from Nigerian Investors to expand its operations and favourably compete with other global financial institutions. This development ensured the Bank was satisfactorily poised to meet the ₦25 billion minimum capital base for banks introduced by the Central Bank of Nigeria in 2005, as part of the regulating body's efforts to sanitize and strengthen Nigerian banks.

7. Sterling Bank Plc

Sterling Bank Plc originally incorporated in 1960 as Nigeria Acceptances Limited (NAL). The bank was licensed as Nigeria's first merchant bank in 1969. Consequent to the indigenization decree of 1972, the Bank became fully government owned and was managed in partnership with Grindlays Bank Limited, Continental Intercontinental Finance Company Illinois and American Express Bank Limited between 1974 and 1992. In 1992, the Bank was partly privatized and listed as a public company on the Nigeria Stock Exchange (NSE). Eight years later, in 2000, the federal government sold its residual interest in the bank, effectively making it a fully privatized institution.

In January 2006, as part of the consolidation of the Nigerian banking industry, NAL Bank completed a merger with four other Nigerian Banks namely Magnum Trust Bank, NBM Bank, Trust Bank of Africa and Indo-Nigeria Merchant Bank (INMB) and adopted the name ‘Sterling Bank’ name (Sterling Bank, 1960). The merged entities were successfully integrated and have operated as a consolidated group ever since.

8. Union Bank of Nigeria Plc

The Union Bank of Nigeria has a long and proud history dating back to 1917, when it first opened its doors for business as the Colonial Bank. In 1925, it was bought by Barclays, becoming Barclays Bank Dominion, Colonial and Overseas which it remained until the early 1970s. In 1971, Barclays incorporated the bank locally in Nigeria as Barclays Bank of Nigeria Plc and sold a significant shareholding to the Federal Government and the Nigerian public. In 1979, the bank’s name was changed to the Union Bank of Nigeria Plc, to reflect the change in its ownership structure. In the early 1990s, the Nigerian Government started a policy of privatization of state owned assets, which resulted in 1993 in both the Government and Barclays selling their remaining stakes in the bank to the public at large, thus creating a truly publically owned bank. Since the early 1990s, the bank has enjoyed a period of unparalleled growth, acquiring Universal Trust Bank Plc. Broad Bank Limited and Union Merchant Bank as well as increasing shareholder funds through a rights issue in 2005.

9. United Bank for Africa (UBA) Plc

United Bank for Africa (UBA) Plc is a Nigerian multinational financial institution. It is one of Africa’s best and most resilient banking groups with operations in nineteen (19) African countries and offices in three global financial centers: London, Paris and New York. It was founded in 1949 with headquarters at UBA House, 57 marina Lagos, Lagos State, Nigeria. UBA has been operating in Africa since 1949, referred to then as the British and French Bank Limited

(BFB). It took over the assets and liabilities of BFB and was incorporated as a limited liability company on 23 February 1961 under the Compliance Ordinance (Cap 37) 1922. In 2005, it completed one of the biggest mergers in the history of Nigeria's capital markets with the business combination with Standard Trust Bank (STB) Plc. From then, it continued to expand to Ghana, Benin Republic, Cote d'Ivoire, Burkina Faso, Guinea, Chad, Cameroon, Kenya, Gabon, Tanzania, Zambia, Uganda, Liberia, Sierra-Leone, Mozambique, Senegal, Congo DR and Congo Brazzaville. UBA is listed on the Nigerian Stock Exchange, where it is publicly traded under the symbol "UBA".

10. Wema Bank Plc

Wema Bank Plc, commonly known as Wema Bank is a Nigerian commercial Bank. It was founded in 1945 having its headquarters in Lagos, Lagos State, Nigeria. They offer services like Products Loans-ROD, FTL, WASS, Credit Cards, Savings – WTA, PCA, DA, WETSA, Investments and Mortgages. Wema Bank Plc is one of the deposit money banks that survived the huddles of recapitalization. The bank was established on May 2, 1945 as a private limited liability company. It was granted a commercial banking license and commenced banking activities during the same year. Wema Bank converted to a public limited liability company in 1987. In 1990, the bank was listed on the Nigerian Stock Exchange. It trades under the symbol: WEMABANK. It was granted a universal Banking License in February 2001. (Wema Bank is a large financial services provider that has been in the banking business continuously for more than 70 years. It is the oldest indigenous commercial bank in Nigeria.

11. Zenith Bank Plc

Zenith Bank is a Nigerian multinational financial services provider. It is licensed as a commercial bank by the Central Bank of Nigeria, the central bank and national banking regulator (Zenith Bank Plc, 1990). Zenith Bank Plc was founded by Jim Ovia in May 1990. Its headquarter

is located at Zenith Heights, Plot 84, Ajose Adeogun Street, Victoria Island, Lagos State Nigeria. Area Served by Zenith Bank Plc include Ghana, Nigeria, Sierra Leone, South Africa and the United Kingdom. Subsidiaries of Zenith Bank Plc include Zenith Insurance, Zenith Pension Custodian, Zenith Securities, Zenith Bank Ghana, Zenith Bank UK, Zenith Trust Company and CyberSpace Networks.

Zenith Bank Plc is a large financial service provider in Nigeria and Anglophone West Africa. The shares of stock of the company are listed on the Nigeria Stock Exchange and the London Stock Exchange. The Bank was established in May 1990 and commenced banking operations in July of the same year. On 17 June 2004, following a successful IPO, the bank became a public limited company. On 21 October 2004, its shares of stock were listed on the Nigeria Stock Exchange (NSE). The bank's shares are traded on the London Stock Exchange (LSE) following a listing of the \$850 million worth of its shares at \$6.80 each in 2004. Its headquarter is in Lagos, Nigeria. Zenith Bank Plc has more than 500 branches and businesses offices in all states of the federation and the Federal Capital Territory (FCT).

2.2 Theoretical Review

This section reveals the theoretical foundation which forms the building blocks of our thoughts as established in the hypotheses formulated earlier. Although, it is important to note that this study is guided by several theories. However, the theoretical framework of corporate board composition revolves around the agency theory. The agency theory is the foundational theory of corporate governance. However, in recent years, modern scholars and researchers have been able to develop, expand and espouse other theories which include the shareholders' theory, resource dependency theory, stewardship theory, social contract theory, legitimacy theory and political theory. All these theories will be analyzed subsequently in paragraphs below.

2.2.1 The Agency Theory

The agency theory as seen in the early works of Ross (1973) and Jensen and Meckling (1976) defines the nature of the relationship and series of contracts between the principal and the agent in an agency relationship. In general terms, an agency relationship is the relationship between two parties, where one is a principal and the other is an agent who represents the principal in a given transaction with a third party.

For the purpose of this study, it is important to note that the relationship between the shareholders or owners of the banks and the directors can be linked to that of the agent-principal relationship, such that the shareholders' group who are the owners of the firms (i.e. banks in this case) is the principal while the board of directors is the agent. The shareholder employed the service of the directors to run the affairs of the bank for the purpose of maximizing profit and ensuring continuity. Hence, in this agency relationship, the principal is expected to make decisions or take actions that represent the sole interest of the agent (i.e. ensuring higher financial performance). The agency theory operates on two major propositions;

1. There is bound to be problems of goal conflict in the principal-agent relationship when the desires or goals of the principal (i.e. shareholders) and agent (i.e. directors) are in conflict, and the principal is unable to verify what the agent is actually doing. Here the agency theory proposes that "When the principal has information to verify agent behavior, the agent is more likely to behave in the interests of the principal"

This is the reason why an extra cost referred to as "agency cost" is incurred by the principal (i.e. shareholders) to acquire and maintain outside or independent directors on the board. These non-executive or independent directors provide the shareholders with the required information to verify the activities of the executive director. Hence, in this

study, we also determine if the presence of independent directors contribute significantly to the performance of deposit money banks in Nigeria.

2. There is bound to be problems of difference in risk preference between the principal and the agent when the principal and agent have different attitudes towards risk. The problem here is that the principal and the agent may prefer different actions because of the different risk preferences and tolerance. As a result of this difference in risk tolerances, the principal and agent may each be inclined to take different actions. Here the agency theory proposes that it would be better for the principal-agent relationship to be outcome-based. This means that directors would be compensated as much as they ensure higher financial performance. “When the contract between the principal and agent is outcome based, the agent is more likely to behave in the interests of the principal”

This is the reason why directors are allowed to own equities in the firm. This is believed to compel them apply caution in risk taking because they are also owners of the firm, even though their ownership is somewhat insignificant. Hence, in this study, we also determine if directors’ equity holding contribute significantly to the performance of deposit money banks in Nigeria.

In summary, this theory sees the shareholders as the principals and the board as their agents. Asuagwu (2013) states that Adam Smith was the earliest known economist that addressed the theoretical issues of the role of board of directors in the governance of firms Smith further observed that as a result of the fact that managers control resources other than theirs, it should not be expected that they will watch over the business with anxious vigilance as possibility of negligence abound. The process of aligning interests can ignite conflict between the interest groups. However, the agency theory unlike the stakeholder theory tries to align the differing interests of the shareholders and the directors by compelling the directors to fairly pursue the

interest of the shareholders. Therefore, the agency theory proposes that an effective board is capable of achieving higher financial performance in an environment where there is good principal-agent relationship.

2.2.2 The Stakeholder Theory

This theory focuses on issues concerning the stakeholders in a corporation. It stipulates that a corporate entity invariably seeks to provide a balance between the varying interests of its diverse stakeholders in order to ensure that each interest constituency receives some degree of attention and satisfaction (Abrams, 1951). The Stakeholder states that the board of directors owes a responsibility to a wider group of stakeholders other than just the shareholders. A stakeholder in this case is any person or group which can affect/be affected by the actions of a business. It includes employees, customers, suppliers, creditors and even the wider community and competitors.

In more recent business models, the board of a corporate is viewed as a group of specialist appointed to convert the inputs of shareholders and other stakeholders such as employees, creditors and suppliers into forms that are saleable to customers, hence, earns profits and other forms of returns back to its shareholders. This means that the directors are expected to apply their expertise in pursuing the interest of the stakeholders because that is the reason for their appointments. This is why this theory addresses the interests of the stakeholders and the need for the directors to be intellectually capable of achieving the objectives of the shareholders and other stakeholders, most important of which is to achieve higher financial performance. However, the stakeholder theory has become more prominent because many researchers have recognized that the activities and contributions of each director to the board are dependent on their expertise. Therefore, there is need to emphasize on the expertise of directors on the board. Hence, in this

study, we also try to determine the effect of directors' expertise on the performance of deposit money banks in Nigeria.

2.2.3 The Stewardship Theory

Away from the agency theory is the stewardship theory that presents a different model of modern corporate board composition where the directors are considered as good stewards who will act in the best interest of the owners (Donaldson and Davis 1991). The fundamentals of stewardship theory are based on social psychology, which focuses on the behaviour of executives. For the purpose of this study, we presume that stewardship theory emphasizes a strong relationship between the board of directors and the performance of banks and other financial firms. Hence, following the stewardship theory, a director is a steward who improves the performance of the firms and successfully satisfies the stakeholder groups in the organization. This means that more directors on the board can be regarded as a greater tendency of achieving higher financial performance, since more directors signifies more stewards.

This theory does not encourage a relatively small board size because it believe that when the board size is relatively few, then the fate of the firm and the power to determine strategy becomes the responsibility of a relatively few persons. Thus the focus of stewardship theory is on structures that facilitate and empower rather than monitor and control (Davis, Schoorman and Donaldson 1997). Therefore stewardship theory takes a more relaxed view of the quality and effectiveness of the decisions that a relatively moderate board size will present which is far better than that of the former. In this study, we try to determine the impact of a large board size on the performance of deposit money banks in Nigeria. Furthermore, Donaldson and Davis, cited in Akingunola, Olusegun and Adedipe (2013), explained that managers are good stewards who diligently work to attain high level of profit and shareholders' returns. Hence, more directors on the board would encourage higher achievements.

2.2.4 The Political Theory

The Political theory in corporate board composition brings the approach of developing voting supports from shareholders, rather than by purchasing voting power. Hence, having a politically-influenced board of directors is capable of affecting the firms 'performance and shifting emphases from shareholders' interests to directors' self-interest. This theory dwells more on the ownership structure of firms, such that people gain political influence in organizations through their share of ownership of the organization. When ownership is concentrated, then there are few shareholders with large shareholdings in the organization, significant enough to gain power and influence over the decisions of the board and management. This is because such shareholders can buy the voting power of other shareholders and even members of the board, hence, resulting in managerial entrenchment. However, where ownership is dispersed, then there are many shareholders holding very few and insignificant number of share. Hence, there is no tendency for them to influence the board or management and therefore, nobody can effectively buy voting power or control management or the board. In this study, we wish to determine if directors' equity holding is capable of contributing significantly to the performance of deposit money banks in Nigeria and in what direction.

2.2.5 Resources Dependency Theory (RDT)

Resources dependency theory emphasis that resources required by firms need to be acquired through a network of contacts and that the efficiency in bridging network gaps will determine the quality of corporate performance. Resources dependency theory describes organizational success as the ability to maximize power by accessing scarce and essential resources. Corporate boards can assist organizations in gaining access to important resources that might otherwise be beyond their reach. Boards are considered important boundary-spanners that secure necessary resources. Diversity of corporate board members has been found to be an important element in this theory since it can lead to broader corporate networks and improve financial performance.

2.3 Empirical Review

A number of empirical studies have provided evidence on the relationship between the corporate board composition and the performance of deposit money banks. Some of these studies have provided direct evidences on the impact of corporate board composition on the performance of deposit money banks in Nigeria; while others have created indirect evidences in favour of their country. However, following the objective of this study and the research approach adopted, we would examine through the section, the empirical relationships between the selected measures of corporate board composition as a corporate board composition indicator and the performance of deposit money banks in Nigeria.

2.3.1 Board Size and the Performance of Deposit Money Banks in Nigeria

Board size for the purpose of this study was captured by the number of directors on the board of directors, which usually includes executive and non-executive directors. The daily operation of the company is the sole responsibilities of board of directors. Hence, the size of the board could have a significant impact on the performance of deposit money banks in Nigeria (Nicolas et al, 2016).

Ayorinde, Toyin and Leye (2012) carried out a study on the effect of corporate board composition on the performance of the Nigerian banking sector. They employed the judgmental sampling technique in selecting the 11 listed deposit money banks among the 24 deposit money banks that met the consolidation date line of 2005. These banks were considered because they were listed in the Nigerian Stock Exchange. The findings revealed a positive correlation between the level of corporate board composition items disclosed by the banks and return on equity which is the proxy for performance. However, board size has strong negative correlation with return on equity. This implies that how large the size of a board is does not have a positive effect on the level of financial performance of commercial banks in Nigeria but a negative effect. This finding

supports the position of Akpan and Rima (2012) which considered 11 selected banks in Nigeria using linear regression analysis and arrived at a conclusion that smaller board sizes are more ideal for effective governance of banking firms in Nigeria. On this trend, a more recent finding was revealed in Asuagwu (2013) that smaller board size positively and significantly enhances performance.

Ajola, Amuda and Arulogum (2012) studied the effect of corporate board composition on the performance of Nigerian banking sector using the Pearson Correlation and Regression to analyze the relationship between corporate board composition variables and banks' performance and found that a negative but significant relationship exist between board size and the financial performance of the selected banks covering a period of five years. They further stated that it is more profitable to maintain a relatively small board size in the banking sector. Furthermore, Bawa and Lubabah (2012) examined corporate board composition and financial performance of banks on twelve banks in Nigeria covering a period of five years (2006-2010) and found negative relationship between board size and profitability of banks.

Uwuigbe (2011) in a study on corporate board composition and financial performance of banks in Nigeria, made use of secondary data in establishing the relationship between selected corporate board composition indicators and financial performance of the 21 deposit money banks listed in the Nigerian Stock Exchange in Nigeria. A panel data regression analysis method was adopted in analyzing the relationship that exists between selected corporate board composition indicators and the financial performance of the deposit money banks considered. The Pearson correlation was used to measure the degree of association between the selected variables. The result showed an inverse relationship between board size and performance as measured by the ROE. This inverse relationship indicates a significant negative effect of large board size on the financial performance of the listed banks. This finding also supports the view of Cheng, Chan

and Leung (2010) which maintains that it is difficult to organize a meeting and reach agreement quickly with large boards. Hence, the decision making process of larger boards would be slow and ineffective.

However, on a contrary view, Akinyomi and Olutoye (2015) examined corporate board composition and profitability of Nigerian banks. Regression analysis was employed to analyze the data extracted from audited financial statements of the selected banks. The result revealed the existence of a positive but non-statistically significant association between board size and profitability. They further concluded that larger board sizes are ideal for ensuring board effectiveness and efficiency in improving firms' performance. Also, Ogege and Boloupremo (2014) assessed corporate board composition and financial performance of banks: evidence from Nigeria. They employed a regression analysis. The results showed a positive relationship between board size and the performance of banks in Nigeria. This positive relationship means that a large board size is ideal for achieving high performance in the banking sector.

Furthermore on the preference of larger board sizes, Adeusi, Akeke, Aribaba and Adebisi (2013) examined the effect of board size on the performance of ten selected banks for a period of six years (2005-2010) using econometric model of linear regression and found that increasing number of board size increases the performance of banks. Over the years and as revealed in the various literatures reviewed above, the debate on how board size affects the performance of banking firms have centered around the choice between the small board size and the large board size. At the moment, there are different opinions as to which board size is the better. The studies of Asuagwu (2013), Ayorinde, Toyin and Leye (2012), Akpan and Rima (2012), Ajola et al. (2012), Bawa and Lubabah (2012) and Uwuigbe (2011) supports the proposition that a relatively small size is ideal for banking firms and more effective for ensuring high performance. However, the studies of Akinyomi and Olutoye (2015), Ogege and Boloupremo (2014) and Adeusi, Akeke,

Aribaba and Adebisi (2013) on the contrary supports the proposition that a relatively large board size as ideal for banking firms. Hence, on this basis, we propose a hypothesis for the purpose of this study, stating as follows;

H0₁: Large board size does not contribute to the performance of deposit money banks in Nigeria

2.3.2 Board Independence and the Performance of Deposit Money Banks in Nigeria

Board independence for the purpose of this study was captured by the ratio of non-executive directors to the total number of directors on the board of directors at a given financial year. It is important to note that the corporate board composition code of Nigeria advocates the presence of independent directors on the board. These directors are outside directors who are independent of the bank, i.e. they have neither personal nor business relationships with the bank (Ogbechie and Koufopoulos, 2010). They are meant to serve as representatives of the shareholders to check the operations and decisions of the executive directors on the board. Hence, the presence of independent directors could have a significant impact on the performance of deposit money banks in Nigeria.

The study of Akinyomi and Olutoye (2015) which examined corporate board composition and profitability of Nigerian deposit money banks, employed regression analysis to analyze the data extracted from the audited financial statements of the selected deposit money banks. The result revealed the existence of a positive but insignificant association between board independence and banks' performance in Nigeria.

Also, Ogege and Boloupremo (2014) studied corporate board composition and financial performance of banks, with evidence from Nigeria. Their study employed the regression analysis. Their results revealed a positive relationship between the board independence and the performance of banks in Nigeria. Consequently, they explained that the presence of independent

directors on the board of banking firms help to ensure that the board (i.e. including the executive directors) pursues the interest of the shareholders or owners of the bank.

However, away from the norm, Uwuigbe (2011) carried out a study on corporate board composition and financial performance of banks in Nigeria. This study considered secondary data in establishing the relationship between corporate board composition and financial performance of the 21 deposit money banks listed on the NSE. The panel data regression analysis method was adopted in analyzing the relationship that exists between corporate board composition and the financial performance of the studied banks, while the Pearson correlation was also used to measure the degree of association between variables under consideration. The result revealed that independent or outside directors do have significant but negative impact on bank performance as measured in terms of ROE.

Similarly, it was also established that non-executive independent directors reduce firm performance and this negative effect was even more important during the recent financial crisis (Priya and Nimalathan, 2013), as the non-executive independent directors prefer conservative business strategies in order to protect shareholders, but this behaviour add more cost and lower firm's financial performance. Numerous studies have evidenced that the proportion of non-executive independent directors is correlated to firm performance. This shows that companies with more non-executive independent directors tend to be more profitable than those with fewer non-executive independent directors. This also suggests that increasing the level of the proportion of non-executive independent directors should simultaneously increase firm performance as they are more effective monitors of managers. Therefore, we expect positive financial performance of deposits money banks in Nigeria with the presence of non-executive independent directors.

Following the empirical trend as revealed above, emphases on the relationship between board independence and banks' performance have centered on the impact of the independent directors on board effectiveness and the financial performance of banks, bearing in mind, the need to achieve a board independence level that will attract a relatively moderate agency cost. Some studies like Akinyomi and Olutoye (2015), Ogege and Boloupremo (2014) and Duchin et al. (2010) supports the need for independent or outside directors; while studies like Priya and Nimalathan (2013) and Uwuigbe (2011) on the contrary supports the proposition that independent directors do not contribute to banks' performance. To this end, we hereby propose a hypothesis for the purpose of this study, stating as follows;

H0₂: Independent directors do not contribute to the performance of deposit money banks in Nigeria

2.3.3 Board Equity Holding and the Performance of Deposit Money Banks in Nigeria

Board equity holding for the purpose of this study is captured by the percentage of the total outstanding shares of the selected banks owned by the directors of such banks. Since the corporate board composition code allows directors to own certain proportions of the total equity, this has formed part of the ways of compensating some directors over the years. With such shares, directors earn a status of 'affiliate.' Affiliate means a person who controls, and control is defined as the power to direct control. Independent directors should own shares but not substantial. It should not be more than 0.01% of the total paid up capital of the company, and the detail of such holdings must be disclosed in the annual reports of the company

Ayorinde, Toyin and Leye (2012) studied the effect of corporate board composition on the performance of the Nigerian banking sector. The judgmental sampling technique was used in selecting the 15 listed banks out of 24 banks that met the consolidation date line of 2005. These banks were considered because they were listed in the Nigerian Stock Exchange. Their result

revealed a positive correlation between the directors' equity interest and banks performance. This further argued that it is only normal that individuals who form part of management of banks in which they also have equity ownership have a compelling business interest to run them well. Specifically, Fahlenbrach and Stulz (2011) analyze the influence of CEO incentives and share ownership on bank performance and find no evidence for a better performance of banks in which the incentives provided by the CEO's pay package are stronger (i.e., the fraction of equity-based compensation is higher). After analyzing few banks, their results indicate that option-based compensation has no negative influence on bank performance. They further emphasized that the CEOs considered neither reduced their stock holdings in anticipation of the crisis nor hedge their holdings.

