EFFECTS OF BOARD COMPOSITIONS ON FINANCIAL PERFORMANCE OF QUOTED INDUSTRIAL GOODS COMPANIES IN NIGERIA

BY

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BEING A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, NASARAWA STATE UNIVERSITY, KEFFI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER'S OF SCIENCE (M.Sc.) DEGREE IN ACCOUNTING AND FINANCE

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DECLARATION

I hereby declare that this dissertation has been written by me and it is a report of my research work. It has not been presented in any previous application for M.Sc. Degree in Accounting and Finance. All quotations are indicated and sources of information specifically acknowledged by means of reference

ORJI-SOLOMON Ursula Chinwe ---------- ----------

NSU/ADM/MSC/ACC/091/15/16 *Sign.* *Date*

CERTIFICATION

The dissertation titled, "Effects of Board Compositions on Financial Performance of Quoted Industrial Goods Companies in Nigeria**"** meets the regulations governing the award of Master of Science (MSc) Degree in Accounting and Finance, of the School of Postgraduate Studies, Nasarawa State University, Keffi and approved for its contribution to knowledge and literary presentation.

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DEDICATION

This dissertation is dedicated to God Almighty for the inspiration, knowledge, wisdom and understanding and for strength throughout the period of this work.

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ABSTRACT

This study examines the effects of board compositions on financial performance of quoted industrial goods companies in Nigeria. Ex-post facto research design was used for the study. The population of the study is the quoted industrial goods companies in Nigeria as at 2018. Panel regression analysis was used on panel data collected from the annual reports and accounts of the companies for the period spanning through 2009-2018. The study utilizes board size, gender diversity, board independence and audit committee independence and regressed against financial performance in terms of return on asset as depended variable. It was found from the panel regression result that, board size has negative insignificantly effect on return on asset while gender diversity has positive significant effect on return on asset. Furthermore, board independence and audit committee independence have positive significant effect on return on asset. The study recommends among others that, quoted industrial goods companies in Nigeria should continue to insist on the division of powers between the board members. This separation of responsibility will encourage the sound participation of the respective persons in ensuring the attainment of the organizational financial objective easier. Also, the presence of audit members with experience will also reduce financial misreporting and enhance quality monitoring. As such, having experienced audit committee members should be a key priority for firms. Also, there is need for firms to have an audit committee that is not too small such that there is lack of expert advice and too large such that it has free riders that are prone to follow other members opinion.

TABLE OF CONTENTS

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The structure of the management of an organization plays a significant role on how well an organization performs based on its various supervisory mechanisms on the activities of the firm. Due to the large size of the enterprise, owners (principals) were effectively ineffectual in their oversight role, unable to take full control over their capital either because of lack of expertise, time or interest, or a combination of some or all of these factors. Managers (agents) therefore, took over the day-to-day running of the enterprise on an agency basis. Unfortunately, the interests of agents often diverged from those of principals. In pursuit of their personal interests, agents usually engaged in sub-optimal decisions, characterized by adverse selection and insider dealings among other managerial activities.

Boards are considered a link between the firm and the essential resources that a firm need from the external environment for superior performance. Appointment of outsiders on the board helps in gaining access to resources critical to firm success (Hermalin & Weisbach, 2000). Board composition in corporate governance has been identified to be critical in corporate performance especially in emerging economies (Bhagat & Black, 2000). However, at varying levels of agency interactions, market institutional conditions that reduce informational imperfections and facilitate effective monitoring of agents impinge on the efficiency of corporate performance. Board composition has assumed the center stage for enhanced corporate financial performance (Weisbach, 2008). Board composition is the combination of executive directors (including the chief executive officer) and non-executive directors in the board. Sometimes non-executive

directors are appointed from outside and they may not have any material interest into the firm also known as independent directors (Young, 2003; Weisbach, 2008). Good corporate governance helps to attract investment, both foreign and local, and helps reduce capital flight, and the fight against corruption, which by now everyone knows the extent of the obstruction represented by the growth.

Corporate governance is concerned with the relationship between the internal governance mechanisms of corporations and society's conception of the scope of corporate accountability (Ayogo, 2005). It is also been seen as the structures, processes, cultures and systems that engender the successful operation of organizations (Park & Shin (2003). Good board composition is an important step in building market confidence and encouraging more stable, long-term international investment flows (Bocean & Barbu, 2007).

Firm performance is a concept that supports the effective and efficient use of financial resources to achieve overall company objectives which include both shareholders wealth maximization and profit maximisation objectives (Zubaidah, Nurmala & Kamaruzaman, 2009). Furthermore, financial performance measure how well a firm can use assets from its primary mode of business and generate revenues. It is also referred to the general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Rashid (2011) state that board composition literatures debated within two extreme streams of board practices examining whether the board composition in the form of representation of outside independent directors and structural dependence of the board influence the firm financial performance. Hence, the study asserts that financial performance influences financial

performance. Aminu, Mohammed and Tanko (2015) argued that Corporate governance is a tool that ensures the existence of transparency, accountability and fairness in corporate reporting.

Nthama (2010) concluded that board size, shares held by insiders, board composition and number of board meetings positively influence a firm's value while percentage of inside directors negatively correlates with the value of the firm. Looking at the importance of board composition the contribution they have in the financial performance in an organization. The study examined the relationship between board composition and financial performance of quoted industrial goods companies in Nigeria.

1.2 Statement of the Problem

Literatures have discussed and analyzed the relationship between board composition and financial performance but most of the studies are conducted outside shores of industrial goods companies in Nigeria, for instance Victor (2013) examined the impact of board composition on the financial performance of FTSE100 constituents. Chatterjee (2011) carried out a comparative analysis on board composition and performance in Indian firms. Raymond, Paul and Jaeyoung (2010) Board of director composition and financial performance in a Sarbanes-Oxley world. Few out of these studies are carried out in Nigeria such as the study of Olayinka (2010) who studied the impact of board structure on corporate financial performance in Nigeria. Abu, Okpeh and Okpe (2016) examined board characteristics and financial performance of deposit money banks in Nigeria. Aminu, Mohammed and Tanko (2015) investigated the effect of board size and composition on the financial performance of banks in Nigeria. These studies conducted in Nigeria were more related to banks whose findings cannot be generalized to another sector.

Among others studies that were conducted by EL-Maude, Bawa and Shamaki (2018) was carried out on the Listed Consumer Goods in Nigeria using a period of 2006 to 2015. Thus, the finding cannot be generalized to industrial goods and also, there is a time lag between this study period and the studies in this area. Thus, this study expanded the frontier and expand the horizon by looking at listed industrial goods company in Nigeria which attention hitherto was not given to from 2009 to 2018.

1.3 Research Questions

Based on the above statement of problem, the study finds answers to the following questions:

i. What is the effect of Board size on financial performance of listed industrial goods companies in Nigeria?
ii. How does Gender diversity