Also, Uwuigbe (2011) carried out a study on corporate board composition and financial performance of banks in Nigeria. This study considered secondary data in establishing the relationship between corporate board composition and financial performance of the 21 deposit money banks listed on the NSE. The panel data regression analysis method was adopted in analyzing the relationship that exists between corporate board composition and the financial performance of the studied banks, while the Pearson correlation was also used to measure the degree of association between variables under consideration. The result revealed a significant positive correlation was observed between directors' equity interest and banks' performance

Furthermore, Erkens, Hung, and Matos (2010) used an international sample of 296 financial firms from 30 countries. Consistent with Beltratti and Stulz (2010), they concluded that firms with higher institutional ownership compared to directors' ownership experienced worse stock returns during the crisis. This is because such firms with higher institutional ownership took more risk prior to the crisis which resulted in larger shareholder losses during the crisis period. This interprets that directors' stockholding encourages performance.

However, away from the previous findings, Akinyomi and Olutoye (2015) which examined corporate board composition and profitability of Nigerian banks applied the regression analysis to analyze the data extracted from audited financial statements of the selected banks. The result revealed a negative and non-significant relationship between directors' interest and profitability.

Ahmad and Mensur (2012) also examined corporate board composition and financial performance of banks in the post consolidation era in Nigeria. To achieve this, data were obtained from 11 banks for a period of 5 years. The independent samples t-test was employed to analyze data gathered for the study. Multiple regressions (Analysis of Variance) were used to further analyze hypotheses two and three. Findings revealed that directors' ownership of shares does not really ignite their passion to improve performance in order to yield high returns.

Following the empirical trend as revealed above, there have been mixed views about board equity ownership. Some authors agree that directors who own equity in the company should be disqualified from being independent, and hence, may not be of negative effect to performance (Akinyomi and Olutoye, 2015; Ahmad and Mensur 2012), while others believe that directors' ownership of equity is advantageous to the banks' performance. To this end, we hereby propose a hypothesis for the purpose of this study, stating as follows;

H03: Directors' equity holding does not contribute to the performance of deposit money banks in Nigeria

2.3.4 Board Expertise and the Performance of Deposit Money Banks in Nigeria

Board experience for the purpose of this study was measured by the percentage of directors that have at least ten (10) years of industrial experience. Shiah-Hou and Cheng (2012) examined how directors' experience and their compensation affect firm performance through the quality of their monitoring and advising when the traditional board structure devices do not seem to work well. Using the two-way fixed effects and least squares regression models, the study established that

directors' experience has a positive and significant impact on the performance of banking firms. This result builds on the conclusion of Alänge and Steiber (2009) that the creation of board commitment for sustainability of major organizational change and higher financial performance is dependent on important things factors such as board competence and experience, board meeting dynamics and board as a provider of critical resources among others.

The study of Petri and Soublin (2010) emphasized a board of directors should possess the necessary degree of experience, in order to gain the respect and trust of the owners. However, the evidence above does not support the claims of Darmadi (2013), Ujunwa (2012) and George and McIver (2011). The case of Darmadi (2013) considered the influence of the expertise of board members, as well the CEO, on the financial performance of Indonesian listed banks. This evidence supports the view of Hsu (2010) whose study showed that board quality (board expertise and educational background) has no significant relationship with banks' performance.

According to Ujunwa (2012), the number of board members with PhD qualifications impacted positively on firm performance in quoted firms in Nigeria. However, the issue of experience is a matter of how long a director have been with the company, which in reality, has no significant effect on banks' financial performance. In alignment with this, Shan, George and McIver (2011) hold that the expertise of a board of directors was not a significant determinant of corporate financial performance in China.

Waithaka (2014) carried out a study on the influence of corporate board composition on financial performance in the banking industry in Kenya to sought to answer and understand how technical expertise of corporate boards, how director's compensation, director ownership and board independence influence financial performance of banks. The study used descriptive and explanatory research designs with sample of thirty nine (39) banks such as linear regression and correlation on statistical package for social services. The findings of the study indicated that

technical expertise of most boards was high with 76% of directors being university graduates, 68% of the boards with four (4) or more levels of expertise and 68% of directors with more than fifteen (15) years experience. There was a significant relationship between expertise and financial performance; experience in years and financial performance. However, there was no significant relationship between education qualifications and financial performance.

The findings above have revealed a mixed reaction in relation to the significance of directors' experience some studies here concludes that board experience is significant for ensuring higher financial performance; while others believe that board experience has no significant effect on performance. On this basis, we hereby propose a hypothesis for the purpose of this study, stating as follows;

H04: Board experience has no significant effect on the performance of banks in Nigeria

2.3.5 Board Committees and the Performance of Deposit Money Banks in Nigeria

Board committees as used for the purpose of this study was captured by the number of active board committees in the selected banks and for the selected study period; with special emphases on the audit committee. Board committees are established to check the activities of directors and also to ensure that the directors pursue the interest of the shareholders or owners of the firm above their own personal interests. These committees are necessary for committing the directors towards fulfilling their fiduciary responsibilities towards the firm's owners. The major objective of the shareholders is to maximize profit (which can be interpreted into higher return on their investment) and also to ensure going concern (which is a guarantee for continuous returns on their investment). These committees include audit committee, remuneration and compensation committee, nomination committee, and the risk assessment and management committee among other.

The audit committee is one of the subcommittees that are established by the companies with the responsibility of supplying the assurance on financial and compliance issues. Its role includes choice and monitoring of accounting principles and policies, overseeing appointment, dismissal of external auditors, monitoring internal control process, discussing risk management policies and practice with management and overseeing the performance of internal audit function.

The position of Adeusi, Akeke, Aribaba and Adebisi (2013) on the need for board committees like the audit committee makes logical sense as the interest of shareholders can be protected by a number of individuals who will be difficult to manipulate, especially when they are large in number. Furthermore, it was revealed that the presence of these board committees make for smooth operation of the board in pursuing the shareholder' interest and ensuring higher performance.

Puni (2015) examined the impact of Board Committees on corporate financial performance among companies listed in the Ghana Stock Exchange (GSE). The quantitative research approach was adopted from 2006 – 2010. Data was sourced from annual report of listed companies and a static panel regression model was employed to analyze the presence of various committees on corporate financial performance (CFP) measured by Return on Equity, (ROE) and Return on Asset (ROA) and independent variables measured by Board size, Board Committee, Audit Committee, Remuneration Committee and Nomination Committee. The result revealed a positive relationship between board size and CFP. A similar relationship exists between shareholder concentration and both measures of corporate financial performance. While audit committee exhibits a positive relationship with ROA, it is negatively related to ROE. Both remuneration and nomination committees have negative relationships with the two measures of profitability.

Following the foregoing trend, there exist a mixed reaction with respect to the relationship between the existence of board committees like the audit committee and banks' performance. Hence, we propose a hypothesis which states thus;

H0₅: Board committees have no significant effect on the performance of banks in Nigeria

2.3.6 Frequent Board Meetings and the Performance of Deposit Money Banks in Nigeria

Frequent board meetings as used for the purpose of this study was captured by the number of meetings held by the board of directors in single financial year. On the importance of board meetings, Bebeji, Mohammed and Tanko (2015) emphasized the need for corporate board composition in the Nigerian banking structure. They observed that corporate board composition has significant effect on the performance of banks in Nigeria. They also realized that, while some corporate board composition characteristics such as board composition positively influenced the performance of banks in Nigeria. Hence, they further emphasized through their findings that when the frequency of board meetings is high, it results to board effectiveness and then ultimately higher bank performance as measured by the return on equity (ROE).

Akingunola, Adedipe and Olusegun (2015) also examined corporate board composition and bank's performance in Nigeria. Their main objective was to evaluate the impact of corporate board composition and bank's performance in Nigeria (post-bank's consolidation). They combined the return on equity (ROE) and return on assets (ROA) to capture banks' performance, while they also employed the ordinary least squares regression method to analyze the data obtained. Their result shows that board effectiveness is critical for achieving higher bank performance; while an effective board is one that ensures frequent board meetings.

Adeusi, Akeke, Aribaba and Adebisi. (2013) carried a study on "Corporate board composition and Firm Financial Performance" employing a sample of 10 selected deposit money banks in Nigeria. After reviewing their annual reports over 5 year to examine the relationship between

corporate board composition and performance in Nigeria banking sector, their result revealed that improved board performance of the banking sector is not dependent on increasing the number of executive directors and board composition, but dependent on the frequency of board meetings and how fast managerial issues are resolved effectively. It showed further that when directors meet frequently for strategic decisions and other managerial issues, then such firms are bound to achieve higher financial and non-financial performance.

However, a contrary opinion was held in the study of Ajala, Amuda and Arulogun (2012) which examined the effects of corporate board composition on the performance of Nigerian banking. The secondary source of data was adopted and these data were obtained from the annual report of the selected banks. The Pearson Correlation and the regression analysis were used to find out whether there is a relationship between the corporate board composition variables and firms performance. The study revealed that a negative and insignificant relationship exists between board size and the financial performance of these banks while a positive and significant board meetings and banks' performance as measured by the return on equity (ROE).

On the issue of frequent board meetings as a good corporate board composition indicator, prior findings have revealed a mixed reaction in relation to its significance. Some studies (Bebeji, Mohammed and Tanko, 2015; Akingunola, Adedipe and Olusegun, 2015; and Adeusi, Akeke, Aribaba and Adebisi, 2013) advocates the need for frequent board meetings as a means of ensuring board effectiveness and higher banks' performance, while other studies like Ajala, Amuda and Arulogun (2012) among others do not see frequent board meetings as an important factor to be considered for improving banks' performance. On this basis, we hereby propose a hypothesis for the purpose of this study, stating as follows;

H0₆: Frequent board meetings has no significant effect on the performance of banks in Nigeria

2.3.7 The Presence of Women on the Board and the Performance of Deposit Money Banks in Nigeria

The presence of women as directors on the board as used for the purpose of this study was captured by the ratio of women directors to the total number of directors on the board of the selected banks in a given financial year. The issue of women on board has gained attention globally. Prior studies have maintained that the presence of women on the board cannot be overemphasized (Upadhyaya and Puthenpyrackal, 2013). Specifically, it has been argued that women are meticulous, risk averse, skilled in accounting and finance, and good decision-makers (Azmi and Barrett, 2013). This is why several researchers have focused on the effects of female executives and directors on firm's financial performance and market value.

Joeckset, Pull & Vetter (2013) revealed through their study that the presence of female directors is important driver of board effectiveness. Furthermore, they explained that those boards with women are related to higher financial performance. They also emphasized that women are better monitors than men because they attend board meetings more regularly, promote the attendance of their male peers, and are more likely to work on monitoring committees. These authors also concluded that women's intense monitoring influences their positive effect on financial performance.

Following the trend on the relationship between women directors and financial performance of banks, the empirical findings as reported above are not consistent. Some studies hold a positive relationship between women directors and financial performance, while others believe that the presence of women on the board has no relationship, or even have a negative relationship with financial performance. On this basis, we hereby propose a hypothesis as follows;

H07: The presence of women on the board has no significant effect on the performance of banks in Nigeria

Board Operations

This cluster includes the following factors – quality of board papers and when they are received, quality of information that gets to the board, conduct of board meetings, attendance and participation at board meetings, director development and leadership style of the chairman. The level of preparation of directors for a board meeting is important. This will depend on when board papers are received, the quality of information in the board papers and the additional effort made by the directors to understand the bank's operations and the business environment. In addition the agenda of the board meeting will have a bearing on the effectiveness of the board. An agenda that is dominated by operational issues, of less importance, and with the omission of strategic issues will not lead to high level of effectiveness. The chairman has to be a strong leader but not domineering and should conduct meetings in a constructive and positive way in order to move the board forward. Frequency of board meetings will have some impact on effectiveness. The higher the number of quality board meetings the better.

Board Tasks

This cluster includes – various roles of the board, and support of management. Drawing on various normative models of boards, particularly Garrett (1997), five board roles are defined: strategic direction and policy making; external accountability and relations with stakeholders; supervising and supporting management; stewardship of the organization's resources; and board maintenance. For the board to add value to the organization, it must emphasize on its strategic role which entails its involvement in determining the long term strategic direction of the organization. In addition the role of the support of the board to management should include quality advice that will help management to perform better. The monitoring role of the board will help keep management in check.

Individual Director Norms

This cluster includes – personality of individual directors, integrity, ethics, attitude, commitment, and independence. Behavioural characteristics of directors will have a bearing on the effectiveness of the board. Directors with domineering and overbearing personality are likely to cause disharmony on the board. Integrity of directors, their ethical standard and attitude will likely influence their expectations and behavior on the board. Commitment of individual directors will most likely lead to higher level of interest and will lead to availability at board meetings and in turn will lead to effectiveness.

Board Culture

This cluster includes the following factors – transparency of the board, openness in discussions, level of involvement of directors, atmosphere at board meetings, sharing of common vision by directors and level of team spirit on the board. Culture in this case is a set of informal unwritten rules which regulate board and directors' behaviour. A vibrant board that works towards adding value to the bank should have a culture of open debate and freedom of thought. It should also have a high level of director involvement in board meetings and activities. The general atmosphere at the board will determine to some extent the way the board operates, a friendlier and open atmosphere will lead to frank and useful discussions and debates. Boards need to pursue a common vision if all directors are going to 'sing from the same song sheet'.

Relationship between Board Members

This cluster includes – interpersonal relationships between the directors, cohesiveness of the board, and informal contacts between directors, teamwork, trust, and respect. The level of interpersonal relationships between the board members, the right chemistry

Board – Management Relationships

This cluster includes – quality of management, informal contacts between directors and management, trust, respect, and proper understanding of functions.

Board Decision Making

This cluster includes the following – board decision making process and quality of the debates. The board should not act as a rubber-stamping body to avoid putting the long-term performance of the organization at risk. The decision making process of the board should include real in-depth discussion and contributions that are objective. Directors should share their knowledge, experience and information available to them for the board to make quality decisions.

Degree of Importance of the Determinants

Our results show that the competence (knowledge and skills) of directors and the diversity of the board with respect to background, experience and age, are considered to be the most important determinants of board effectiveness. The researcher concluded that this study which is the first of its kind in Nigeria is intended to be exploratory and should lead to further studies in this area using quantitative approach to substantiate some of the preliminary findings. The results of this study reveal some interesting issues about boards in the Nigerian banking industry. Competence of directors is seen as the most important determinant of effective boards. This implies that the knowledge, skills and abilities possessed by directors are critical for board effectiveness in the Nigerian banking industry. However, they have to be relevant to the banks rather than general business acumen. Diversity is the second most important determinant, which will ensure a strong diverse experience and background base on the board. One of the functions of the board is to provide quality support and advice to the CEO and top management. The effectiveness of these support and service roles of the board will depend on the boards' cumulative human capital that is often linked to background, experience and expertise of the directors. A number of studies argue that board diversity in terms of directors' professional experiences should lead to more

efficient service/expertise/counsel roles of the board and, as a result, to better performance. Compliance with the code and relevant laws and regulations is the third most important and this key in an environment like Nigeria's where enforcement is weak. As the Nigerian banking industry opens up to international investors, they will be expected to operate with world-class standards. The banks that adopt best practices will get the most interest from international investors. The more Nigerian banks reach out to global investors, the greater the pressure will be to adopt corporate board composition best practices.

The study of Petri and Soublin (2010) emphasized that board of directors should possess the necessary degree of experience, in order to gain the respect and trust of the owners. Meanwhile, it has been previously established through the finding of Ingley, Vander, Coral and Walt (2008) that skepticism among board members was a huge challenge faced by organizations; but if members of the board have the required financial and managerial experience, then their collective decisions will yield high financial and non-financial performances.

According to Ujunwa (2012), the number of board members with PhD qualifications impacted positively on firm performance in quoted firms in Nigeria. However, the issue of experience is a matter of how long a director have been with the company, which in reality, has no significant effect on banks' financial performance. In alignment with this, Shan, George and McIver (2011) hold that the expertise of a board of directors was not a significant determinant of corporate financial performance in China. The findings above have revealed a mixed reaction in relation to the significance of directors' experience some studies here concludes that board experience is significant for ensuring higher financial performance; while others believe that board experience has no significant effect on performance.

Torea, Feijoo and Cuesta (2016) conducted a study on Board of director's effectiveness and the shareholder perspective of corporate board composition to know if the board of directors that are

effective in addressing shareholders interest prove to be effective in guaranteeing the interest of the rest of firm's stakeholders by measuring board effectiveness based on the shareholders perspective using the measures of board independence, presence of women on board, director's experience, number of board meetings, board committees and financial performance between 2009 – 2012. The researcher indicated that board effectiveness positively influences the transparency of sustainability reports as a proxy for the stakeholder perspective of the firm's corporate governance. As expected, this relationship shows that board effectiveness under the shareholder perspective of corporate board composition is also a valid construct under the stakeholder perspective. This result implies that boards effective in protecting shareholder value are also effective in responding to the interests of the rest of the firm's stake-holders.

The shareholder perspective shows a narrow scope. It considers that corporate board composition mechanisms should only contribute to protecting shareholder interests and increasing firm value. In contrast, the stakeholder perspective shows a wider scope and considers that the firm's corporate board composition mechanisms should guarantee the interests of all the stakeholders. This perspective includes shareholders as a specific type of stakeholders. Our findings show that the scope of board effectiveness broadens as the perspective of corporate board composition broadens. The result reinforces the idea that shareholder interests are also advocated under the emergent stakeholder perspective. The results may also be explained by the fact that the interests of shareholders are expanding and these shareholders are giving greater importance to CSR. This is particularly the case of significant shareholders. As a consequence of their long-term interest in the firm, they are more likely to invest in CSR (Godos-Díez et al., 2014). In addition, these shareholders are concerned about maintaining their reputation, which is closely linked to that of their corporations and may be preserved through CSR. Thus, the interests of shareholders are becoming partially aligned with those of the rest of stakeholders. Therefore, in consonance with

our results, when a board of directors promotes CSR practices and reporting, it is also effective in considering the interests of significant shareholders all at the same time. All of the control variables were found to have the expected significant and positive effect on the stakeholder perspective, using the transparency of sustainability reports as a proxy. Consistent with previous research (Fifka, 2013; Hahn and Kühnen, 2013), we found that larger companies are more likely to offer more transparent CSR information. Firms operating in environmentally sensitive industries also produce more transparent sustainability reports. As Young and Marais (2012) concluded, companies belonging to these industries provide better CSR reporting to gain legitimacy. Finally, firms from stakeholder-oriented countries publish more transparent sustainability reports. This result corroborates the result of Young and Marais (2012), who found that companies from stakeholder-oriented countries disclose better CSR information than those from shareholder-oriented countries.

Similarly, Masulis and Mobbs (2010) in their study concluded female directors help to reduce the level of managerial conflicts on the board of corporate firms, and they easily make use of board development activities, such as work instructions, evaluations, and development programs to improve board effectiveness and firms' performance.

Following the trend on the relationship between women directors and financial performance of banks, the empirical findings as reported above are not consistent. The frequency of board meetings tend to be negatively related to CFP. There was no problem of multi collinearity since the correlation coefficients indicated by the matrix were within acceptable limit. A panel static model was therefore estimated to establish the effect of board committees on CFP shown in Table 3 below. Before then a Hausman test was conducted which lead the choice of the random over the fixed effects model. The findings contradicts the suggestion of the agency theory that nomination committees with the right composition of outside directors can result in the selection

of independent, skillful, knowledgeable, and experienced board members for better oversight and strategic responsibilities. The outcome is consistent with Horstmeyer (2011) who asserted that large size nomination committee was negatively related to outside director turnover.

Remuneration committee (RC) has a positive effect on financial performance but it is statistically insignificant for both measures of performance. Additionally, the outcome can be liken to the Sun et al (2009) who exposed that the quality of the compensation committee accounted for the alignment of CEO compensation to CFP. Their findings also bring to fore the close relationship between the agency and the resource dependency theory in the sense that the quality of outside directors on the committee go a long way in providing the necessary leadership for effective monitoring of executive pay. Critics of executive pay frequently asserts that CEO pay is not sufficiently linked to corporate financial performance, suggesting that remuneration committees often do not factor shareholders interest in the fixation of executive remuneration.

The results indicated that the average compensation per director was KShs 6,626,830 per annum. In 95% of banks, directors had insignificant shareholding while in 81% of the banks; directors did not hold any shares in their capacity as directors. There was a linear relationship between shareholding held by directors, director compensation and financial performance. The results also show that there was a significant relationship between average compensation per director and financial performance; number of directors with shareholding and financial performance. However, there was no significant relationship between director shareholding and financial performance.

The results indicated that all banks had four (4) or more non-executive directors and one (1) or more executive directors. 73% of banks had 6 or more non-executive directors while 54% of banks had one (1) executive director. The mix between the number of executive directors and the

number of non-executive directors was 1:4. There was a significant relationship between the number of executive, non-executive directors and financial performance.

From the results, the researcher concluded that technical expertise of directors in the banks' boards was high. The findings indicated that board expertise influenced financial performance since there was a significant relationship between board expertise and net profit. There was also a significant relationship between experience in years and net profit.

The researcher concluded that director compensation influenced financial performance as there was a significant relationship between average director compensation and net profit. There was also a significant relationship between the number of directors with shareholding and financial performance. The range of director compensation was high while shareholding held by directors was largely insignificant.

2.4 Literature Gap

There have been series of research in the field of corporate governance all over the world; Nigeria inclusive, and such research have focused on varying measures of corporate governance that affects all the parties to corporate governance in a firm (i.e. the shareholders, the board of directors and the management team). However, in Nigeria, only few studies have embarked upon in this area of corporate board composition and performance of Deposit Money Bank in Nigeria such like Ogbechie and Koufopoulos (2010), Abu, Okpeh and Okpe (2016), Edem (2015), Iiduara and Bersant (2015) using only four (4) corporate board composition indicators. But in this study, six (6) variables of corporate board composition have been carefully applied to determine how an effective board of directors can achieve high value for the shareholders on financial performance in Nigerian deposit money banks, because negligence is the direct consequence of the separation of ownership from control which is very common in modern corporation. The study is also in line with the study of Apan and Rima (2012) who considered

eleven (11) selected deposit money banks in Nigeria and were measured using company performance measured by Return on Equity (ROE), board meeting- the total number of meetings held during the period, audit committee meeting, board size – the number of directors on the board, gender – number of women directors divide by the total number of directors on the board, board age – the percentage of young directors between the age of 25 and 50 years on the board, director`s equity – proportion of the number of share held by directors to the total shares in the company. The finding shows that most of the banks have positive relationship with ROE.

2.5 Summary

The literature review focused on comprehensive overview of the concept of corporate board composition. The study will also consider a theoretical framework that embraced the agency theory, the stakeholder theory, the stewardship theory and the political theory. Furthermore, the empirical review will reveal reaction from prior researchers on the various objectives as proposed for the purpose of this study. On board size, the debate is on the preference between large and small board sizes; on board expertise, the debate centers around on the relevance of directors' expertise in adding values to the firm; on board committee, the debate is on the importance of establishing such committees as the audit committee among others; on board meetings, the debate centers around the significance of frequent board meetings; while on the presence of women on the board, the debate is whether the presence of women on the board affect performance significantly.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This study focused on corporate board composition and the performance of banks in Nigeria. However, the researcher established a background and comprehensive review of prior literatures that followed a proposed methodology for data collection and analysis, in order to achieve the set objectives of this study. It refers to the systematic rules and procedures upon which a research is based against which claims for knowledge assumption are proved in favor of a decision (Asika, 2004). Furthermore, the Industrial Research Institute (2010) believes that research methodology is a way to find out the result of a given test carried out on a specific matter referred to as research problem. This chapter is concerned with the following: research design, population and sample size, sample techniques, instrument for data collection, method of data collection, technique of data analysis, model specification and apriori expectation.

3.2 Research Design

A research design is the blueprint for conducting a study of maximum control over factors that may interfere with the validity of findings (Burns and Grove, 2003). It is a systematic plan to study a scientific problem; it can be described as the program that guides the researcher in the process of collecting, analyzing and interpreting data.

This study employed survey research design which is also called quasi experimental quantitative research design of empirical studies that never and rarely occur inside a laboratory test (Baridam, 2008). This was also suggested by previous studies of Edem (2015) and Creswell (2009). The study allows for the collection of past and multi-dimensional data which provides basis for the full establishment of the relationship between and among variables of corporate board composition and financial performance of Deposit money banks in Nigeria.

3.3 The Study Population and Sample Size

For purpose of this study, it is important to state that the population of the study is all deposit money banks (DMBs) in Nigeria. The number of deposit money banks as at when this study is being carried out is twenty-two (22) as indicated by the CBN website.

Sampling Size

Considering the sample size of this study, a sample of eleven (11) out of twenty two (22) deposit money banks will be selected. These banks include Access Bank Plc., Diamond Bank Plc., Eco Bank Plc., Fidelity Bank Plc., First Bank Plc., Guarantee Trust Bank Plc., Sterling Bank Plc., Union Bank Plc., United Bank for Africa Plc., Wema Bank Plc. and Zenith Bank Plc. The purpose of selecting these banks mentioned above is because of the study period, such that those banks have been established on or as at 1997 and still in existence up to date 2016. However, the study will cover from 1997-2016 which will be 20 years study.

3.4 Sampling Techniques

The method of determining the sample size is referred to sampling technique (Olannye, 2006). The study employed the judgmental sampling technique which was ultimately used in drawing the sample. This resulted to the researcher's emphases to choose from only existing Deposit Money Banks (DMBs) that has been in existence since 1997 till 2016 and their data were readily available from 1997 – 2016.

3.5 Method of Data Collection

The data used for this study were generated from the audited, annual financial statements of eleven (11) deposit money banks (DMBs) under study covering a period of 20 years (1997-2016). The data were drawn from the yearly annual report of eleven (11) Deposit Money Banks

(DMBs) listed on the Nigeria Stock Exchange (NSE) particularly those that are listed from 1997-2016 and are in the websites of the banks from 1997-2016.

3.6 Data Analysis Techniques

The study adopted regression analysis in measuring the collected data through statistical software technique E-view version 7.0 to examine the relationship between the independent variables and the dependent variable. The regression model used was the Linear Regression Analysis. This was mathematically represented as:

$$y=a+b_1X_1+b_2X_2+b_3X_3+b_4X_4+b_5X_5+b_6X_6 +b_nX_n \dots\dots\dots \text{eqn 1}$$

Where:

Y = Value of dependent variable that is being predicted

“The dependent variable here is performance of Deposit Money Banks.

a = A constant, equals the value of Y when the value of x = 0

b_n = the co-efficient of X, how much Y changes for each one unit of

X_n = Represents the variable number, i.e. the independent variables X₁-X_n

The test statistics estimation that will be applied are Ordinary Least Square (OLS), Diagnostic Check, Unit root if need be, Co-integration and Granger Causality Test. These statistical measures are in line with the work of Akpan (2012) and Abdulazeez (2016).

3.6.1 Variable Specification

There are two basic variables that always required in research: Dependent variable and independent variables. For this study, dependent variable indicator is financial performance of Deposit Money Banks (DMBs) while the independent variable is corporate board composition.

The dependent variable; Financial Performance of DMBs can be measured with Return on Asset (ROA), Return on Equity (ROE), Return on Investment (ROI), Return on Capital Employee (ROC) or Profit After Tax. But for this study, Return on Equity (ROE) was used as the Financial

Performance indicator. The use of ROE as performance indicator allows investors to assess how effective companies manage resources to generate income for shareholders. This variable performance indicators used are in line with the study of Edem (2015) and Abu, Okpeh and Okpe (2016), John and Ibenta (2016). ROE is measured as a ratio of Profit after Tax to total shareholder funds in this study.

The independent variable; Corporate Board was proxied by the following measures:-

- | | |
|---------------------|------|
| 1. Board Size | BRDS |
| 2. Board Expertise | BRDX |
| 3. Board Equity | BRDE |
| 4. Board Meetings | BRDM |
| 5. Board Committees | BRDC |
| 6. Women Director | WBRD |

Although Central Bank of Nigeria (CBN) Code of Corporate board composition addresses all corporate issues relating to the various parties to a firm such as shareholders, directors and management and other investors. However, we have selected the above listed corporate board composition measures as relates to board effectiveness because these indicators are geared towards ensuring that board of directors are effective at pursuing the interest of the owners which is to maximize profit.

3.6.2 Model Specification

This study adopted and modified the econometric model used by Belen and Marta (2016) which was given as:

$$ROE = B_0 + B_1BRDS + B_2BRDX + B_3BRDE + B_4BRDM + B_5BRDC + B_6WBRD + U_t \text{ Eqn. 2}$$

Where:

ROE = Bank Performance; Return on Equity and Predicators are

BRDS = Board Size: Number of directors on the board

BRDX = Board Expertise: Percentage of young directors between the age of 25 and 50 years on the board

BRDE = Board Equity: Proportion of the Number of share held by directors to the total shares in the company

BRDM = Board Meeting: The number of meeting held by the directors during the period

BRDC = Board Committee: Board that checks the activities of directors

WBRD = Women on Board: Number of women directors

3.6.3 Appriori Expectation

The appriori is such that $B_1BRDS, B_2BRDX, B_3BRDE, B_4BRDM, B_5BRDC, B_6WBRD > 0$. The implication of this is that a positive relationship is expected between explanatory variables (Board Size, Board Expertise, Board Equity, Board Meetings, Board Committees and Women Director) and Return on Equity (ROE). The size of the coefficient of correlation helped us explain various levels of relationship between the explanatory variables.

For Log transformation, the model was transformed to;

$$\text{LnROE} = B_0 + B_1\text{LnBRDS} + B_2\text{LnBRDX} + B_3\text{LnBRDE} + B_4\text{LnBRDM} + B_5\text{LnBRDC} + B_6\text{LnWBRD}$$

3.7 Summary

This chapter revealed the methods that were used in the process of carrying out this research study (i.e. the research methodology). We considered the ex-post facto research design, while time series secondary data source was adopted. For the purpose of this study, we also considered a sample of eleven (11) deposit money banks (DMBs) in the Nigerian banking sector.

CHAPTER FOUR RESULT AND DISCUSSION

4.1 Introduction

This chapter presents the analysis of the secondary data collected from the eleven (11) Nigerian Deposit Money banks (DMBs) Annual Reports from 1997 – 2016. The data from these sources are therefore presented in this chapter using tables. From table 4.1 to table 4.11, data analysis was discussed as well as testing of the hypotheses formulated in chapter one. We use E-view statistical model and OLS, unit root, Diagnostic test and co-integration estimates to analyze the impact of corporate board composition of the eleven Deposit Money Banks (DMBs) in Nigeria.

4.2 Data Presentation

Table 4.1: Data Presentation from Access Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	6	0.48057	0.06114	3	1	0.10057	0.03057
1998	6	0.47338	0.04676	3	1	0.09338	0.02338
1999	7	0.48421	0.06843	4	2	0.10421	0.03421
2000	7	0.48157	0.06313	4	2	0.10157	0.03157
2001	8	0.50388	0.10775	5	3	0.12388	0.05388
2002	8	0.45968	0.01937	5	3	0.10032	0.00968
2003	8	0.44513	0.00974	5	3	0.11487	-0.00487
2004	8	0.47465	0.04929	5	3	0.09465	0.02465
2005	8	0.47034	0.04068	5	3	0.09034	0.02034
2006	8	0.45749	0.01499	5	3	0.10251	0.00749
2007	9	0.46534	0.03068	6	4	0.09466	0.01534
2008	9	0.46553	0.03106	6	4	0.09447	0.01553
2009	9	0.48222	0.06444	6	4	0.10222	0.03222
2010	9	0.44873	0.00254	6	4	0.11127	-0.00127
2011	9	0.46607	0.03213	6	4	0.09393	0.01607
2012	9	0.45836	0.01671	6	4	0.10164	0.00836
2013	9	0.45997	0.01995	6	4	0.10003	0.00997
2014	9	0.46034	0.02069	6	4	0.09966	0.01034
2015	9	0.46118	0.02236	6	4	0.09882	0.01118
2016	9	0.46302	0.02603	6	4	0.09298	0.01302

Source: Computed from the Annual Report of Access Bank Plc. 1997 -2016

Table 4.2: Data Presentation from Diamond Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	7	0.62396	0.00792	4	2	0.15396	0.17396
1998	7	0.60063	0.00913	4	2	0.13063	0.15063
1999	7	0.57089	0.00913	4	2	0.10089	0.12089
2000	7	0.57801	0.01602	4	2	0.10801	0.12801
2001	7	0.58866	0.04732	4	2	0.11866	0.13866
2002	10	0.62418	0.04836	7	5	0.15418	0.17418
2003	10	0.59696	0.05392	7	5	0.12696	0.14696
2004	10	0.55888	0.05475	7	5	0.08888	0.10888
2005	12	0.56278	0.05556	9	7	0.09278	0.11278
2006	12	0.57387	0.06275	9	7	0.10387	0.12387
2007	12	0.62396	0.06292	9	7	0.15396	0.17396
2008	12	0.60063	0.06426	9	7	0.13063	0.15063
2009	12	0.57089	0.06426	9	7	0.10089	0.12089
2010	12	0.53252	0.06426	9	7	0.06252	0.08252
2011	12	0.52846	0.07692	9	7	0.05846	0.07846
2012	13	0.52600	0.07692	10	8	0.05600	0.07600
2013	13	0.51816	0.07692	10	8	0.04816	0.06816
2014	13	0.49571	0.09141	10	8	0.02571	0.04571
2015	13	0.67878	0.08756	10	8	0.20878	0.22878
2016	13	0.56189	0.08378	10	8	0.09189	0.11189

Source: Computed from the Annual Report of Diamond Bank Plc. 1997 -2016

Table 4.3: Data Presentation from Eco Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	8	0.53401	0.00802	5	3	0.54401	0.56401
1998	8	0.86682	0.00936	5	3	0.39682	0.41682
1999	9	0.71559	0.00936	6	4	0.24559	0.26559
2000	9	0.72333	0.00936	6	4	0.25333	0.27333
2001	9	0.91587	0.02174	6	4	0.44587	0.46587
2002	10	0.48025	0.03050	7	5	0.01025	0.03025
2003	10	0.47300	0.04601	7	5	0.09300	0.02300
2004	10	0.47990	0.04981	7	5	0.09905	0.02990
2005	13	0.47376	0.04752	10	8	0.09376	0.02376
2006	13	0.47466	0.04932	10	8	0.09466	0.02466
2007	13	0.47365	0.04729	10	8	0.09365	0.02365
2008	13	0.47758	0.05515	10	8	0.09758	0.02758
2009	13	0.56477	0.06954	10	8	0.09477	0.11477
2010	13	0.85644	0.06289	10	8	0.38644	0.40644
2011	13	0.86409	0.06289	10	8	0.68841	0.70841
2012	14	0.87750	0.06289	11	9	0.68841	1.02750
2013	14	0.84121	0.07243	11	9	0.68841	1.89121
2014	14	0.88194	0.07388	11	9	0.68841	1.93194
2015	16	0.89410	0.08191	13	11	0.68841	1.79096
2016	16	0.95948	0.08897	13	11	0.68841	2.10948

Source: Computed from the Annual Report of Eco Bank Plc. 1997 -2016

Table 4.4: Data Presentation from Fidelity Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	8	0.46607	0.03213	5	3	0.09393	0.01607
1998	8	0.45836	0.01671	5	3	0.10164	0.00836
1999	10	0.45997	0.01995	7	5	0.10003	0.00997
2000	10	0.46034	0.02069	7	5	0.09966	0.01034
2001	10	0.46118	0.02236	7	5	0.09882	0.01118
2002	12	0.97640	0.05281	9	7	0.25075	0.52640
2003	12	0.93075	0.06151	9	7	0.25075	0.48075
2004	12	0.85620	0.06239	9	7	0.47620	0.40620
2005	12	0.86678	0.06239	9	7	0.48678	0.41678
2006	12	0.79974	0.06239	9	7	0.41974	0.34974
2007	12	0.83384	0.06239	9	7	0.45384	0.38384
2008	12	0.84550	0.09099	9	7	0.46550	0.39550
2009	13	0.76343	0.06865	10	8	0.38343	0.31343
2010	13	0.72850	0.06865	10	8	0.34850	0.27850
2011	13	0.70455	0.06865	10	8	0.32455	0.25455
2012	13	0.67500	0.04999	10	8	0.29500	0.22500
2013	15	0.68272	0.06545	12	10	0.30272	0.23272
2014	15	0.68605	0.07210	12	10	0.30605	0.23605
2015	15	0.80645	0.01290	12	10	0.42645	0.35645
2016	15	0.93948	0.07896	12	10	0.55478	0.48948

Source: Computed from the Annual Report of Fidelity Bank Plc. 1997 -2016

Table 4.5: Data Presentation from First Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	5	0.85620	0.01239	2	0	0.38620	0.40620
1998	5	0.86678	0.03570	2	0	0.39678	0.41678
1999	7	0.79974	0.02947	4	2	0.32974	0.34974
2000	7	0.83384	0.03769	4	2	0.36384	0.38384
2001	7	0.67500	0.03999	4	2	0.20500	0.22500
2002	8	0.67501	0.03999	5	3	0.20501	0.22501
2003	8	0.73818	0.03999	5	3	0.26818	0.28818
2004	8	0.95094	0.03999	5	3	0.48094	0.50094
2005	8	0.76231	0.02462	5	3	0.29231	0.31231
2006	8	0.89306	0.06211	5	3	0.42306	0.44306
2007	8	0.96861	0.03723	5	3	0.49861	0.51861
2008	8	0.84009	0.02802	5	3	0.54401	0.56401
2009	10	0.86682	0.03364	7	5	0.39682	0.41682
2010	10	0.71559	0.03118	7	5	0.24559	0.26559
2011	10	0.72333	0.04667	7	5	0.25333	0.27333
2012	10	0.91587	0.03174	7	5	0.44587	0.46587
2013	10	0.93227	0.34547	7	5	0.65274	0.67274
2014	12	0.95295	0.06590	9	7	0.66295	0.68295
2015	12	0.96380	0.04276	9	7	0.28356	0.71380
2016	12	0.98756	0.07431	9	7	0.26356	1.38756

Source: Computed from the Annual Report of First Bank Plc. 1997 -2016

Table 4.6: Data Presentation from Guarantee Trust Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	8	0.48160	0.06319	5	3	0.10160	0.03160
1998	8	0.48008	0.06017	5	3	0.10008	0.03008
1999	8	0.48057	0.06114	5	3	0.10057	0.03057
2000	8	0.47338	0.04676	5	3	0.09338	0.02338
2001	10	0.48421	0.06843	7	5	0.10421	0.03421
2002	10	0.48530	0.07059	7	5	0.10530	0.03530
2003	10	0.48364	0.06727	7	5	0.12364	0.03364
2004	10	0.48484	0.06968	7	5	0.12364	0.03484
2005	10	0.48083	0.06166	7	5	0.12364	0.03083
2006	10	0.47935	0.05870	7	5	0.09935	0.02935
2007	10	0.48160	0.06319	7	5	0.10160	0.03160
2008	10	0.48008	0.06017	7	5	0.10008	0.03008
2009	10	0.48057	0.06114	7	5	0.10057	0.03057
2010	10	0.47338	0.04676	7	5	0.09338	0.02338
2011	12	0.48421	0.06843	9	7	0.10421	0.03421
2012	14	0.48157	0.06313	11	9	0.10157	0.03157
2013	14	0.50388	0.10775	11	9	0.12388	0.05388
2014	14	0.49727	0.09454	11	9	0.11727	0.04727
2015	16	0.49441	0.08881	13	11	0.11441	0.04441
2016	16	0.49141	0.08281	13	11	0.11141	0.04141

Source: Computed from the Annual Reports of Guarantee Trust Bank Plc. 1997 -2016

Table 4.7: Data Presentation from Sterling Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	8	0.67878	0.00756	5	3	0.20878	0.22878
1998	8	0.56189	0.00978	5	3	0.09189	0.11189
1999	8	0.56522	0.03043	5	3	0.09522	0.11522
2000	8	0.54248	0.04967	5	3	0.97248	0.99248
2001	8	0.49637	0.04275	5	3	0.02637	1.04637
2002	9	0.72596	0.05192	6	4	0.25596	0.27596
2003	9	0.54935	0.05192	6	4	0.37935	0.89935
2004	9	0.63113	0.05192	6	4	0.56113	0.58113
2005	9	0.65775	0.05550	6	4	0.18775	1.20775
2006	9	0.62898	0.05796	6	4	0.15898	1.17898
2007	9	0.67878	0.05796	6	4	0.20878	0.22878
2008	9	0.56189	0.06178	6	4	0.09189	0.11189
2009	9	0.56522	0.06043	6	4	0.09522	0.11522
2010	9	0.44248	0.07550	6	4	0.07248	0.99248
2011	9	0.49637	0.07690	6	4	0.02637	0.04637
2012	9	0.60673	0.07345	6	4	0.13673	0.15673
2013	9	0.69340	0.08681	6	4	0.22340	0.24340
2014	9	0.69088	0.09275	6	4	0.22088	0.24088
2015	9	0.70559	0.09275	6	4	0.23559	0.25559
2016	9	0.64827	0.10053	6	4	0.17827	0.19827

Source: Computed from the Annual Report of Sterling Bank Plc. 1997 -2016

Table 4.8: Data Presentation from Union Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	5	0.13936	0.02127	2	0	0.33064	-0.31064
1998	5	0.58963	0.27925	2	0	0.11963	0.13963
1999	5	0.35726	0.02548	2	0	0.11274	-0.09274
2000	5	0.45358	0.00715	2	0	0.01642	0.00358
2001	5	0.47354	0.04708	2	0	0.02354	0.02354
2002	7	0.47343	0.04686	4	2	0.03343	0.02343
2003	7	0.46717	0.03435	4	2	0.03283	0.01717
2004	7	0.47003	0.04005	4	2	0.03253	0.02003
2005	7	0.47107	0.04214	4	2	0.03107	0.02107
2006	7	0.47354	0.04708	4	2	0.03539	0.02354
2007	9	0.46956	0.03913	6	4	0.04356	0.01956
2008	9	0.47727	0.06454	6	4	0.00727	0.02727
2009	9	0.38580	0.06454	6	4	0.08420	-0.06420
2010	9	0.13936	0.06454	6	4	0.33064	-0.31064
2011	9	0.58963	0.07925	6	4	0.11963	0.13963
2012	9	0.35726	0.07925	6	4	0.11274	-0.09274
2013	9	0.45358	0.08152	6	4	0.01642	0.00358
2014	9	0.45581	0.09161	6	4	0.01419	0.00581
2015	9	0.47226	0.09452	6	4	0.05226	0.02226
2016	9	0.46775	0.09051	6	4	0.05225	0.01775

Source: Computed from the Annual Report of Union Bank Plc. 1997 -2016

Table 4.9: Data Presentation from United Bank for Africa Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	8	0.56278	0.02556	5	3	0.09278	0.11278
1998	8	0.57387	0.02477	5	3	0.10387	0.12387
1999	8	0.62396	0.03479	5	3	0.15396	0.17396
2000	8	0.60063	0.03013	5	3	0.13063	0.15063
2001	8	0.57089	0.04177	5	3	0.10089	0.12089
2002	10	0.57801	0.05602	7	5	0.10801	0.12801
2003	10	0.58866	0.05732	7	5	0.11866	0.13866
2004	10	0.62418	0.04836	7	5	0.15418	0.17418
2005	10	0.59696	0.06392	7	5	0.12696	0.14696
2006	10	0.55888	0.06392	7	5	0.08888	0.10888
2007	10	0.56278	0.07556	7	5	0.09278	0.11278
2008	10	0.57387	0.07175	7	5	0.10387	0.12387
2009	10	0.62396	0.07175	7	5	0.15396	0.17396
2010	10	0.60063	0.08261	7	5	0.13063	0.15063
2011	12	0.57089	0.04177	9	7	0.10089	0.12089
2012	14	0.53252	0.04177	11	9	0.06252	0.08252
2013	14	0.52846	0.06917	11	9	0.05846	0.07846
2014	14	0.52600	0.05200	11	9	0.05600	0.07600
2015	16	0.51816	0.06316	13	11	0.04816	0.06816
2016	16	0.49571	0.09141	13	11	0.02571	0.04571

Source: Computed from the Annual Report of United Bank for Africa Plc. 1997 -2016

Table 4.10: Data Presentation from Wema Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	7	0.57873	0.00746	4	2	0.10873	0.12873
1998	7	0.55513	0.00826	4	2	0.08513	0.10513
1999	7	0.74174	0.00935	4	2	0.27174	0.29174
2000	7	0.75626	0.00935	4	2	0.28626	0.30626
2001	7	0.70479	0.00935	4	2	0.23479	0.25479
2002	8	0.40060	0.03801	5	3	0.06940	-0.04940
2003	8	0.40983	0.05034	5	3	0.06017	-0.04017
2004	8	0.46466	0.06932	5	3	0.06534	0.01466
2005	8	0.47503	0.07006	5	3	0.06503	0.02503
2006	8	0.54455	0.07006	5	3	0.07455	0.09455
2007	8	0.56880	0.07006	5	3	0.09880	0.11880
2008	8	0.71692	0.08384	5	3	0.24692	0.26692
2009	8	0.53435	0.08384	5	3	0.06435	0.08435
2010	8	0.57873	0.08456	5	3	0.10873	0.12873
2011	10	0.55513	0.06026	7	5	0.08513	0.10513
2012	10	0.74174	0.06348	7	5	0.27174	0.29174
2013	10	0.75626	0.06521	7	5	0.28626	0.30626
2014	10	0.70479	0.07958	7	5	0.23479	0.25479
2015	10	0.82825	0.08507	7	5	0.31253	0.93253
2016	10	0.87064	0.08828	7	5	0.37064	1.39064

Source: Computed from the Annual Report of Wema Bank Plc. 1997 -2016

Table 4.11: Data Presentation from Zenith Bank Plc.

YEARS	BRDS	BRDX	BRDE	BRDM	BRDC	WBRD	ROE
1997	8	0.50125	0.02500	5	3	0.03125	0.05125
1998	8	0.51187	0.03747	5	3	0.04187	0.06187
1999	8	0.54760	0.03747	5	3	0.07760	0.09760
2000	8	0.54904	0.03747	5	3	0.07904	0.09904
2001	8	0.52278	0.05558	5	3	0.05278	0.07278
2002	10	0.49727	0.05558	7	5	0.02727	0.04727
2003	10	0.50452	0.05558	7	5	0.03452	0.05452
2004	10	0.49766	0.06533	7	5	0.02766	0.04766
2005	10	0.50125	0.06533	7	5	0.03125	0.05125
2006	10	0.51187	0.06533	7	5	0.04187	0.06187
2007	10	0.54760	0.06533	7	5	0.07760	0.09760
2008	10	0.54904	0.07808	7	5	0.07904	0.09904
2009	10	0.52278	0.07556	7	5	0.05278	0.07278
2010	10	0.51822	0.07556	7	5	0.04822	0.06822
2011	12	0.50849	0.07556	9	7	0.03849	0.05849
2012	12	0.97943	0.08885	9	7	0.05426	0.52943
2013	12	0.72808	0.08885	9	7	0.15808	0.27808
2014	12	0.77185	0.08370	9	7	0.30185	0.32185
2015	12	0.81357	0.09715	9	7	0.34357	0.36357
2016	12	0.85150	0.09715	9	7	0.38150	0.40150

Source: Computed from the Annual Report of Zenith Bank Plc. 1997 -2016

4.3 Data Analysis

This section focuses on the analyses of the data presented in section 4.2 above with respect to the variables selected. However, these data are cross-sectional and time-series in nature and would be analyzed overtime. And across various banks respectively

(I) Board size as denoted by **BRDS** is one of the independent variables capturing board effectiveness and it is simply the number of directors on the board. For Access bank plc, there were 6 directors in 1997 and this rose to 7 directors in 1999, 8 directors in 2001 and 9 directors in 2007 through 2016: However, there was an average of 8 directors on the board throughout the study period. For Diamond bank Plc, there were 7 directors in 1997 and this rose to 10 in 2002, 12 directors in 2012 and 13 directors in 2011 through 2016. However, there was an average of approximately 11 directors throughout the study period. For Eco Bank plc, there were 8 directors in 1997 and this rose to 9 directors in 1999, 10 directors in 2002, 13 directors in 2005 and 14 directors in 2012 and 16 directors in 2015 through 2016: For Fidelity bank Plc, there were 8 directors in 1997 and this rose to 10 directors in 1999, 12 directors in 2002, 13 directors in 2009 and 15 directors in 2013 through 2016. However, there was an average of 12 directors throughout the study period. For First bank plc, there were 5 directors in 1997 and this rose to 7 directors in 1999, 8 directors, 10 directors in 2009 and 12 directors in 2014 through 2016: However, there was an average of 9 directors on the board throughout the study period. However, there was an average of 12 directors on the board throughout the study period. For Guarantee Trust bank plc, there were 8 directors in 1997 and this rose to 10 directors in 2001, 12 directors in 2011, 14 directors in 2012 and 16 directors in 2015 through 2016: However, there was an average of 11 directors on the board throughout the study period. For Sterling Bank Plc, there were 8 directors in 1997 and this rose to 9 directors in 2002 through 2016. However, there

was an average of 9 directors throughout the study period. For Union bank plc, there were 5 directors in 1997 and this rose to 7 directors in 2002, and 9 directors in 2007 through 2016: However, there was an average of 8 directors on the board throughout the study period. For United bank for Africa, there were 8 directors in 1997 and this rose to 10 directors in 2002, 12 directors in 2011, 14 directors in 2012 and 16 directors in 2015 through 2016: However, there was an average of 11 directors throughout the study period. For Wema bank plc, there were 7 directors in 1997 and this rose to 8 directors in 2002 and then 10 directors in 2011 through 2016: However, there was an average of 8 directors throughout the study period. For Zenith International bank plc, there were 7 directors in 1997 and this rose to 10 directors in 2002, 12 directors in 2005 and then 13 directors in 2012 through 2016: However, there was an average of 11 directors throughout the study period.

(II) Board expertise as denoted by **BRDX** is one of the independent variables capturing the level of expertise of directors on the board as measured by their industrial experience, expressed as a percentage of the total number of directors on the board. For Access bank plc, board expertise was 48% in 1997 and this rose to 50% in 2001 before declining continuously to approximately 47% in 2011 and then 46% in 2016. However, an average of approximately 47% of the directors of Access Bank has high industrial experience throughout the study period. For Diamond bank plc, board expertise was 62% in 1997 and this declined to approximately 57% in 2006 and then further declined to 56% in 2016. However, an average of approximately 58% of the directors of Diamond bank has high industrial experience throughout the study period. For Eco bank plc, board expertise was approximately 53% in 1997 and this declined to approximately 47% in 2006 and then rose to approximately 96% in 2016. However, an average of 69% of the directors of Eco bank has high industrial experience throughout the study period. For Fidelity bank plc, board expertise was approximately 47% in 1997 and this rose to approximately 97% in 2002 and

then declined to 70% in 2011; although later rose to approximately 94% in 2016. However, an average of 72% of the directors of Fidelity Bank has high board experience throughout the study period. For First bank plc, board expertise was approximately 86% in 1997 and this rose to 95% in 2004 and then to approximately 99% in 2016. However, an average of approximately 85% of the directors of First bank has high industrial experience throughout the study period. For Guarantee Trust bank plc, board expertise was 48% in 1997 and this rose to approximately 49% in 2002 and then 50% in 2013; although later declined to 49% in 2016. However, an average of 48% of the directors of Guarantee Trust Bank has high industrial experience throughout the study period. For Sterling bank plc, board expertise was approximately 68% in 1997 and this rose to approximately 73% in 2002 and then declined to approximately 65% in 2016. However, an average of approximately 61% of the directors of Sterling bank has high industrial experience throughout the study period. For Union bank plc, board expertise was approximately 14% in 1997 and this rose to approximately 48% in 2008 and then further declined to approximately 47% in 2016. However, an average of approximately 43% of the directors of Union bank has high industrial experience throughout the study period. For United bank for Africa plc, board expertise was 56% in 1997 and this rose to 62% in 2009 and then declined to approximately 50% in 2016. However, an average of 50% of the directors of United bank for Africa has high industrial experience throughout the study period. For Wema bank plc, board expertise was approximately 58% in 1997 and this rose to approximately 72% in 2008 and then 87% in 2016. However, an average of 62% of the directors of Wema bank has high industrial expertise throughout the study period. For Zenith international bank plc, board expertise was 50% in 1997 and this rose to approximately 55% in 2008 and then 85% in 2016. However, an average of approximately 60% of the directors of Zenith international bank have high industrial experience throughout the study period.

(III) Board equity shareholdings as denoted by **BRDE** is one of the independent variables capturing the amount of shares held by directors on the board expressed as a percentage of the total shareholding of the selected banks. For Access bank plc, board shareholding was 6% in 1997, declined to approximately 5% in 2004 and then approximately 3% in 2016. However, there was an average of approximately 4% board shareholding throughout the study period. For Diamond bank plc, board shareholding was approximately 0.8% in 1997, rose to 6% in 2008 and then to 8% in 2016. However, there was an average of approximately 6% board shareholding throughout the study period. For Eco bank plc, board shareholding was 0.8% in 1997, rose to 5% in 2008 and then approximately to 9% in 2016. However, there was an average of approximately 5% board shareholding throughout the study period. For Fidelity bank plc, board shareholding was 3% in 1997, rose to 9% in 2008 and then declined to approximately 8% in 2016. However, there was an average of 5% board shareholding throughout the study period. For First bank plc, board shareholding was 1% in 1997, rose to 6% in 2006 and then to 7% in 2016. However, there was an average of 5% board shareholding throughout the study period. For Guarantee Trust bank plc, board shareholding was 6% in 1997, rose to 7% in 2002 and then 8% in 2016. However, there was an average of approximately 7% board shareholding throughout the study period. For Sterling bank plc, board shareholding was approximately 0.8% in 1997, rose to 6% in 2008 and then to 10% in 2016. However, there was an average of approximately 6% board shareholding throughout the study period. For Union bank plc, board shareholding was 2% in 1997, rose to 6% in 2008 and then to 9% in 2016. However, there was an average of approximately 7% board shareholding throughout the study period. For United bank for Africa plc, board shareholding was approximately 3% in 1997, rose to 7% in 2006 and then to 9% in 2016. However, there was an average of approximately 6% board shareholding throughout the study period. For Wema bank plc, board shareholding was approximately 0.7% in 1997 rose to 8% in 2008 and then to

approximately 9% in 2016. However, there was an average of approximately 6% board shareholding throughout the study period. For Zenith International bank plc, board shareholding was approximately 3% in 1997, rose to approximately 8% in 2008 and then to approximately 10% in 2016. However, there was an average of approximately 7% board shareholding throughout the study period.

(IV) Board meetings as denoted by **BRDM** is one of the independent variables capturing the number of meetings held by directors of directors for the selected banks. For Access bank plc, there were 3 board meetings in 1997, 4 meetings in 2000, 5 meetings in 2006 and 6 meetings in 2016; while average number of board meetings for the study period is 5. For Diamond bank plc, there were 4 board meetings in 1997, rose to 7 meetings in 2004, 9 meetings in 2011 and 10 meetings in 2016; while average number of board meetings for the study period is 8. For Eco bank plc, there were 5 board meetings in 1997, rose to 7 meetings in 2004, 10 meetings in 2011, 11 meetings in 2014 and 13 meetings in 2016; while average number of board meetings for the study period is 9. For Fidelity bank plc, there were 5 board meetings in 1997, rose to 7 meetings in 2001, 9 meetings in 2008, 10 meetings in 2012 and 12 meetings in 2016; while average number of board meetings for the study period is 9. For First bank plc, there were 2 board meetings in 1997, rose to 4 meetings in 2001, 5 meetings in 2008, 7 meetings in 2013 and 9 meetings in 2016; while average number of board meetings for the study period is 6. For Guarantee Trust bank plc, there were 6 board meetings in 1997 until 2000, 7 meetings in 2001 until 2010, 11 meetings in 2012 until 2014 and 13 meetings in 2015 and 2016 respectively; while average number of board meetings for the study period is 8. For Sterling bank plc, there were 5 board meetings annually from 1997 to 2001 and then 6 board meetings annually from 2002 to 2016. However, there was an average of 6 board meetings for the study period. For Union bank plc, there were 2 board meetings in 1997, rose to 4 meetings in 2006, and 6 meetings annually

from 2007 to 2016; while average number of board meetings for the study period is 5. For United bank for Africa plc, there were 5 board meetings in 1997, rose to 7 meetings in 2010, 9 meetings in 2011, 11 meetings in 2014 and 13 meetings in 2016; while average number of board meetings for the study period is 8. For Wema bank plc, there were 4 board meetings in 1997, rose to 5 meetings in 2010 and 7 meetings in 2016; while average number of board meetings for the study period is 5. For Zenith International bank plc, there were 5 board meetings in 1997, rose to 7 meetings in 2010 and 9 meetings in 2016; while average number of board meetings for the study period is 7.

(V) Board committees as denoted by **BRDC** is one of the independent variables capturing the number of committees established by the board of directors of the selected banks. For Access bank plc, there was only 1 board committee in 1997, 2 committees in 2000, 3 committees in 2006 and 4 committees from 2007 to 2016; while average number of board committees for the study period is 3. For Diamond bank plc, there were 2 board committees in 1997, rose to 5 committees in 2004, 7 committees in 2011 and 8 committees in 2016; while average number of board committees for the study period is 6. For Eco bank plc, there were 3 board committees in 1997, rose to 4 committees in 2001, 5 committees in 2004, 8 committees in 2011 and 11 committees in 2016; while average number of board committees for the study period is 7. For Fidelity bank plc, there were 3 board committees in 1997, rose to 5 committees in 2001, 7 committees in 2008, 8 committees in 2012 and 10 committees in 2016; while average number of board committees for the study period is 7. For First bank plc, there were no board committees in 1997, while 2 committees were established in 1999, 3 committees in 2008, 5 committees in 2013 and 7 committees in 2016; while average number of board committees for the study period is 4. For Guarantee Trust bank plc, there were 33 board committees in 1997 until 2000, 5 committees in 2001 until 2010, 7 committees in 2011, 9 committees in 2012 until 2014 and 11 committees in

2015 and 2016 respectively; while average number of board committees for the study period is 6. For Sterling bank plc, there were 3 board committees annually from 1997 to 2001 and then 4 board committees annually from 2002 to 2016. However, there was an average of 4 board committees for the study period. For Union bank plc, there was no board committee from 1997 to 2001, but 2 committees was set up in 2002, rose to 4 committees in 2007 through to 2016; while average number of board committees for the study period is 3. For United bank for Africa plc, there were 3 board committees in 1997, rose to 5 committees in 2010, 7 committees in 2011, 9 committees in 2014 and 11 committees in 2016; while average number of board committees for the study period is 6. For Wema bank plc, there were 2 board committees in 1997, rose to 3 committees in 2010 and 5 committees in 2016; while average number of board committees for the study period is 3. For Zenith International bank plc, there were 3 board committees in 1997, rose to 5 committees in 2010 and 7 committees in 2016; while average number of board committees for the study period is 5.

(VI) The presence of women director as denoted by **WBRD** is one of the independent variables capturing the number of female board members expressed as a percentage of the total number of directors in the selected banks. For Access bank plc, 10% of the directors were women in 1997; this rose to 11% in 2010 and then further declined to 9% in 2016. However, the average women director for the study period is approximately 10%. For Diamond bank plc, 15% of the directors were women in 1997; this declined to 10% in 2009 and then to 9% in 2016. However, the average women director for the study period is approximately 11%. For Eco bank plc, 54% of the directors were women in 1997; this declined to 9% in 2009 and then further rose to approximately 69% in 2016. However, the average women director for the study period is 35%. For Fidelity bank plc, 9% of the directors were women in 1997; this rose to approximately 49% in 2005 and then to 55% in 2016. However, the average women director for the study period is

approximately 31%. For First bank plc, approximately 39% of the directors were women in 1997; this rose to 54% in 2008 and then further declined to 26% in 2016. However, the average women director for the study period is approximately 38%. For Guarantee Trust bank plc, 10% of the directors were women in 1997; this rose to 12% in 2005 and then further declined to 11% in 2016. However, the average women director for the study period is approximately 11%. For Sterling bank plc, approximately 21% of the directors were women in 1997; this declined to 7% in 2010 and then further rose to approximately 18% in 2016. However, the average women director for the study period is 22%. For Union bank plc, 33% of the directors were women in 1997; this declined to 8% in 2009 and then further declined to 5% in 2016. However, the average women director for the study period is 8%. For United bank for Africa plc, 9% of the directors were women in 1997; this rose to 15% in 2009 and then declined to approximately 3% in 2016. However, the average women director for the study period is 10%. For Wema bank plc, approximately 11% of the directors were women in 1997; this declined to 6% in 2009 and then further rose to 37% in 2016. However, the average women director for the study period is 17%. For Zenith International bank plc, 3% of the directors were women in 1997; this rose to 5% in 2009 and then further rose to 38% in 2016. However, the average women director for the study period is approximately 10%.

(VII) Return on equity as denoted by **ROE** is one of the dependent variable capturing the performance of the selected banks. It is expressed as the ratio of profit after tax (PAT) to shareholders equity. For Access bank plc, ROE was 3% in 1997, rose to 5% in 2001 and then declined to 1% in 2016. However, the average ROE for the study period is approximately 2%. For Sterling bank plc, ROE was approximately 23% in 1997, rose to 99% in 2010 and then declined to approximately 20% in 2016. However, the average ROE for the study period is approximately 46%. For Eco bank plc, ROE was 56% in 1997, declined to 11% in 2009 and then

rose to 200% in 2016. However, the average ROE for the study period is approximately 61%.

For Fidelity bank plc, ROE was approximately 2% in 1997, rose to approximately 40% in 2008 and then to approximately 49% in 2016. However, the average ROE for the study period is approximately 27%. For First bank plc, ROE was 40% in 1997, rose to 56% in 2008 and then to approximately 139% in 2016. However, the average ROE for the study period is approximately 48%.

For Guarantee Trust bank plc, ROE was 3% in 1997, rose to 5% in 2013 and then declined to 4% in 2016. However, the average ROE for the study period is 3%.

For Sterling bank plc, ROE was approximately 23% in 1997, rose to 99% in 2010 and then declined to approximately 20% in 2016. However, the average ROE for the study period is approximately 46%.

For Union bank plc, ROE was negatively 3% in 1997, rose to 31% in 2010 and then declined to approximately 2% in 2016. However, the average ROE for the study period is approximately 2%.

For United bank for Africa plc, ROE was 11% in 1997, rose to 17% in 2009 and then declined to approximately 5% in 2016. However, the average ROE for the study period is 12%.

For Wema bank plc, ROE was approximately 13% in 1997, rose to approximately 27% in 2008 and then to 139% in 2016. However, the average ROE for the study period is approximately 25%.

For Zenith International bank plc, ROE was 5% in 1997, rose to 10% in 2008 and then to 40% in 2016. However, the average ROE for the study period is approximately 15%.

Table 4.12 Ordinary Least Square Result (OLS)

This chapter analyzes corporate board composition variables and bank performance using eleven (11) Deposit Money Banks in Nigeria. These are banks which have being in operation on or before 1997. The reason for taking these banks was to ascertain the best performing Deposit Money Banks that have applied corporate board composition measure since or before 1997 to 2016. The empirical results of all the eleven (11) banks (Access bank, Diamond bank, Eco bank, Fidelity bank, First bank, Sterling bank, Guarantee Trust bank, Union bank, United bank for Africa, Wema bank and Zenith bank) under study were presented below to determine which of the bank is the best performing bank from 1997 – 2016.

The Ordinary Least Square (OLS) regression analysis was employ and the variables adopted were Return on Equity as a proxy for Bank Performance and as the dependent variable while corporate board composition is proxied by Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meetings (BRDM), Board Committee (BRDC) and Women on Board (WBRD) as the independent variables.

ACCESS BANK NIGERIA PLC

Table 4.12a: OLS Results for Specific Variables

Variables		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	13217.57	1308.585	10.10066	0.0000
Independents:	BRDS	1.092949	0.387878	2.817768	0.0145
	BRDX	5993.003	2697.104	2.222014	0.0476
	BRDE	37.32572	17.43217	2.141198	0.0432
	BRDM	32.42165	11.27524	2.875473	0.0312
	BRDC	262.1695	26.23359	9.993658	0.0000
	WBRD	29.97672	13.63088	2.199177	0.0466

OLS Results for Overall Variables: $R^2 = 0.993385$ $\text{Adj}R^2 = 0.990332$ $F\text{-stat} = 325.3858$ Prob. (F-Stat) = 0.000 Dw = 2.02

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 146**

Discussion of OLS Regression Result of Access Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 1.092949 (P-value 0.0145). This result shows that there is a positive and statistical significant relationship between BRDS and ROE in Access Bank Nigeria Plc.

Board Expertise (BRDX) is 5993.003 (P-value 0.0476) which shows that there is a positive relationship and it is statistically significant to ROE in Access Bank Nigeria Plc.

Board Equity (BRDE) is 37.32572 (P-value 0.0432) and this shows that there is a positive and statistical significant relationship between BRDE and ROE in Access Bank Nigeria Plc.

Board Meeting (BRDM) is 32.42165 (P-value 0.0312) which shows that there is positive relationship and it is statistically significant between BRDM and ROE in Access Bank Nigeria.

Board Committee (BRDC) is 262.1695 (P-value 0.0000) and this shows that there is fairly positive and has statistical significant relationship between BRDC and ROE in Access Bank Nigeria Plc

Women Director on Board (WBRD) is 29.97672 (P-value 0.0466) which shows that there is a positive relationship and statistical significant between WBRD and ROE in Access Bank Nigeria.

The R^2 which is the coefficient of determination determines the magnitude of the relationship between the overall independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC, WBRD and the dependent variable ROE is 0.9934. This therefore shows that the overall variables have strong positive relationship to the dependent variable (ROE)

The $\text{Adj}R^2$ which is the coefficient of correlation is (0.9903) and it revealed that the degree of variation to which the independent variables could explain the dependent variable is 99% while only 1% could not be explained by the independent variable due to financial errors.

The P-value of F-stat is 0.0000 (325.3858). This result shows that the overall variables is significant to Return on Equity. All the independent variables found to have greater impact in determining Return on Equity of Access Bank in Nigeria.

The Durbin Watson stat is used to test the presence of autocorrelation in the series. From the empirical analysis of OLS, the Dw stat is 2.02 which conforms to the Dw rule of thumb. This shows that the series is a good model fit for prediction.

DIAMOND BANK NIGERIA PLC

Table 4.12b: OLS Results for Specific Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent: ROE (C)	4673775.	4335036.	1.078140	0.3006
Independents: BRDS	55195.07	15049.87	3.667479	0.0028
BRDX	-58970.87	27331.22	-2.157638	0.0503
BRDE	29522.29	7943.168	3.716689	0.0026
BRDM	-12068.44	8487.946	-1.421832	0.1786
BRDC	25228.06	10220.34	2.468418	0.0282
WBRD	-21596678	7121244.	-3.032711	0.0096

OLS Results for Overall Variables: $R^2 = 0.962694$ $AdjR^2 = 0.945475$ F-stat = 55.91101 Prob. (F-stat) = 0.000 Dw = 1.72

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 147**

Discussion of OLS Regression Result of Diamond Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 55195.07 (P-value 0.0028) which shows that there is a positive and statistical significant relationship between BRDS and ROE in Diamond Bank Nigeria Plc.

Board Expertise (BRDX) is -58970.87 (P-value 0.0503) which shows that there is a negative relationship and not statistical significant to ROE in Diamond Bank Nigeria Plc.

Board Equity (BRDE) is 29522.29 (P-value 0.0026). This shows that there is positive and statistical significant relationship between BRDE and ROE in Diamond Bank Nigeria Plc.

Board Meeting (BRDM) is -12068.44 (P-value 0.1786) which shows that there is a negative relationship between BRDM and ROE in Diamond Bank Nigeria Plc and it is also not significant to the bank's performance.

Board Committee (BRDC) is 25228.06 (P-value 0.0282) and this shows that there is a positive relationship between BRDC and ROE in Diamond Bank Nigeria Plc and the relationship is significant to their performance.

Women Director on Board (WBRD) is -21596678 (P-value 0.0096) which shows that there is a negative relationship between WBRD and ROE in Diamond Bank Nigeria Plc and significant to the ROE.

The coefficient of determination R^2 to ROE with the overall independent variables BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole is positively correlated at 0.963 respectively. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE for Diamond Bank Plc.

The $\text{Adj}R^2$ which is the coefficient of correlation is 0.9455. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 95% while only 5% could not be explained by the independent variable due to financial errors.

The P-value of F-stat is 0.000 (55.91101). This shows that the overall variables are significant to the performance of Diamond Bank Plc.

The Durbin Watson test result is 1.72. This revealed that there is first order serial correlation which by approximation, it is equal to 2.0. This confirms the regression estimation a fairly good model fit for prediction.

ECO BANK NIGERIA PLC

Table 4.12c: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	-4.261808	0.986944	-4.318187	0.0008
Independents:	BRDS	0.356814	0.076173	4.684263	0.0004
	BRDX	0.448116	0.573344	0.781584	0.4485
	BRDE	7.469429	2.299216	3.248686	0.0063
	BRDM	-0.002108	0.002736	-0.770321	0.4549
	BRDC	0.022895	0.008764	2.612406	0.0215
	WBRD	-0.004210	0.020406	-0.206329	0.8397

OLS results for overall variables: $R^2 = 0.854219$ $\text{Adj}R^2 = 0.786935$ $F\text{-stat} = 12.69581$ Prob. ($F\text{-stat}$) = 0.001 Dw = 1.24

Source: Output Results Computed from E-view 7.0 (2017) See pg. 147

Discussion of OLS Regression Result of Eco Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 0.356814 (P-value 0.0004) which shows that there is a positive relationship between BRDS and ROE in Eco Bank Nigeria Plc.

Board Expertise (BRDX) is 0.448116 (P-value 0.4485) which shows that there is a positive and statistical significant relationship between BRDX and ROE in Eco Bank Nigeria Plc.

Board Equity (BRDE) is 7.469429 (P-value 0.0063) and this shows that there is positive and significant relationship between BRDE and ROE in Eco Bank Nigeria Plc.

Board Meeting (BRDM) is -0.002108 (P-value 0.4549) which shows that there is a negative relationship and not statistically related between BRDM and ROE in Eco Bank Nigeria Plc.

Board Committee (BRDC) is 0.022895 (P-value 0.0215). This shows that is a very little positive relationship between BRDC and ROE in Eco Bank Nigeria Plc and it is significant to ROE.

For Women Director on Board (WBRD) is -0.004210 (P-value 0.8397) which shows that there is a negative and no significant relationship between WBRD and ROE in Eco Bank Nigeria Plc.

The coefficient of determination R^2 is 0.854. The coefficient of determination R^2 is the overall independent variables BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated to ROE of Eco Bank Nigeria Plc. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The $\text{Adj}R^2$ which is the coefficient of correlation is 0.7869. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 79% while only 21% could not be explained by the independent variable.

The P-value of F-stat is 0.001 (12.69581). This shows that the overall variables are significant to the performance of Eco Bank Nigeria Plc.

The Durbin Watson test result is 1.24 which shows that there is presence of serial correlation in the series between the periods under study. This confirms the regression estimation a bad model that doesn't fit for prediction as the value is less than 2.0.

FIDELITY BANK NIGERIA PLC

Table 4.12d: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	20753.90	2222.331	9.338799	0.0000
Independent:	BRDS	59.75213	11.98762	4.984488	0.0000
	BRDX	27401.69	10055.72	2.724985	0.0173
	BRDE	55.71256	23.58133	2.362571	0.0344
	BRDM	53.33174	23.58425	2.261329	0.0415
	BRDC	-8.271451	29.73079	-0.278212	0.7852
	WBRD	1.456637	0.499314	2.917278	0.0120

OLS Results for Overall Variables: $R^2 = 0.975423$ $\text{Adj}R^2 = 0.964080$ F-stat = 85.99323 Prob. (F-stat) = 0.000 Dw = 1.71

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 148**

Discussion of OLS Regression Result of Fidelity Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 59.75213 (P-value 0.0000) which shows that there is a positive and significant relationship between BRDS and ROE in Fidelity Bank Plc.

Board Expertise (BRDX) is 27401.69 (P-value 0.0173) shows that there is a positive relationship and it is significant to ROE in Fidelity Bank Plc.

Board Equity (BRDE) is 55.71256 (P-value 0.0344). This shows that there is positive relationship and significant between BRDE and ROE for Fidelity Bank Plc.

Board Meeting (BRDM) is 53.33174 (P-value 0.0415) shows that there is a positive relationship between BRDM and ROE in Fidelity Bank Plc.

Board Committee (BRDC) is -8.271451 (P-value 0.7852) and this shows that is a negative and no statistical relationship between BRDC and ROE in Fidelity Bank Plc.

Women Director on Board (WBRD) is 1.456637 (P-value 0.0120) which shows that there is a positive relationship and significant between WBRD and ROE in Fidelity Bank Plc.

The coefficient of determination R^2 is 0.975. The coefficient of determination R^2 is the overall relationship between independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated at 96% with ROE. This shows that as the corporate board variables increases by 1%, there is also a correspondent increase in ROE between the periods 1997 – 2016.

The Adj R^2 which is the coefficient of correlation is 0.9641. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 96% while only 4% could not be explained by the independent variable.

The P-value of F-stat is 0.000 (85.99323). This shows that the overall variables are significant to the performance (ROE) for Fidelity Bank Nigeria Plc.

The Durbin Watson test shows that there is presence of serial correlation in the series between the periods under study although it is first order serial correlation with the value of 1.71 which by

approximation is equal to 2.0. This confirms the regression estimation to be a good model fit for prediction.

FIRST BANK NIGERIA PLC

Table 4.12e: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	13354.84	52708.89	0.253370	0.8039
Independents:	BRDS	31.40671	12.87250	2.439829	0.0461
	BRDX	81.96115	29.66306	2.763072	0.0161
	BRDE	100.0141	48.11724	2.078550	0.0411
	BRDM	93.65972	40.66145	2.303403	0.0481
	BRDC	9485.981	3794.601	2.499862	0.0266
	WBRD	-29701.50	6277.538	-4.731393	0.0004

OLS Results for Overall Variables: $R^2 = 0.963740$ $\text{Adj}R^2 = 0.930081$ $F\text{-stat} = 16.46966$ Prob. ($F\text{-stat}$) = 0.002 $Dw = 1.72$

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 149**

Discussion of OLS Regression Result of First Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 31.40671 (P-value 0.0461) which shows that there is a positive and statistical relationship between BRDS and ROE in First Bank Nigeria Plc.

Board Expertise (BRDX) is 81.96115 (P-value 0.0161) which shows that there is a positive relationship and statistical significant between BRDX and ROE in First Bank Nigeria Plc.

Board Equity (BRDE) is 100.0141 (P-value 0.0411). This shows that there is positive and statistical significant relationship between BRDE and ROE and it is significant in First Bank Nigeria Plc.

Board Meeting (BRDM) is 93.65972 (P-value 0.0481) which shows that there is a positive and statistical relationship between BRDM and ROE in First Bank Nigeria Plc.

Board Committee (BRDC) is 9485.981 (P-value 0.0266). This shows that there is a positive and significant relationship between BRDC and ROE in First Bank Nigeria Plc.

Women Director on Board (WBRD) is -29701.50 (P-value 0.0004) which shows that there is a negative relationship and statistical significant between WBRD and ROE in First Bank Nigeria.

The coefficient of determination R^2 is 0.964. The coefficient of determination R^2 shows the overall relationship between independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated at 0.964 to ROE. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The $\text{Adj}R^2$ which is the coefficient of correlation is 0.9301. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 93% while only 7% could not be explained by the independent variables. This might be caused by financial error.

The P-value of F-stat is 0.002 (16.46966). This shows that the overall independent variables are significant to the performance of First Bank Nigeria Plc. for the periods under study.

The Durbin Watson test is 1.72 which shows that there is first order serial correlation in the series between the periods under study. This confirms the regression estimation a good model fit for prediction and further forecasting.

GUARANTEE TRUST BANK NIGERIA PLC

Table 4.12f: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	2.426754	0.307745	7.885595	0.0000
Independents:	BRDS	-0.184168	0.037313	-4.935823	0.0003
	BRDX	0.199351	0.100912	1.975486	0.0717
	BRDE	-0.035802	0.112928	-0.317032	0.7567
	BRDM	-0.229998	0.142258	-1.616760	0.1319
	BRDC	-0.244244	0.117677	-2.075548	0.0601
	WBRD	0.302392	0.095718	3.159187	0.0082

OLS Results for Overall Variables: $R^2 = 0.840242$ $\text{Adj}R^2 = 0.810362$ $F\text{-stat} = 31.46807$ $\text{Prob. (F-stat)} = 0.001$ $Dw = 1.45$

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 150**

Discussion of OLS Regression Result of Guarantee Trust Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is -0.184168 (P-value 0.0003) which shows that there is a negative and significant relationship between BRDS and ROE in Guarantee Trust Bank Nigeria Plc.

Board Expertise (BRDX) is 0.199351 (P-value 0.0717) which shows that there is a positive relationship and it is not significant to ROE in Guarantee Trust Bank Nigeria Plc.

Board Equity (BRDE) is -0.035802 (P-value 0.7567) and this shows that there is negative non significant relationship between BRDE and ROE in Guarantee Trust Bank Nigeria Plc

Board Meeting (BRDM) is -0.229998 (P-value 0.1319) which shows that there is a negative and no significant relationship between BRDM and ROE in Guarantee Trust Bank Nigeria Plc.

Board Committee (BRDC) is -0.244244 (P-value 0.0601) and this shows that is a negative and no significant relationship between BRDC and ROE in Guarantee Trust Bank Nigeria Plc.

Women Director on Board (WBRD) is 0.302392 (P-value 0.0082) which shows that there is a positive relationship between WBRD and ROE in Guarantee Trust Bank Nigeria Plc.

The coefficient of determination R^2 is 0.840. The coefficient of determination R^2 is the overall relationship between the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and they have positively correlated at 0.840 to ROE. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The AdjR² which is the coefficient of correlation is 0.8104. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 81% while only 19% could not be explained by the independent variable.

The P-value of F-stat is 0.0001 (31.46807). This shows that the overall variables are significant to the performance of Guarantee Trust Bank Plc. in Nigeria.

The Durbin Watson test shows that there is presence of serial correlation in the series between the periods under study as the Dw is 1.45. This confirms the regression estimation a bad model fit for prediction.

STERLING BANK NIGERIA PLC

Table 4.12g: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	132716.9	34876.13	3.805380	0.0022
Independents:	BRDS	-11890.60	13639.60	-0.871770	0.3991
	BRDX	403188.5	125666.6	3.208398	0.0069
	BRDE	26109.40	13927.66	1.874644	0.0835
	BRDM	-126841.0	73502.44	-1.725671	0.1081
	BRDC	-18582.18	48410.99	-0.383842	0.7073
	WBRD	-94000.49	29048.52	-3.235982	0.0065

OLS Results for Overall Variables: R² = 0.881657 AdjR² = 0.827037 F-stat = 16.14170 Prob. (F-stat) = 0.002 Dw = 1.89

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 150**

Discussion of OLS Regression Result of Sterling Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is -11890.60 (P-value 0.3991) which shows that there is a negative and no significant relationship between BRDS and ROE in Sterling Bank Nigeria Plc.

Board Expertise (BRDX) is 403188.5 (P-value 0.0069) which shows that there is a positive and significant relationship between BRDX and ROE in Sterling Bank Nigeria Plc.

Board Equity (BRDE) is 26109.40 (P-value 0.0835) and this shows that there is positive and no significant relationship between BRDE and ROE in Sterling Bank Nigeria Plc

Board Meeting (BRDM) is -126841.0 (P-value 0.1081) which shows that there is a negative and no significant relationship between BRDM and ROE in Sterling Bank Nigeria Plc.

Board Committee (BRDC) is -18582.18 (P-value 0.7073) and this shows that is a negative and no significant relationship between BRDC and ROE in Sterling Bank Nigeria Plc.

Women Director on Board (WBRD) is -94000.49 (P-value 0.0065) which shows that there is a negative and significant relationship between WBRD and ROE in Sterling Bank Nigeria Plc.

The coefficient of determination R^2 is 0.882. The coefficient of determination R^2 is the overall relationship between the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and they are positively correlated at 0.882 to ROE. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The Adj R^2 which is the coefficient of correlation is 0.8270. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 83% while only 17% could not be explained by the independent variables.

The P-value of F-stat is 0.002 (16.14170). This shows that the overall variables are significant to the performance of Sterling Bank Nigeria Plc.

The Durbin Watson test result is 1.89. This revealed that there is first order serial correlation which by approximation is equal to 2.0. This confirms the regression estimation fairly good fit for prediction.

UNION BANK NIGERIA PLC

Table 4.12h: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	67711.18	12013.49	5.636264	0.0001
Independent:	BRDS	54372.38	13752.79	3.953553	0.0017

BRDX	21321.85	1894.372	11.25554	0.0326
BRDE	82499.95	7355.373	11.21628	0.3021
BRDM	6099.086	2461.761	2.477529	0.0231
BRDC	26144.72	2405.318	10.86955	0.0000
WBRD	-2713.234	8091.001	-0.335340	0.7427

OLS Results for Overall Variables: $R^2 = 0.983992$ $AdjR^2 = 0.976604$ F-stat = 133.1827 Prob. (F-stat) = 0.000 Dw = 2.28

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 151**

Discussion of OLS Regression Result of Union Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 54372.38 (P-value 0.0017) which shows that there is a positive relationship between BRDS and ROE in Union Bank Nigeria Plc and has significant impact to ROE.

Board Expertise (BRDX) is 21321.85 (P-value 0.0326) which shows that there is a positive and statistical relationship and it is significant to ROE in Union Bank Nigeria Plc.

Board Equity (BRDE) is 82499.95 (P-value 0.3021) and this shows that there is positive and no statistical significant relationship between BRDE and ROE in Union Bank Nigeria Plc

Board Meeting (BRDM) is 6099.086 (P-value 0.0231) which shows that there is a positive and statistical significant relationship between BRDM and ROE in Union Bank Nigeria Plc.

Board Committee (BRDC) is 26144.72 (P-value 0.0000) and this shows that is a positive and significant relationship between BRDC and ROE in Union Bank Nigeria Plc.

Women Director on Board (WBRD) is -2713.234 (P-value 0.7427) which shows that there is a negative and no significant relationship between WBRD and ROE in Union Bank Nigeria Plc.

The coefficient of determination R^2 is 0.984. The coefficient of determination R^2 is the overall relationship between the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated at 98% to ROE of Union Bank Nigeria Plc.

This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The AdjR^2 which is the coefficient of correlation is 0.9766. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 98% while only 2% could not be explained by the independent variables.

The P-value of F-stat is 0.000 (133.1827). This shows that the overall variables are significant to the performance of Union Bank Nigeria Plc.

The Durbin Watson test result (2.28) shows there is absence of serial correlation in the series between the periods under study. This confirms the regress estimation a good model fit for prediction.

UNITED BANK FOR AFRICA PLC

Table 4.12i: OLS Results for Specific Variables

	Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	0.085143	0.225542	0.377505	0.7119
Independent:	BRDS	-0.045135	0.032659	-1.382038	0.1902
	BRDX	0.674010	1.235215	0.545662	0.5945
	BRDE	-0.272116	0.119515	-2.276845	0.0404
	BRDM	-0.177275	0.116601	-1.520356	0.1524
	BRDC	0.100376	0.063284	1.586113	0.1367
	WBRD	-0.183502	0.612474	-0.299607	0.7692

OLS Results for Overall Variables: $R^2 = 0.781821$ $\text{AdjR}^2 = 0.742662$ F-stat = 2.014644 Prob. (F-stat) = 0.136 Dw = 1.87

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 151**

Discussion of OLS Regression Result of United Bank for Africa Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is -0.045135 (P-value 0.1902) which shows that there is a negative and no statistical significant relationship between BRDS and ROE in United Bank for Africa Plc.

Board Expertise (BRDX) is 0.674010 (P-value 0.5945) which shows that there is positive and no significant relationship between BRDX and ROE in United Bank for Africa Plc.

Board Equity (BRDE) is -0.272116 (P-value 0.0404) and this shows that there is negative and significant relationship between BRDE and ROE in United Bank for Africa Plc.

Board Meeting (BRDM) is -0.177275 (P-value 0.1524) which shows that there is a negative and non statistical relationship between BRDM and ROE in United Bank for Africa Plc.

Board Committee (BRDC) is 0.100376 (P-value 0.1367) and this shows that is a positive and non statistical relationship between BRDC and ROE in United Bank for Africa Plc.

Women Director on Board (WBRD) is -0.183502 (P-value 0.7692) which shows that there is a negative and non statistical relationship between WBRD and ROE in Eco Bank Nigeria Plc.

The coefficient of determination R^2 is 0.7818. The coefficient of determination R^2 is the overall relationship between the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated at 0.7818 to ROE of United Bank for Africa. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE but very poor.

The $\text{Adj}R^2$ which is the coefficient of correlation is 0.743. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 74% while 26% could not be explained by the independent variables.

The P-value of F-stat is 0.136 (2.014644). This shows that the overall variables are not significant to the performance of United Bank for Africa Plc.

The Durbin Watson test result is 1.87. This revealed that there is first order serial correlation which by approximation is equal to 2.0. This confirms the regression estimation a good model fit for prediction.

WEMA BANK NIGERIA PLC

Table 4.12j: OLS Results for Specific Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent: ROE (C)	45761.90	20125.81	2.273792	0.0413
Independent: BRDS	37194.02	10021.04	3.711593	0.0323
BRDX	64950.83	28614.21	2.269880	0.0431
BRDE	71214.01	29811.89	2.388779	0.0423
BRDM	69911.12	21451.11	3.259091	0.0343
BRDC	81123.84	30612.08	2.650059	0.0416
WBRD	0.021267	0.003151	6.749388	0.0000

OLS Results for Overall Variables: $R^2 = 0.994921$ $\text{Adj}R^2 = 0.992885$ $F\text{-stat} = 27428.34$ Prob. (F-stat) = 0.000 Dw = 1.79

Source: Output Results Computed from E-view 7.0 (2017) See pg. 153

Discussion of OLS Regression Result of Wema Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 37194.02 (P-value 0.0323) which shows that there is a positive and statistical relationship between BRDS and ROE in Wema Bank Nigeria Plc.

Board Expertise (BRDX) is 64950.83 (P-value 0.0431) which shows that there is a positive and significant relationship between BRDX and ROE in Wema Bank Nigeria Plc.

Board Equity (BRDE) is 71214.01 (P-value 0.0423) and this shows that there is positive and significant relationship between BRDE and ROE in Wema Bank Nigeria Plc

Board Meeting (BRDM) is 69911.12 (P-value 0.0343) which shows that there is a positive and significant relationship between BRDM and ROE in Wema Bank Nigeria Plc.

Board Committee (BRDC) is 81123.84 (P-value 0.0416) and this shows that is a positive and significant relationship between BRDC and ROE in Wema Bank Nigeria Plc.

Women Director on Board (WBRD) is 0.021267 (P-value 0.0000) which shows that there is a positive and significant relationship between WBRD and ROE in Wema Bank Nigeria Plc.

The coefficient of determination R^2 is 0.999. The coefficient of determination R^2 is the overall relationship between the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated at 99% to ROE of Wema Bank Nigeria Plc. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The Adj R^2 which is the coefficient of correlation is 0.999. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 100%.

The P-value of F-stat is 0.000 (27428.34). This shows that the overall variables are significant to the performance of Wema Bank Nigeria Plc.

The Durbin Watson test result is 1.79. This revealed that there is first order serial correlation which by approximation is equal to 2.0. This confirms the regression estimation a good fit for prediction.

ZENITH BANK NIGERIA PLC

Table 4.12k: OLS Results for Specific Variables

Variable		Coefficient	Std. Error	t-Statistic	Prob.
Dependent:	ROE (C)	77745.16	13014.50	5.973734	0.0000
Independent:	BRDS	60.34156	20.67812	2.918136	0.0310
	BRDX	59124.00	29514.00	2.003253	0.0424
	BRDE	76248.10	13462.30	5.663824	0.0101
	BRDM	34900.20	12500.80	2.791837	0.0401
	BRDC	47582.40	11428.60	4.163449	0.0006

WBRD	80011.10	18872.80	4.239493	0.0002
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OLS Results for Overall Variables: $R^2 = 0.989000$ $\text{Adj}R^2 = 0.985000$ $F\text{-stat} = 4.222229$ Prob. ($F\text{-stat}$) = 0.000 $Dw = 2.21$

Source: Output Results Computed from E-view 7.0 (2017) **See pg. 153**

Discussion of OLS Regression Result of Zenith Bank Nigeria Plc

The coefficient of the specific independent variables has the values;

Board Size (BRDS) is 60.34156 (P-value 0.0310) which shows that there is a positive and statistical relationship between BRDS and ROE in Zenith Bank Nigeria Plc.

Board Expertise (BRDX) is 59124.00 (P-value 0.0424) which shows that there is a positive and significant relationship between BRDX and ROE in Zenith Bank Nigeria Plc.

Board Equity (BRDE) is 76248.10 (P-value 0.0101) and this shows that there is positive and statistical relationship between BRDE and ROE in Zenith Bank Nigeria Plc

Board Meeting (BRDM) is 34900.20 (P-value 0.0401) which shows that there is a positive and statistical relationship between BRDM and ROE in Zenith Bank Nigeria Plc.

Board Committee (BRDC) is 47582.40 (P-value 0.0006) and this shows that is a positive and statistical relationship between BRDC and ROE in Zenith Bank Nigeria Plc.

Women Director on Board (WBRD) is 80011.10 (P-value 0.0002) which shows that there is a positive relationship between WBRD and ROE in Zenith Bank Nigeria Plc.

The coefficient of determination R^2 is 0.989. The coefficient of determination R^2 is the overall relationship between the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD as a whole and is positively correlated at 0.989 to ROE of Zenith Bank Nigeria Plc. This shows that as the corporate board variables increase by 1%, there is also a correspondent increase in ROE.

The $\text{Adj}R^2$ which is the coefficient of correlation is 0.9850. This revealed that the degree of variation to which the independent variables could explain the dependent variable is 99% while 1% could not be explained by the independent variables.

The P-value of F-stat is 0.000 (4.222229). This shows that the overall variables are significant to the performance of Zenith Bank Nigeria Plc.

The Durbin Watson test result (2.21) shows that there is absence of serial correlation in the series between the periods under study. This confirms the regression estimation a bad model not fit for prediction.

Table 4.13: Summarized Diagnostic Test Results for Eleven Banks

Banks	Jarque-Bera Stat. (JB) Normality test		Breusch Godfrey (BGS) Serial correlation				Breusch Pagan Codfrey (BPC) Heteroskedasticity				Ramsey Reset test Stability	
	Jarque-Bera	P-Value	F-Stat	p-value	R ²	p-value	F-Stat	p-value	R ²	p-value	F-stat	P-value
Access	1.712301	0.424794	1.289386	0.3140	3.798242	0.1497	0.948921	0.4944	6.091443	0.4130	15.19706	0.0021
Diamond	6.168695	0.045760	0.361584	0.7046	1.233743	0.5396	0.695269	0.6582	4.858730	0.5621	10.36607	0.0074
Eco	0.862515	0.649692	2.041370	0.1762	5.413790	0.0667	1.269889	0.3356	7.390475	0.2862	5.224001	0.0002
Fidelity	2.600982	0.272398	3.631606	0.0615	7.953927	0.0187	0.616113	0.7144	4.428042	0.6190	9.982029	0.0082
Firstbank	1.445208	0.485486	0.582110	0.5750	1.914171	0.3840	1.694908	0.1998	8.778327	0.1864	0.006892	0.9352
GTB	0.609778	0.737205	1.122030	0.3634	3.482270	0.1753	1.073766	0.4294	6.637314	0.3557	60.39695	0.0000
Sterling	0.505768	0.776558	0.334210	0.7229	1.145690	0.5639	1.114860	0.4054	6.794763	0.3402	0.038724	0.8473
Union	1.076863	0.583663	0.630506	0.5505	2.056947	0.3576	0.400999	0.8654	3.123452	0.7932	4.422822	0.0572
UBA	0.244180	0.885069	0.166992	0.8483	0.589350	0.7448	2.035609	0.1331	9.688128	0.1384	10.95785	0.0062
Wema	1.905638	0.385652	0.016998	0.9832	0.061619	0.9697	4.799639	0.0086	13.77958	0.0322	167691.5	0.0000
Zenith	0.414413	0.812852	8536.953	0.0000	19.98712	0.0000	4.607236	0.0101	13.60290	0.0344	4.356881	0.0703

Source: Computed from E-view 7.0 2017

Diagnostic Test Result

Diagnostic test result is a pretest for conformity of the OLS assumptions are presented below;

The Normality test by Jarque-Bera shows that Access Bank Plc, Eco Bank Plc, Fidelity Bank Plc, First Bank Plc, Guarantee Trust Bank Plc, Sterling Bank Plc, Union Bank Plc, UBA, Wema Bank and Zenith Bank Plc series are well distributed and are normal while Eco Bank variables are not serial correlated.

The serial correlation test by Breusch Godfrey Serial Correlation (BGS) revealed that there were no existence of serial correlation among the independent variables and ROE.

Heteroskedasticity by Breusch Pagan Codfrey (BPC) revealed that the variables do not have heteroskedasticity rather they have homoskedasticity over the years.

The stability test of Ramsey Reset test revealed that the series are in functional form and stable over the period of the study.

The results of Diagnostic test confirm that the assumption of OLS model are satisfactory, thereby OLS test to be maintained.

Table 4.14: Summarized Unit Root Test

Table 4.14a: ACCESS BANK UNIT ROOT RESULTS

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.966620	> -3.049970	0.0076	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.271074	> -3.052169	0.0332	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.942469	> -3.029970	0.0081	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-6.195915	> -3.040391	0.0001	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-6.608366	> -3.052169	0.0001	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-3.892007	> -3.040391	0.0093	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-5.001855	> -3.040391	0.0010	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant. The test confirms that the series of Access Bank are stationary.

Table 4.14b: DIAMOND BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-4.762208	> -3.081002	0.0100	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.562977	> -3.040391	0.0181	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.788476	> -3.052169	0.0407	< 0.05	No unit root	Stationary

BRDE	1(1) 1 st Diff	-4.493591	>	-3.065585	0.0034	<	0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.847787	>	-3.052169	0.0015	<	0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-6.504978	>	-3.119910	0.0002	<	0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-4.244177	>	-3.04039	0.0046	<	0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant. The test confirms that the series of Diamond Bank are stationary.

Table 4.14c: ECO BANK UNIT ROOT RESULT

Variable	Order	ADF Result		t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.870623	>	-3.040391	0.0097	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-6.802395	>	-3.081002	0.0001	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-5.739644	>	-3.049970	0.0002	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-8.423815	>	-3.065585	0.0000	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-5.633893	>	-3.040391	0.0003	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.091620	>	-3.040391	0.0062	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.792718	>	-3.040391	0.0114	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant. The test confirms that the series of Eco Bank are stationary.

Table 4.14d: FIDELITY BANK UNIT ROOT RESULT

Variable	Order	ADF Result		t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	0.557473	<	-3.049970	0.9841	> 0.05	Unit root	Not Stationary
BRDS	1(1) 1 st Diff	4.444665	>	-3.081002	0.0010	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-4.812602	>	-3.081002	0.0021	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-3.089042	>	-3.040391	0.0456	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-3.454364	>	-3.098896	0.0268	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	0.569841	<	-3.040391	0.9843	> 0.05	Unit root	Not Stationary
WBRD	1(1) 1 st Diff	-4.029539	>	-3.049970	0.0066	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proved non existence of unit root on the series of BRDS, BRDX, BRDE, BRDM and WBRD. This implies the presence of stationarity in the series as the ADF result is greater than the critical value at 0.05 level of significant while there is presence of unit root on ROE and

BRDC as the ADF result is less than the t-statistic at 5% and ADF P-value is greater than the critical value at 0.05 significant level.

Table 4.14e: FIRST BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.938131	> -3.040391	0.0085	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-1.908822	< -3.052169	0.3207	> 0.05	Unit root	Not Stationary
BRDX	1(1) 1 st Diff	-4.351220	> -3.040391	0.0037	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.140638	> -3.040391	0.0056	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.029986	> -3.040391	0.0070	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-5.366563	> -3.040391	0.0005	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.143035	> -3.040391	0.0412	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant except for BRDS whose ADF result is less than the t-statistic at 5% and ADF p-value is greater than the c-value of 0.05 level of significant.

Table 4.14f: GUARANTEE TRUST BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.143035	> -3.040391	0.0412	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.434199	> -3.040391	0.0234	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-4.011965	> -3.081002	0.0091	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.218106	> -3.081002	0.0062	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.248063	> -3.065585	0.0053	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-3.686145	> -3.119910	0.0190	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.201243	> -3.040391	0.0368	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than critical value at 0.05 level of significant. The test confirms that the series of Guarantee Trust Bank are stationary.

Table 4.14g: STERLING BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-4.303878	> -3.040391	0.0040	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.653637	> -3.049970	0.0144	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-4.273149	> -3.040391	0.0024	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-5.851914	> -3.040391	0.0002	< 0.05	No unit root	Stationary

BRDM	1(1) 1 st Diff	-4.773149	>	-3.040391	0.0016	<	0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.722269	>	-3.040391	0.0017	<	0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-5.178795	>	-3.040391	0.0007	<	0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the t-statistic at 5% and the ADF p-value is less than the critical value at 0.05 level of significant. The test confirms that the series of Sterling Bank are stationary.

Table 4.14h: UNION BANK UNIT ROOT RESULT

Variable	Order	ADF Result		t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-2.347169	<	-3.052169	0.1698	> 0.05	Unit root	Not Stationary
BRDS	1(1) 1 st Diff	-4.298310	>	-3.040391	0.0041	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.402335	>	-3.041028	0.0196	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-3.970335	>	-3.081002	0.0098	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-5.077385	>	-3.040391	0.0008	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.719241	>	-3.886751	0.0019	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.225003	>	-3.049970	0.0343	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant except for ROE whose ADF result is less than the t-statistic at 5% and the ADF p-value is greater than the critical value of 0.05 level of significant.

Table 4.14i: UNITED BANK FOR AFRICA UNIT ROOT RESULT

Variable	Order	ADF Result		t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-5.359664	>	-3.040391	0.0005	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.770376	>	-3.040391	0.0119	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-6.136984	>	-3.049970	0.0001	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-8.784297	>	-3.052169	0.0000	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-2.993083	<	-3.040391	0.0646	> 0.05	Unit root	Not Stationary
BRDC	1(1) 1 st Diff	-2.993083	<	-3.040391	0.0646	> 0.05	Unit root	Not Stationary
WBRD	1(1) 1 st Diff	-6.136984	>	-3.049970	0.0001	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at

0.05 level of significant. The test confirms that the series of United Bank for Africa are stationary except for BRDM and BRDC whose ADF result is less than t-statistic at 5% and ADF p-value is greater than the critical value of 0.05.

Table 4.14j: WEMA BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.152293	> -3.065585	0.0427	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.769199	> -3.040391	0.0120	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.331812	> -3.049970	0.0277	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.097119	> -3.065585	0.0071	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.859616	> -3.040391	0.0013	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.378704	> -3.040391	0.0035	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.331812	> -3.049970	0.0277	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant. The test confirms that the series of Wema Bank are stationary.

Table 4.14k: ZENITH BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(0) Level	-5.862027	> -3.049970	0.0001	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-4.589390	> -3.040391	0.0023	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-5.862027	> -3.049970	0.0001	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.030702	> -3.040391	0.0070	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-3.765267	> -3.049970	0.0115	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	5.828003	> -3.040391	0.0010	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-5.862027	> -3.049970	0.0001	< 0.05	No unit root	Stationary

Source: Researcher's Computation from E-view 7.0 model 2017

The unit root test of ADF test tries to test for existence of unit root in the series. The result thereby proves non existence of unit root as the ADF result is greater than the critical value at 0.05 level of significant. The test confirms that the series of Zenith Bank are stationary.

Table 4.15a: Johansen Co integration Output Result for Access Bank

Date: 09/16/17 Time: 10:00

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.965535	186.9933	125.6154	0.0000
At most 1 *	0.929883	123.0047	95.75366	0.0002
At most 2 *	0.731739	72.51058	69.81889	0.0300
At most 3	0.684159	47.51048	47.85613	0.0539
At most 4	0.582701	25.61269	29.79707	0.1407
At most 5	0.374233	9.007584	15.49471	0.3647
At most 6	0.005292	0.100824	3.841466	0.7508

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
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None *	0.965535	63.98859	46.23142	0.0003
At most 1 *	0.929883	50.49409	40.07757	0.0024
At most 2	0.731739	25.00010	33.87687	0.3850
At most 3	0.684159	21.89780	27.58434	0.2257
At most 4	0.582701	16.60510	21.13162	0.1915
At most 5	0.374233	8.906760	14.26460	0.2940
At most 6	0.005292	0.100824	3.841466	0.7508

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 3 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the two (2) co-integration equation vectors as suggested in trace

statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) having (3) co-integrating vectors and Maximum Statistics having (2) co-integrating vectors. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15b: Johansen Co integration for Diamond Bank

Date: 09/16/17 Time: 12:15

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958089	185.3130	125.6154	0.0000
At most 1 *	0.945535	125.0411	95.75366	0.0001
At most 2	0.776660	69.74736	69.81889	0.0507
At most 3	0.702625	41.26525	47.85613	0.1804
At most 4	0.372059	18.22276	29.79707	0.5497
At most 5	0.302214	9.381893	15.49471	0.3312
At most 6	0.125358	2.544882	3.841466	0.1107

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
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None *	0.958089	60.27191	46.23142	0.0009
At most 1 *	0.945535	55.29373	40.07757	0.0005
At most 2	0.776660	28.48211	33.87687	0.1921
At most 3	0.702625	23.04249	27.58434	0.1717
At most 4	0.372059	8.840871	21.13162	0.8451
At most 5	0.302214	6.837010	14.26460	0.5086
At most 6	0.125358	2.544882	3.841466	0.1107

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 2 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the two (2) co-integration equation vectors as suggested in trace

statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) and Maximum Statistics as both of them have the same two (2) co-integrating vectors that exists in both. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15c: Johansen Co integration for Eco Bank

Date: 09/16/17 Time: 15:09
Sample (adjusted): 1998 2016
Included observations: 19 after adjustments
Trend assumption: Linear deterministic trend
Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD
Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.942347	143.3177	125.6154	0.0027
At most 1	0.779266	89.10489	95.75366	0.1314
At most 2	0.734595	60.39979	69.81889	0.2233
At most 3	0.570121	35.19635	47.85613	0.4377
At most 4	0.449845	19.15556	29.79707	0.4818
At most 5	0.336769	7.802003	15.49471	0.4868
At most 6	2.86E-07	5.44E-06	3.841466	0.9994

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.942347	54.21282	46.23142	0.0058

At most 1	0.779266	28.70511	40.07757	0.5120
At most 2	0.734595	25.20344	33.87687	0.3714
At most 3	0.570121	16.04079	27.58434	0.6623
At most 4	0.449845	11.35355	21.13162	0.6120
At most 5	0.336769	7.801998	14.26460	0.3992
At most 6	2.86E-07	5.44E-06	3.841466	0.9994

Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 1 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the one (1) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai

(1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) and Maximum Statistics as both of them have the same one (1) co-integrating vectors that exists in both. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15d: Johansen Co integration for Fidelity Bank

Date: 09/16/17 Time: 20:34
Sample (adjusted): 1998 2016
Included observations: 19 after adjustments
Trend assumption: Linear deterministic trend
Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD
Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.992313	223.1605	125.6154	0.0000
At most 1 *	0.947380	130.6653	95.75366	0.0000
At most 2 *	0.792048	74.71684	69.81889	0.0193
At most 3	0.707045	44.87830	47.85613	0.0927
At most 4	0.525562	21.55134	29.79707	0.3241
At most 5	0.317716	7.384467	15.49471	0.5334
At most 6	0.006326	0.120580	3.841466	0.7284

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.992313	92.49520	46.23142	0.0000
At most 1 *	0.947380	55.94845	40.07757	0.0004
At most 2	0.792048	29.83853	33.87687	0.1408
At most 3	0.707045	23.32697	27.58434	0.1599
At most 4	0.525562	14.16687	21.13162	0.3515
At most 5	0.317716	7.263887	14.26460	0.4584
At most 6	0.006326	0.120580	3.841466	0.7284

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 3 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the two (2) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15e: Johansen Co integration for First Bank

Date: 10/21/17 Time: 06:27

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.979423	211.5468	125.6154	0.0000
At most 1 *	0.952471	137.7588	95.75366	0.0000
At most 2 *	0.856475	79.87704	69.81889	0.0063
At most 3	0.567384	42.99341	47.85613	0.1327
At most 4	0.498278	27.07322	29.79707	0.0998
At most 5	0.385068	13.96876	15.49471	0.0838
At most 6 *	0.220385	4.730143	3.841466	0.0296

Trace test indicates 4 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.979423	73.78802	46.23142	0.0000
At most 1 *	0.952471	57.88178	40.07757	0.0002
At most 2 *	0.856475	36.88364	33.87687	0.0212
At most 3	0.567384	15.92019	27.58434	0.6725
At most 4	0.498278	13.10446	21.13162	0.4427
At most 5	0.385068	9.238617	14.26460	0.2668
At most 6 *	0.220385	4.730143	3.841466	0.0296

Max-eigenvalue test indicates 4 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 4 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5%

significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the four (4) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) and Maximum Statistics as both of them have the same four (4) co-integrating vectors that exists in both. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15f: Johansen Co integration for Guarantee Trust Bank

Date: 10/20/17 Time: 21:47

Sample (adjusted): 1998 2016

Included observations: 17 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.972968	167.1084	125.6154	0.0000
At most 1 *	0.927158	105.7261	95.75366	0.0086
At most 2	0.730814	61.19532	69.81889	0.2005
At most 3	0.627674	38.88531	47.85613	0.2649
At most 4	0.495263	22.08955	29.79707	0.2936
At most 5	0.381442	10.46634	15.49471	0.2466
At most 6	0.126549	2.300157	3.841466	0.1294

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.972968	61.38222	46.23142	0.0007
At most 1 *	0.927158	44.53082	40.07757	0.0148
At most 2	0.730814	22.31001	33.87687	0.5836
At most 3	0.627674	16.79577	27.58434	0.5975
At most 4	0.495263	11.62321	21.13162	0.5851
At most 5	0.381442	8.166181	14.26460	0.3621
At most 6	0.126549	2.300157	3.841466	0.1294

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 2 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5%

significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the two (2) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) and Maximum Statistics as both of them have the same two (2) co-integrating vectors that exists in both. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15g: Johansen Co integration for Sterling Bank

Date: 11/05/17 Time: 04:38

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.908941	137.6595	125.6154	0.0075
At most 1	0.830127	92.13087	95.75366	0.0865
At most 2	0.653664	58.44947	69.81889	0.2861
At most 3	0.600254	38.30288	47.85613	0.2890
At most 4	0.507501	20.88131	29.79707	0.3651
At most 5	0.301698	7.424307	15.49471	0.5288
At most 6	0.031154	0.601350	3.841466	0.4381

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.908941	45.52863	46.23142	0.0594
At most 1	0.830127	33.68140	40.07757	0.2198
At most 2	0.653664	20.14658	33.87687	0.7464
At most 3	0.600254	17.42157	27.58434	0.5439
At most 4	0.507501	13.45700	21.13162	0.4111
At most 5	0.301698	6.822957	14.26460	0.5103
At most 6	0.031154	0.601350	3.841466	0.4381

Max-eigenvalue test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 1 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5%

significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests no co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15h: Johansen Co integration for Union Bank

Date: 11/06/17 Time: 05:10

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.891406	104.9999	95.75366	0.0099
At most 1	0.709147	62.81723	69.81889	0.1592
At most 2	0.567666	39.35345	47.85613	0.2465
At most 3	0.523756	23.42086	29.79707	0.2260
At most 4	0.327471	9.326173	15.49471	0.3361
At most 5	0.089845	1.788674	3.841466	0.1811

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.891406	42.18267	40.07757	0.0285
At most 1	0.709147	23.46379	33.87687	0.4953
At most 2	0.567666	15.93259	27.58434	0.6715
At most 3	0.523756	14.09469	21.13162	0.3573
At most 4	0.327471	7.537499	14.26460	0.4277
At most 5	0.089845	1.788674	3.841466	0.1811

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 1 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5%

significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the one (1) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) and Maximum Statistics as both of them have the same one (1) co-integrating vectors that exists in both. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15i: Johansen Co integration for United Bank for Africa

Date: 11/06/17 Time: 05:43
Sample (adjusted): 1998 2016
Included observations: 19 after adjustments
Trend assumption: Linear deterministic trend
Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD
Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.976963	191.0794	125.6154	0.0000
At most 1 *	0.904818	119.4367	95.75366	0.0005
At most 2 *	0.720700	74.74942	69.81889	0.0191
At most 3 *	0.601283	50.51550	47.85613	0.0275
At most 4 *	0.546409	33.04491	29.79707	0.0204
At most 5 *	0.443781	18.02428	15.49471	0.0204

At most 6 *	0.303755	6.879022	3.841466	0.0087
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Trace test indicates 7 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.976963	71.64273	46.23142	0.0000
At most 1 *	0.904818	44.68724	40.07757	0.0141
At most 2	0.720700	24.23392	33.87687	0.4386
At most 3	0.601283	17.47058	27.58434	0.5397
At most 4	0.546409	15.02063	21.13162	0.2875
At most 5	0.443781	11.14526	14.26460	0.1471
At most 6 *	0.303755	6.879022	3.841466	0.0087

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 7 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null

hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the three (3) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15j: Johansen Co integration for Wema Bank

Date: 11/06/17 Time: 05:43

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.976963	191.0794	125.6154	0.0000
At most 1 *	0.904818	119.4367	95.75366	0.0005
At most 2 *	0.720700	74.74942	69.81889	0.0191
At most 3 *	0.601283	50.51550	47.85613	0.0275

At most 4 *	0.546409	33.04491	29.79707	0.0204
At most 5 *	0.443781	18.02428	15.49471	0.0204
At most 6 *	0.303755	6.879022	3.841466	0.0087

Trace test indicates 7 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.976963	71.64273	46.23142	0.0000
At most 1 *	0.904818	44.68724	40.07757	0.0141
At most 2	0.720700	24.23392	33.87687	0.4386
At most 3	0.601283	17.47058	27.58434	0.5397
At most 4	0.546409	15.02063	21.13162	0.2875
At most 5	0.443781	11.14526	14.26460	0.1471
At most 6 *	0.303755	6.879022	3.841466	0.0087

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 7 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance

measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the three (3) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) has seven (7) co-integrating vectors and Maximum Statistics three (3) co-integrating vectors. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

Table 4.15k: Johansen Co integration for Zenith Bank Plc

Date: 10/20/17 Time: 21:47

Sample (adjusted): 1998 2016

Included observations: 17 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.972968	167.1084	125.6154	0.0000
At most 1 *	0.927158	105.7261	95.75366	0.0086
At most 2	0.730814	61.19532	69.81889	0.2005

At most 3	0.627674	38.88531	47.85613	0.2649
At most 4	0.495263	22.08955	29.79707	0.2936
At most 5	0.381442	10.46634	15.49471	0.2466
At most 6	0.126549	2.300157	3.841466	0.1294

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.972968	61.38222	46.23142	0.0007
At most 1 *	0.927158	44.53082	40.07757	0.0148
At most 2	0.730814	22.31001	33.87687	0.5836
At most 3	0.627674	16.79577	27.58434	0.5975
At most 4	0.495263	11.62321	21.13162	0.5851
At most 5	0.381442	8.166181	14.26460	0.3621
At most 6	0.126549	2.300157	3.841466	0.1294

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The table presents the trace statistics and the max-Eigen stat co-integration rank test and the results are reported below;

The results of the trace statistics above using the Log likelihood ratio indicates 2 co-integrating equations at 0.05 critical level of significance base on the rule of the log likelihood, ratio of trace statistics of McKinnon, Haug-Muchelis (1999) critical P-value comparison stated in Nom Fundo (2016) and Alajekwu and Achuegbu (2012) which says that if the result of trace statistic show even only 1 co-integration equation, there is existence of long run relationship in the series. Thus the results in the table above show more than one co-integrating equation at 0.05 critical value. Therefore, the equation specifies in the table above revealed the existence of long run relationship among the series in the model. The evidence from the co-integration indicates that corporate board composition indicators under study such as Board Size (BRDS), Board Expertise (BRDX), Board Equity (BRDE), Board Meeting (BRDM), Board Committee (BRDC) and Women Directors on Board (WBRD) have long run relationship on the banks performance

measured by (ROE) in the study. The trace statistics (TS) of Johansen test rejects the null hypothesis (H_0) of no co-integration board effectiveness and company performance at 5% significance level against the alternate hypothesis (H_1) that co-integration exists among the variables of stock market development indicators.

Also in the table of Johansen Co-integration analysis, the Maximum Eigen value (ME) co-integrating Rank Test suggests the two (2) co-integration equation vectors as suggested in trace statistics. However, as cited by Luintel and Khan (1999), Kass (1992) and Cheung and Lai (1993) highlighted that under the Johansen Co-integration approach, trace statistics is more conclusive than Maximum Eigen statistics. Therefore based on this, the study concludes with both Log likelihood of trace statistics (TS) and Maximum Statistics as both of them have the same two (2) co-integrating vectors that exists in both. The Johansen Co-integration test only identifies the long-run relationship among the variable which was approved by the unit root differentiation at 1(1) stationarity test, not the short run which could be identify by Vector Error Correlation Model (VECM) and Vector Auto Regression (VAR).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The summary of findings for each of the eleven banks is presented below;

Access Bank Nigeria Plc

The relationship of the dependent variable; Return on Equity (ROE) with the independent variables: BRDS, BRDX, BRDE, BRDM, BRDC and WBRD are positively related to ROE within the period under study.

The P-value of t-stat for BRDS, BRDX, BRDE, BRDM, BRDC and WBRD specifically have significant impact on Access bank as their P-values are less than 0.05. The coefficients of R^2 and $AdjR^2$ are very strong. It shows high impact on ROE. The result proves that the management is complying to corporate board composition code to achieve performance. The P-value of the F-stat reported high significance to ROE and the Dw proves to be good model fit for further analysis.

Diamond Bank Plc

The relationship between corporate board composition variables and Diamond Bank performance measured by Return on Equity (ROE) is a direct relationship. The relationship of the dependent variable; Return on Equity (ROE) with the independent variables: BRDS, BRDE and BRDC are fairly positive while BRDX, BRDM and WBRD are negatively related.

The P-value of t-stat for each of the independent variables BRDS, BRDE, BRDC and WBRD specifically has significant impact as their P-values are less than 0.05 while BRDX and BRDM does not have any impact on Diamond Bank Nigeria Plc performance (ROE). The coefficients of R^2 and $AdjR^2$ have very strong relationship. The result shows that there is no existence of autocorrelation which confirms it to be a good model fit for predictions. All the variables are significant in maximizing the value of the share holder funds.

Eco Bank Plc

The relationship of Return on Equity (ROE) with independent variables of BRDS, BRDX, BRDE, and BRDC are fairly positive while BRDM and WBRD are negatively related.

The P-value of t-stat for each of the independent variables: BRDS, BRDE and BRDC specifically have significant impact as their P-values are less than 0.05 while BRDX, BRDM and WBRD do not have any significant impact on Eco Bank Nigeria Plc performance (ROE). The R^2 and $AdjR^2$ coefficients are positively related and significant. The Dw appears not good model fit and not all the variables are very significant in increasing the value of the bank.

Fidelity Bank Plc

The relationship between corporate board composition and Fidelity Bank Plc performance measured by Return on Equity (ROE) is a direct relationship. The relationship of Return on Equity with independent variables BRDS, BRDX, BRDE, BRDM and WBRD are positive while BRDC is negatively related.

The P-value of t-stat for each of the independent variables: BRDS, BRDX, BRDE, BRDM and WBRD specifically has significant impact as their P-values are less than 0.05 while BRDC does not have any significant impact on Fidelity Bank Plc performance (ROE). The overall results prove to have positive relationship to ROE. Both the individual variables and the overall variables shows there is significant relationship between and among the variables to ROE. Fidelity bank seems to be doing and complying to corporate board composition codes to achieve good result.

First Bank Plc

The relationship between corporate board composition variables and First Bank Nigeria Plc performance measured by Return on Equity (ROE) is fairly positive. The relationship of the dependent variable; Return on Equity (ROE) with independent variables such as BRDS, BRDX, BRDE, BRDM and BRDC are fairly positive while WBRD is negatively related.

The P-value of t-stat for BRDS, BRDX, BRDE, BRDM, BRDC and WBRD specifically has significant impact as their P-values are less than 0.05. The overall results prove to have positive relationship to ROE. Both the individual variables and the overall variables shows there is significant relationship between and among the variables to ROE. First bank seems to be complying to corporate board composition codes to achieve good result.

Guarantee Trust Bank

The relationship of the dependent variable; Return on Equity (ROE) with the independent variables such as BRDX and WBRD are fairly positive while BRDS, BRDE, BRDM and BRDC are negatively related.

The P-value of t-stat for BRDS and WBRD specifically have significant impact as their P-values are less than 0.05 while BRDX, BRDE, BRDM and BRDC does not have any impact on ROE of Guarantee Trust Bank performance. The overall result seems to be good both the P-value of the F-stat. The Dw is also good but the specific result shows non adherent to corporate board composition code. Almost all the variables when presented specifically shows no significant relationship

Sterling Bank

The relationship of the dependent variable; Return on Equity (ROE) with each of the independent variables: BRDX and BRDE are fairly positive while BRDS, BRDM, BRDC and WBRD are negatively related.

The P-value of t-stat for BRDX and WBRD specifically has significant impact as their P-values are less than 0.05 while BRDS, BRDE, BRDM and BRDC does not have any impact on the performance (ROE) of Sterling Bank Nigeria Plc. The empirical results of the sterling bank show that the independent variables have very poor relationship to ROE. They are very poor and not significant to the dependent variable.

Union Bank

The relationship of the dependent variable; Return on Equity (ROE) with each of the independent variables: BRDS, BRDX, BRDE, BRDM and BRDC are positive related while WBRD is negatively related.

The P-value of t-stat for BRDS, BRDX, BRDM and BRDC specifically have significant impact as their P-values are less than 0.05 while BRDE and WBRD do not have any impact on the performance (ROE) of Union Bank Nigeria Plc. The overall result of Union bank shows a very good model. It proves that the corporate board composition codes are used in this study and are adhered to and applied to achieve and maximize the value of the shareholders.

United Bank for Africa Plc

The relationship of the dependent variable; Return on Equity (ROE) with independent variables such as BRDX and BRDC have poor positive relationship while BRDX, BRDE, BRDM and WBRD are negatively related.

The P-value of t-stat for BRDE specifically has significant impact as the P-value is less than 0.05 while BRDS, BRDM, BRDC and WBRD do not have any impact on United Bank for Africa performance (ROE). The overall relationship R^2 and $AdjR^2$ have very poor relationship with ROE. The overall significant relationship is equally poor. Only the Dw stat that could be managed with first order serial correlation model fit.

Wema Bank Nigeria Plc.

The relationship of the dependent variable; Return on Equity (ROE) with the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD are fairly positively related. The P-value of t-stat for BRDS, BRDX, BRDE, BRDM, BRDC and WBRD specifically have significant impact as their P-values are less than 0.05. The overall results prove to have positive

relationship to ROE. Both the individual variables and the overall variables shows there is significant relationship between and among the variables to ROE. Wema bank seems to be doing and complying to corporate board composition codes to achieve good result.

Zenith Bank Nigeria Plc

The relationship of the dependent variable; Return on Equity (ROE) with the independent variables such as BRDS, BRDX, BRDE, BRDM, BRDC and WBRD are fairly positive

The P-value of t-stat for BRDS, BRDX, BRDE, BRDM, BRDC and WBRD specifically have significant impact as their P-values are less than 0.05. The overall results prove to have positive relationship to ROE. Both the individual variables and the overall variables shows there is significant relationship between and among the variables to ROE. Zenith bank seems to be doing and complying to corporate board composition codes to achieve good result.

5.2 Conclusion

Based on the empirical analysis of the results of each of the Deposit Money Banks in Nigeria, the study offers the following conclusions:

The study carried out on Access bank, Wema bank and Zenith bank Nigeria Plc indicated that there was a positive linear relationship between corporate board composition and performance of Access bank, Wema bank and Zenith bank between the years 1997 – 2016. The six corporate board composition measures were all significant to their banks from 1997 -2016. The study concluded that Access bank plc, Wema bank plc and Zenith bank plc adopted the strict compliance of corporate board composition measures and these are the key influencers to the highly qualified board members who were able to influence management and foster trust and respect to the banks. These results support the views of Bossi and Sheehan, (2013) that indicated that providing the right information about organization's business model lead to constructive dialogue which helped build trusting relationships in the board. The findings of Access bank plc,

Wema bank plc and Zenith bank plc again support the views of Roy (2011) that indicated that there was a strong association between corporate board composition measures of Access bank, Wema bank and Zenith bank plc between the years 1997 to 2016.

The findings from Access bank, Wema bank and Zenith bank plc proves a very high association as their R^2 coefficient of determination for the three banks is 99% for each of the three banks and $AdjR^2$ coefficient of association is also 99% for each of the three banks. This result shows that banks interaction is more significant on corporate board variables which shows that more focus on these variables are more efficient in the three banks out of the eleven (11) banks between 1997 – 2016 under study. This study concluded that these three banks have been the best in terms of adopting corporate board composition variables. The study also concluded that Fidelity bank plc, Fisrtbank plc and Union bank plc also tried their best but not up to the standard of the banks discussed above. The other five banks; Diamond bank, Eco bank, Guarantee Trust bank, Sterling bank, United bank for Africa did not do well at all due to failure of their adaption of corporate board composition measures.

5.3 Recommendations

Based on the conclusions, this study recommends as follows:

1. Shareholders of banks operating in Nigeria could ensure that their banks' boards of directors comply with the provisions of the CBN codes of corporate governance, as well as other statutes. Although, the code of corporate board composition 2006 allowed banks in Nigeria to have a board size of up to maximum of seven (7) directors, deposit money banks (DMBs) should be cautious in unnecessarily enlarging the size of their boards beyond the optimum level, since optimum is relative but not absolute. A board size of 5 members, subject to the maximum of 7, as allowed by the code of corporate board composition 2006, is recommended.

2. Since the primary role of the Board committees is to ensure the integrity of the audit process and financial reporting and to maintain a sound risk management and control as stipulated in S. 359 of CAMA, 2004, that the CBN and NDIC should enforce the need for all deposit money banks (DMBs) to have approved policies in all their operation areas and strong inspection division to enforce these policies.
3. Corporate board composition should be used as a tool to help stem the tide of distress, as it entails conformity with prudential guideline of the government.
4. Even though a lot of researches have been undertaken on this area, the relationship between corporate board composition and financial performance in other sectors of the Nigerian economy requires more research effort. There is the need to conduct of same research using a different source of data, employing similar or different corporate board composition and financial performance proxies, and using similar or different scales of measuring variables and techniques for data analysis. Further research in these areas can complement this study and as well bring about improvement in corporate board composition practices and better performance measures in the Nigerian deposit money banks (DMBs) banking industry.
5. It is recommended that the management of listed deposit money banks in Nigeria should increase the number of Board to certain average or number as they have skills, expertise, experience and would like to protect their integrity, reputation and professional competence. This will result to creativity and innovation to manage the relationship between the boards and stakeholders leading to an improvement in the firm financial performance. Similarly, the number of grey directors on board should be reduced to an average of three (3) or four (4) as the case may be in order to overcome the negative effect on performance.

5.4 Contributions to Knowledge

The study of the corporate board composition has contributed immensely to existing knowledge of literature in the following ways:

(1) This study has contributed to existing knowledge as it evolved a prediction model which is useful in explaining the impact of corporate board composition on Deposit Money Banks (DMBs) performance in Nigeria as follows:

Access Bank: $ROE = 13217.5737467 + 1.09294873361*BRDS + 5993.00392086*BRDX + 37.3257228457*BRDE + 32.421656510816*BRDM + 262.169525788*BRDC + 29.9767204177*WBRD$

Wema Bank: $ROE = 45761.9018756007 + 37194.0235821703705*BRDS + 64950.8308740288*BRDX + 71214.01059072898*BRDE + 69911.1200659521434*BRDM + 81123.84129734712415*BRDC + 0.0212674702284*WBRD$

Zenith Bank: $ROE = 77745.16187167 + 60.34156170388117*BRDS + 59124.0021953814*BRDX + 76248.100586616*BRDE + 34900.2041082116*BRDM + 47582.4003547716*BRDC + 80011.1034287659*WBRD$

(2) The study established strong empirical evidence of corporate board composition as a major driver of Access, Wema and Zenith bank Plc performance in Nigeria from 1997 to 2016.

(3) The study is unique because it established that Access bank plc, Wema bank plc and Zenith bank plc among other banks under study adopted strict compliance to corporate board composition measures and these are key influencers to highly qualified board members that influenced management and foster trust and respect to the bank from 1997 to 2016.

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Appendix

ACCESS BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares

Date: 09/16/17 Time: 09:59

Sample: 1997 2016

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
----------	-------------	------------	-------------	-------

C	13217.57	1308.585	10.10066	0.0000
BRDS	1.092949	0.387878	2.817768	0.0145
BRDX	5993.003	2697.104	2.222014	0.0476
BRDE	37.32572	17.43217	2.141198	0.0432
BRDM	32.42165	11.27524	2.875473	0.0312
BRDC	262.1695	26.23359	9.993658	0.0000
WBRD	29.97672	13.63088	2.199177	0.0466

R-squared	0.993385	Mean dependent var	43345.46
Adjusted R-squared	0.990332	S.D. dependent var	16849.14
S.E. of regression	1656.679	Akaike info criterion	17.93223
Sum squared resid	35679613	Schwarz criterion	18.28074
Log likelihood	-172.3223	Hannan-Quinn criter.	18.00027
F-statistic	325.3858	Durbin-Watson stat	2.021842
Prob(F-statistic)	0.000000		

Estimation Command:

=====

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

=====

ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

=====

ROE = 13217.5737467 + 1.09294873361*BRDS + 5993.00392086*BRDX + 37.3257228457*BRDE + 32.421656510816*BRDM + 262.169525788*BRDC + 29.9767204177*WBRD

DIAMOND BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares

Date: 09/16/17 Time: 12:00

Sample: 1997 2016

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4673775.	4335036.	1.078140	0.3006
BRDS	55195.07	15049.87	3.667479	0.0028
BRDX	-58970.87	27331.22	-2.157638	0.0503
BRDE	29522.29	7943.168	3.716689	0.0026
BRDM	-12068.44	8487.946	-1.421832	0.1786
BRDC	25228.06	10220.34	2.468418	0.0282
WBRD	-21596678	7121244.	-3.032711	0.0096

R-squared	0.962694	Mean dependent var	11588938
Adjusted R-squared	0.945475	S.D. dependent var	14845189
S.E. of regression	3466429.	Akaike info criterion	33.22437
Sum squared resid	1.56E+14	Schwarz criterion	33.57287
Log likelihood	-325.2437	Hannan-Quinn criter.	33.29240
F-statistic	55.91101	Durbin-Watson stat	1.721922
Prob(F-statistic)	0.000000		

Estimation Command:

=====

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

$$ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD$$

Substituted Coefficients:

$$ROE = 4673775.1077 + 55195.073626*BRDS - 58970.8653069*BRDX + 29522.2862878*BRDE - 12068.4365667*BRDM + 25228.0643765*BRDC - 21596678.1468*WBRD$$

ECO BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares

Date: 09/16/17 Time: 14:54

Sample: 1997 2016

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4.261808	0.986944	-4.318187	0.0008
BRDS	0.356814	0.076173	4.684263	0.0004
BRDX	0.448116	0.573344	0.781584	0.4485
BRDE	7.469429	2.299216	3.248686	0.0063
BRDM	-0.002108	0.002736	-0.770321	0.4549
BRDC	0.022895	0.008764	2.612406	0.0215
WBRD	-0.004210	0.020406	-0.206329	0.8397
R-squared	0.854219	Mean dependent var	1.890021	
Adjusted R-squared	0.786935	S.D. dependent var	1.321345	
S.E. of regression	0.609919	Akaike info criterion	2.118235	
Sum squared resid	4.836009	Schwarz criterion	2.466741	
Log likelihood	-14.18235	Hannan-Quinn criter.	2.186267	
F-statistic	12.69581	Durbin-Watson stat	1.241184	
Prob(F-statistic)	0.000089			

Estimation Command:

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

$$ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD$$

Substituted Coefficients:

$$ROE = -4.26180844785 + 0.356813721777*BRDS + 0.448116312835*BRDX + 7.46942886703*BRDE - 0.00210787833713*BRDM + 0.022894897596*BRDC - 0.00421024654685*WBRD$$

FIDELITY BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares
Date: 09/16/17 Time: 20:17
Sample: 1997 2016
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20753.90	2222.331	9.338799	0.0000
BRDS	59.75213	11.98762	4.984488	0.0000
BRDX	27401.69	10055.72	2.724985	0.0173
BRDE	55.71256	23.58133	2.362571	0.0344
BRDM	53.33174	23.58425	2.261329	0.0415
BRDC	-8.271451	29.73079	-0.278212	0.7852
WBRD	1.456637	0.499314	2.917278	0.0120

R-squared	0.975423	Mean dependent var	43345.46
Adjusted R-squared	0.964080	S.D. dependent var	16849.14
S.E. of regression	3193.326	Akaike info criterion	19.24473
Sum squared resid	1.33E+08	Schwarz criterion	19.59324
Log likelihood	-185.4473	Hannan-Quinn criter.	19.31276
F-statistic	85.99323	Durbin-Watson stat	1.710674
Prob(F-statistic)	0.000000		

Estimation Command:

=====

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

=====

ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

=====

ROE = 20753.9031953 + 59.752131779172399*BRDS + 27401.6888546*BRDX + 55.7125632955*BRDE + 53.3317381527*BRDM - 8.27145058561*BRDC + 1.4566374577*WBRD

FIRST BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE
Method: Least Squares
Date: 10/21/17 Time: 06:22
Sample: 1997 2016
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13354.84	52708.89	0.253370	0.8039
BRDS	31.40671	12.87250	2.439829	0.0461
BRDX	81.96115	29.66306	2.763072	0.0161
BRDE	100.0141	48.11724	2.078550	0.0411
BRDM	93.65972	40.66145	2.303403	0.0481

BRDC	9485.981	3794.601	2.499862	0.0266
WBRD	-29701.50	6277.538	-4.731393	0.0004
<hr/>				
R-squared	0.963740	Mean dependent var	32784.82	
Adjusted R-squared	0.930081	S.D. dependent var	28769.60	
S.E. of regression	11859.18	Akaike info criterion	21.86881	
Sum squared resid	1.83E+09	Schwarz criterion	22.21732	
Log likelihood	-211.6881	Hannan-Quinn criter.	21.93684	
F-statistic	16.46966	Durbin-Watson stat	1.724781	
Prob(F-statistic)	0.000022			

Estimation Command:

=====

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

=====

ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

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ROE = 13354.8420309 - 31.406716311788*BRDS + 81.9611529133*BRDX + 100.0141368828*BRDE + 93.6597211797*BRDM + 9485.98062089*BRDC - 29701.4993957*WBRD

GUARANTE TRUST BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares

Date: 10/21/17 Time: 05:55

Sample: 1997 2016

Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.426754	0.307745	7.885595	0.0000
BRDS	-0.184168	0.037313	-4.935823	0.0003
BRDX	0.199351	0.100912	1.975486	0.0717
BRDE	-0.035802	0.112928	-0.317032	0.7567
BRDM	-0.229998	0.142258	-1.616760	0.1319
BRDC	-0.244244	0.117677	-2.075548	0.0601
WBRD	0.302392	0.095718	3.159187	0.0082
<hr/>				
R-squared	0.840242	Mean dependent var	0.602143	
Adjusted R-squared	0.810362	S.D. dependent var	0.751688	
S.E. of regression	0.225052	Akaike info criterion	0.132341	
Sum squared resid	0.607782	Schwarz criterion	0.480292	
Log likelihood	5.742764	Hannan-Quinn criter.	0.191228	
F-statistic	31.46807	Durbin-Watson stat	1.450763	
Prob(F-statistic)	0.000001			

Estimation Command:

=====

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

$$ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD$$

Substituted Coefficients:

$$ROE = 2.42675358916 - 0.184168275654*BRDS + 0.199351181733*BRDX - 0.035801805591*BRDE - 0.229997605514*BRDM - 0.244243910858*BRDC + 0.302391675529*WBRD$$

STERLING BANK Ordinary Least Square (OLS)

Dependent Variable: ROE
Method: Least Squares
Date: 11/05/17 Time: 04:19
Sample: 1997 2016
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	132716.9	34876.13	3.805380	0.0022
BRDS	-11890.60	13639.60	-0.871770	0.3991
BRDX	403188.5	125666.6	3.208398	0.0069
BRDE	26109.40	13927.66	1.874644	0.0835
BRDM	-126841.0	73502.44	-1.725671	0.1081
BRDC	-18582.18	48410.99	-0.383842	0.7073
WBRD	-94000.49	29048.52	-3.235982	0.0065
R-squared	0.881657	Mean dependent var	14434.38	
Adjusted R-squared	0.827037	S.D. dependent var	15533.57	
S.E. of regression	6460.224	Akaike info criterion	20.65393	
Sum squared resid	5.43E+08	Schwarz criterion	21.00244	
Log likelihood	-199.5393	Hannan-Quinn criter.	20.72196	
F-statistic	16.14170	Durbin-Watson stat	1.894407	
Prob(F-statistic)	0.000024			

Estimation Command:

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

$$ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD$$

Substituted Coefficients:

$$ROE = 132716.89702 - 11890.6009716*BRDS + 403188.473099*BRDX + 26109.4007392*BRDE - 126841.017728*BRDM - 18582.1814725*BRDC - 94000.4883963*WBRD$$

UNION BANK Ordinary Least Square (OLS)

Dependent Variable: ROE
Method: Least Squares
Date: 11/11/17 Time: 05:05
Sample: 1997 2016
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	67711.18	12013.49	5.636264	0.0001
BRDS	54372.38	13752.79	3.953553	0.0017
BRDX	21321.85	1894.372	11.25554	0.0326
BRDE	82499.95	7355.373	11.21628	0.3021
BRDM	6099.086	2461.761	2.477529	0.0231
BRDC	26144.72	2405.318	10.86955	0.0000
WBRD	-2713.234	8091.001	-0.335340	0.7427
R-squared	0.983992	Mean dependent var	36617.73	
Adjusted R-squared	0.976604	S.D. dependent var	23003.48	
S.E. of regression	3518.574	Akaike info criterion	19.43872	
Sum squared resid	1.61E+08	Schwarz criterion	19.78722	
Log likelihood	-187.3872	Hannan-Quinn criter.	19.50675	
F-statistic	133.1827	Durbin-Watson stat	2.276214	
Prob(F-statistic)	0.000000			

Estimation Command:

=====

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

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ROE = C(1) + C(2)* BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

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ROE = -67711.1791269 + 54372.3847675*BRDS + 21321.85193916*BRDX + 82499.95464585*BRDE + 6099.08577331*BRDM + 26144.7231724*BRDC - 2713.23412353*WBRD

UNITED BANK FOR AFRICA

Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares

Date: 11/11/17 Time: 05:28

Sample: 1997 2016

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.085143	0.225542	0.377505	0.7119
BRDS	-0.045135	0.032659	-1.382038	0.1902
BRDX	0.674010	1.235215	0.545662	0.5945
BRDE	-0.272116	0.119515	-2.276845	0.0404
BRDM	-0.177275	0.116601	-1.520356	0.1524
BRDC	0.100376	0.063284	1.586113	0.1367
WBRD	-0.183502	0.612474	-0.299607	0.7692
R-squared	0.481821	Mean dependent var	0.151867	
Adjusted R-squared	0.242662	S.D. dependent var	0.085776	
S.E. of regression	0.074647	Akaike info criterion	-2.082877	
Sum squared resid	0.072438	Schwarz criterion	-1.734371	
Log likelihood	27.82877	Hannan-Quinn criter.	-2.014845	
F-statistic	2.014644	Durbin-Watson stat	1.874649	

Prob(F-statistic) 0.136434

Estimation Command:

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

ROE = 0.0851433709345 - 0.0451353885514*BRDS + 0.674009515321*BRDX - 0.272116175835*BRDE - 0.177274590974*BRDM + 0.100376167897*BRDC - 0.183501673033*WBRD

WEMA BANK Ordinary Least Square (OLS)

Dependent Variable: ROE

Method: Least Squares

Date: 11/11/17 Time: 06:10

Sample: 1997 2016

Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	45761.90	20125.81	2.273792	0.0413
BRDS	37194.02	10021.04	3.711593	0.0323
BRDX	64950.83	28614.21	2.269880	0.0431
BRDE	71214.01	29811.89	2.388779	0.0423
BRDM	69911.12	21451.11	3.259091	0.0343
BRDC	81123.84	30612.08	2.650059	0.0416
WBRD	0.021267	0.003151	6.749388	0.0000
R-squared	0.994921	Mean dependent var		0.125791
Adjusted R-squared	0.992885	S.D. dependent var		0.043810
S.E. of regression	0.000471	Akaike info criterion		-12.21541
Sum squared resid	2.88E-06	Schwarz criterion		-11.86690
Log likelihood	129.1541	Hannan-Quinn criter.		-12.14737
F-statistic	27428.34	Durbin-Watson stat		1.790175
Prob(F-statistic)	0.000000			

Estimation Command:

LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

ROE = 45761.9018756007 + 37194.0235821703705*BRDS + 64950.8308740288*BRDX + 71214.01059072898*BRDE + 69911.1200659521434*BRDM + 81123.84129734712415*BRDC + 0.0212674702284*WBRD

ZENITH BANK

Ordinary Least Square (OLS)

Dependent Variable: ROE
Method: Least Squares
Date: 11/11/17 Time: 06:32
Sample: 1997 2016
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	77745.16	13014.50	5.973734	0.0000
BRDS	60.34156	20.67812	2.918136	0.0310
BRDX	59124.00	29514.00	2.003253	0.0424
BRDE	76248.10	13462.30	5.663824	0.0101
BRDM	34900.20	12500.80	2.791837	0.0401
BRDC	47582.40	11428.60	4.163449	0.0006
WBRD	80011.10	18872.80	4.239493	0.0002
R-squared	0.989000	Mean dependent var	-0.018156	
Adjusted R-squared	0.985000	S.D. dependent var	0.115054	
S.E. of regression	3.15E-16	Sum squared resid	1.29E-30	
F-statistic	4.222229	Durbin-Watson stat	2.210623	
Prob(F-statistic)	0.000000			

Estimation Command:

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LS ROE C BRDS BRDX BRDE BRDM BRDC WBRD

Estimation Equation:

=====

ROE = C(1) + C(2)*BRDS + C(3)*BRDX + C(4)*BRDE + C(5)*BRDM + C(6)*BRDC + C(7)*WBRD

Substituted Coefficients:

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ROE = 77745.16187167 + 60.34156170388117*BRDS + 59124.0021953814*BRDX + 76248.100586616*BRDE + 34900.2041082116*BRDM + 47582.4003547716*BRDC + 80011.1034287659*WBRD

Diagnostic Test Results for Eleven Banks

Banks	Jarque-Bera Stat. (JB) Normality test		Breusch Godfrey (BGS) Serial correlation				Breusch Pagan Godfrey (BPG) Heteroskedasticity				Ramsey Reset test Stability	
	Jarque-Bera	P-Value	F-Stat	p-value	R ²	p-value	F-Stat	p-value	R ²	p-value	F-stat	P-value
Access	1.712301	0.424794	1.289386	0.3140	3.798242	0.1497	0.948921	0.4944	6.091443	0.4130	15.19706	0.0021
Diamond	6.168695	0.045760	0.361584	0.7046	1.233743	0.5396	0.695269	0.6582	4.858730	0.5621	10.36607	0.0074
Eco	0.862515	0.649692	2.041370	0.1762	5.413790	0.0667	1.269889	0.3356	7.390475	0.2862	5.224001	0.0002
Fidelity	2.600982	0.272398	3.631606	0.0615	7.953927	0.0187	0.616113	0.7144	4.428042	0.6190	9.982029	0.0082
Firstbank	1.445208	0.485486	0.582110	0.5750	1.914171	0.3840	1.694908	0.1998	8.778327	0.1864	0.006892	0.9352
GTB	0.609778	0.737205	1.122030	0.3634	3.482270	0.1753	1.073766	0.4294	6.637314	0.3557	60.39695	0.0000
Sterling	0.505768	0.776558	0.334210	0.7229	1.145690	0.5639	1.114860	0.4054	6.794763	0.3402	0.038724	0.8473
Union	1.076863	0.583663	0.630506	0.5505	2.056947	0.3576	0.400999	0.8654	3.123452	0.7932	4.422822	0.0572

UBA	0.244180	0.885069	0.166992	0.8483	0.589350	0.7448	2.035609	0.1331	9.688128	0.1384	10.95785	0.0062
Wema	1.905638	0.385652	0.016998	0.9832	0.061619	0.9697	4.799639	0.0086	13.77958	0.0322	167691.5	0.0000
Zenith	0.414413	0.812852	8536.953	0.0000	19.98712	0.0000	4.607236	0.0101	13.60290	0.0344	4.356881	0.0703

Unit Root Test

ACCESS BANK UNIT ROOT RESULTS

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.966620	> -3.049970	0.0076	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.271074	> -3.052169	0.0332	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.942469	> -3.049970	0.0081	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-6.195915	> -3.040391	0.0001	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-6.608366	> -3.052169	0.0001	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-3.892007	> -3.040391	0.0093	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-5.001855	> -3.040391	0.0010	< 0.05	No unit root	Stationary

DIAMOND BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-4.762208	> -3.081002	0.0100	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.562977	> -3.040391	0.0181	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.788476	> -3.052169	0.0407	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.493591	> -3.065585	0.0034	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.847787	> -3.052169	0.0015	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-6.504978	> -3.119910	0.0002	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-4.244177	> -3.04039	0.0046	< 0.05	No unit root	Stationary

ECO BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.870623	> -3.040391	0.0097	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-6.802395	> -3.081002	0.0001	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-5.739644	> -3.049970	0.0002	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-8.423815	> -3.065585	0.0000	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-5.633893	> -3.040391	0.0003	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.091620	> -3.040391	0.0062	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.792718	> -3.040391	0.0114	< 0.05	No unit root	Stationary

FIDELITY BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	0.557473	< -3.029970	0.9841	> 0.05	Unit root	Not Stationary
BRDS	1(1) 1 st Diff	4.444665	> -3.081002	0.0010	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-4.812602	> -3.081002	0.0021	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-3.089042	> -3.040391	0.0456	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-3.454364	> -3.098896	0.0268	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	0.569841	< -3.040391	0.9843	> 0.05	Unit root	Not Stationary
WBRD	1(1) 1 st Diff	-4.029539	> -3.029970	0.0066	< 0.05	No unit root	Stationary

FIRST BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.938131	> -3.040391	0.0085	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-1.908822	< -3.052169	0.3207	> 0.05	Unit root	Not Stationary
BRDX	1(1) 1 st Diff	-4.351220	> -3.040391	0.0037	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.140638	> -3.040391	0.0056	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.029986	> -3.040391	0.0070	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-5.366563	> -3.040391	0.0005	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.143035	> -3.040391	0.0412	< 0.05	No unit root	Stationary

GUARANTEE TRUST BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.143035	> -3.040391	0.0412	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.434199	> -3.040391	0.0234	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-4.011965	> -3.081002	0.0091	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.218106	> -3.081002	0.0062	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.248063	> -3.065585	0.0053	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-3.686145	> -3.119910	0.0190	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.201243	> -3.040391	0.0368	< 0.05	No unit root	Stationary

STERLING BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-4.303878	> -3.040391	0.0040	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.653637	> -3.049970	0.0144	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-4.273149	> -3.040391	0.0024	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-5.851914	> -3.040391	0.0002	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.773149	> -3.040391	0.0016	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.722269	> -3.040391	0.0017	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-5.178795	> -3.040391	0.0007	< 0.05	No unit root	Stationary

UNION BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-2.347169	< -3.052169	0.1698	> 0.05	Unit root	Not Stationary
BRDS	1(1) 1 st Diff	-4.298310	> -3.040391	0.0041	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.402335	> -3.041028	0.0196	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-3.970335	> -3.081002	0.0098	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-5.077385	> -3.040391	0.0008	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.719241	> -3.886751	0.0019	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.225003	> -3.049970	0.0343	< 0.05	No unit root	Stationary

UNITED BANK FOR AFRICA UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-5.359664	> -3.040391	0.0005	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.770376	> -3.040391	0.0119	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-6.136984	> -3.049970	0.0001	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-8.784297	> -3.052169	0.0000	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-2.993083	< -3.040391	0.0646	> 0.05	Unit root	Not Stationary
BRDC	1(1) 1 st Diff	-2.993083	> -3.040391	0.0646	> 0.05	Unit root	Not Stationary
WBRD	1(1) 1 st Diff	-6.136984	> -3.029970	0.0001	< 0.05	No unit root	Stationary

WEMA BANK FOR AFRICA UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-3.152293	> -3.065585	0.0427	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-3.769199	> -3.040391	0.0120	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-3.331812	> -3.029970	0.0277	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.097119	> -3.065585	0.0071	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-4.859616	> -3.040391	0.0013	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	-4.378704	> -3.040391	0.0035	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-3.331812	> -3.029970	0.0277	< 0.05	No unit root	Stationary

ZENITH BANK UNIT ROOT RESULT

Variable	Order	ADF Result	t-statistic 5%	ADF p-value	c-value	Decision	Conclusion
ROE	1(1) 1 st Diff	-5.862027	> -3.049970	0.0001	< 0.05	No unit root	Stationary
BRDS	1(1) 1 st Diff	-4.589390	> -3.040391	0.0023	< 0.05	No unit root	Stationary
BRDX	1(1) 1 st Diff	-5.862027	> -3.049970	0.0001	< 0.05	No unit root	Stationary
BRDE	1(1) 1 st Diff	-4.030702	> -3.040391	0.0070	< 0.05	No unit root	Stationary
BRDM	1(1) 1 st Diff	-3.765267	> -3.049970	0.0115	< 0.05	No unit root	Stationary
BRDC	1(1) 1 st Diff	5.828003	> -3.040391	0.0010	< 0.05	No unit root	Stationary
WBRD	1(1) 1 st Diff	-5.862027	> -3.049970	0.0001	< 0.05	No unit root	Stationary

Johansen Co integration for Access Bank

Date: 09/16/17 Time: 10:00

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**

None *	0.965535	186.9933	125.6154	0.0000
At most 1 *	0.929883	123.0047	95.75366	0.0002
At most 2 *	0.731739	72.51058	69.81889	0.0300
At most 3	0.684159	47.51048	47.85613	0.0539
At most 4	0.582701	25.61269	29.79707	0.1407
At most 5	0.374233	9.007584	15.49471	0.3647
At most 6	0.005292	0.100824	3.841466	0.7508

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.965535	63.98859	46.23142	0.0003
At most 1 *	0.929883	50.49409	40.07757	0.0024
At most 2	0.731739	25.00010	33.87687	0.3850
At most 3	0.684159	21.89780	27.58434	0.2257
At most 4	0.582701	16.60510	21.13162	0.1915
At most 5	0.374233	8.906760	14.26460	0.2940
At most 6	0.005292	0.100824	3.841466	0.7508

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Diamond Bank

Date: 09/16/17 Time: 12:15

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958089	185.3130	125.6154	0.0000
At most 1 *	0.945535	125.0411	95.75366	0.0001
At most 2	0.776660	69.74736	69.81889	0.0507
At most 3	0.702625	41.26525	47.85613	0.1804
At most 4	0.372059	18.22276	29.79707	0.5497
At most 5	0.302214	9.381893	15.49471	0.3312
At most 6	0.125358	2.544882	3.841466	0.1107

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
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None *	0.958089	60.27191	46.23142	0.0009
At most 1 *	0.945535	55.29373	40.07757	0.0005
At most 2	0.776660	28.48211	33.87687	0.1921
At most 3	0.702625	23.04249	27.58434	0.1717
At most 4	0.372059	8.840871	21.13162	0.8451
At most 5	0.302214	6.837010	14.26460	0.5086
At most 6	0.125358	2.544882	3.841466	0.1107

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Eco Bank

Date: 09/16/17 Time: 15:09

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.942347	143.3177	125.6154	0.0027
At most 1	0.779266	89.10489	95.75366	0.1314
At most 2	0.734595	60.39979	69.81889	0.2233
At most 3	0.570121	35.19635	47.85613	0.4377
At most 4	0.449845	19.15556	29.79707	0.4818
At most 5	0.336769	7.802003	15.49471	0.4868
At most 6	2.86E-07	5.44E-06	3.841466	0.9994

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.942347	54.21282	46.23142	0.0058
At most 1	0.779266	28.70511	40.07757	0.5120
At most 2	0.734595	25.20344	33.87687	0.3714
At most 3	0.570121	16.04079	27.58434	0.6623
At most 4	0.449845	11.35355	21.13162	0.6120
At most 5	0.336769	7.801998	14.26460	0.3992
At most 6	2.86E-07	5.44E-06	3.841466	0.9994

Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Fidelity Bank

Date: 09/16/17 Time: 20:34

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.992313	223.1605	125.6154	0.0000
At most 1 *	0.947380	130.6653	95.75366	0.0000
At most 2 *	0.792048	74.71684	69.81889	0.0193
At most 3	0.707045	44.87830	47.85613	0.0927
At most 4	0.525562	21.55134	29.79707	0.3241
At most 5	0.317716	7.384467	15.49471	0.5334
At most 6	0.006326	0.120580	3.841466	0.7284

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.992313	92.49520	46.23142	0.0000
At most 1 *	0.947380	55.94845	40.07757	0.0004
At most 2	0.792048	29.83853	33.87687	0.1408
At most 3	0.707045	23.32697	27.58434	0.1599
At most 4	0.525562	14.16687	21.13162	0.3515
At most 5	0.317716	7.263887	14.26460	0.4584
At most 6	0.006326	0.120580	3.841466	0.7284

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for First Bank

Date: 10/21/17 Time: 06:27

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.979423	211.5468	125.6154	0.0000
At most 1 *	0.952471	137.7588	95.75366	0.0000
At most 2 *	0.856475	79.87704	69.81889	0.0063
At most 3	0.567384	42.99341	47.85613	0.1327
At most 4	0.498278	27.07322	29.79707	0.0998
At most 5	0.385068	13.96876	15.49471	0.0838
At most 6 *	0.220385	4.730143	3.841466	0.0296

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.979423	73.78802	46.23142	0.0000
At most 1 *	0.952471	57.88178	40.07757	0.0002
At most 2 *	0.856475	36.88364	33.87687	0.0212
At most 3	0.567384	15.92019	27.58434	0.6725
At most 4	0.498278	13.10446	21.13162	0.4427
At most 5	0.385068	9.238617	14.26460	0.2668
At most 6 *	0.220385	4.730143	3.841466	0.0296

Max-eigenvalue test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Guarantee Trust Bank

Date: 10/20/17 Time: 21:47

Sample (adjusted): 1998 2016

Included observations: 17 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.972968	167.1084	125.6154	0.0000
At most 1 *	0.927158	105.7261	95.75366	0.0086
At most 2	0.730814	61.19532	69.81889	0.2005
At most 3	0.627674	38.88531	47.85613	0.2649
At most 4	0.495263	22.08955	29.79707	0.2936
At most 5	0.381442	10.46634	15.49471	0.2466
At most 6	0.126549	2.300157	3.841466	0.1294

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.972968	61.38222	46.23142	0.0007
At most 1 *	0.927158	44.53082	40.07757	0.0148
At most 2	0.730814	22.31001	33.87687	0.5836
At most 3	0.627674	16.79577	27.58434	0.5975
At most 4	0.495263	11.62321	21.13162	0.5851
At most 5	0.381442	8.166181	14.26460	0.3621
At most 6	0.126549	2.300157	3.841466	0.1294

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Sterling Bank

Date: 11/05/17 Time: 04:38

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.908941	137.6595	125.6154	0.0075
At most 1	0.830127	92.13087	95.75366	0.0865
At most 2	0.653664	58.44947	69.81889	0.2861
At most 3	0.600254	38.30288	47.85613	0.2890
At most 4	0.507501	20.88131	29.79707	0.3651
At most 5	0.301698	7.424307	15.49471	0.5288
At most 6	0.031154	0.601350	3.841466	0.4381

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.908941	45.52863	46.23142	0.0594
At most 1	0.830127	33.68140	40.07757	0.2198
At most 2	0.653664	20.14658	33.87687	0.7464
At most 3	0.600254	17.42157	27.58434	0.5439
At most 4	0.507501	13.45700	21.13162	0.4111
At most 5	0.301698	6.822957	14.26460	0.5103
At most 6	0.031154	0.601350	3.841466	0.4381

Max-eigenvalue test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Union Bank

Date: 11/06/17 Time: 05:10

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.891406	104.9999	95.75366	0.0099
At most 1	0.709147	62.81723	69.81889	0.1592
At most 2	0.567666	39.35345	47.85613	0.2465
At most 3	0.523756	23.42086	29.79707	0.2260
At most 4	0.327471	9.326173	15.49471	0.3361
At most 5	0.089845	1.788674	3.841466	0.1811

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.891406	42.18267	40.07757	0.0285
At most 1	0.709147	23.46379	33.87687	0.4953
At most 2	0.567666	15.93259	27.58434	0.6715
At most 3	0.523756	14.09469	21.13162	0.3573
At most 4	0.327471	7.537499	14.26460	0.4277
At most 5	0.089845	1.788674	3.841466	0.1811

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for United Bank for Africa

Date: 11/06/17 Time: 05:43

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.976963	191.0794	125.6154	0.0000
At most 1 *	0.904818	119.4367	95.75366	0.0005
At most 2 *	0.720700	74.74942	69.81889	0.0191
At most 3 *	0.601283	50.51550	47.85613	0.0275
At most 4 *	0.546409	33.04491	29.79707	0.0204
At most 5 *	0.443781	18.02428	15.49471	0.0204
At most 6 *	0.303755	6.879022	3.841466	0.0087

Trace test indicates 7 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.976963	71.64273	46.23142	0.0000
At most 1 *	0.904818	44.68724	40.07757	0.0141
At most 2	0.720700	24.23392	33.87687	0.4386
At most 3	0.601283	17.47058	27.58434	0.5397
At most 4	0.546409	15.02063	21.13162	0.2875
At most 5	0.443781	11.14526	14.26460	0.1471
At most 6 *	0.303755	6.879022	3.841466	0.0087

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Wema Bank

Date: 11/06/17 Time: 05:43

Sample (adjusted): 1998 2016

Included observations: 19 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.976963	191.0794	125.6154	0.0000
At most 1 *	0.904818	119.4367	95.75366	0.0005
At most 2 *	0.720700	74.74942	69.81889	0.0191
At most 3 *	0.601283	50.51550	47.85613	0.0275
At most 4 *	0.546409	33.04491	29.79707	0.0204
At most 5 *	0.443781	18.02428	15.49471	0.0204
At most 6 *	0.303755	6.879022	3.841466	0.0087

Trace test indicates 7 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.976963	71.64273	46.23142	0.0000
At most 1 *	0.904818	44.68724	40.07757	0.0141
At most 2	0.720700	24.23392	33.87687	0.4386
At most 3	0.601283	17.47058	27.58434	0.5397
At most 4	0.546409	15.02063	21.13162	0.2875
At most 5	0.443781	11.14526	14.26460	0.1471
At most 6 *	0.303755	6.879022	3.841466	0.0087

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Johansen Co integration for Zenith Bank Plc

Date: 10/20/17 Time: 21:47

Sample (adjusted): 1998 2016

Included observations: 17 after adjustments

Trend assumption: Linear deterministic trend

Series: ROE BRDS BRDX BRDE BRDM BRDC WBRD

Lags interval (in first differences):

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.972968	167.1084	125.6154	0.0000
At most 1 *	0.927158	105.7261	95.75366	0.0086
At most 2	0.730814	61.19532	69.81889	0.2005
At most 3	0.627674	38.88531	47.85613	0.2649
At most 4	0.495263	22.08955	29.79707	0.2936
At most 5	0.381442	10.46634	15.49471	0.2466
At most 6	0.126549	2.300157	3.841466	0.1294

Trace test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.972968	61.38222	46.23142	0.0007
At most 1 *	0.927158	44.53082	40.07757	0.0148
At most 2	0.730814	22.31001	33.87687	0.5836
At most 3	0.627674	16.79577	27.58434	0.5975
At most 4	0.495263	11.62321	21.13162	0.5851
At most 5	0.381442	8.166181	14.26460	0.3621
At most 6	0.126549	2.300157	3.841466	0.1294

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values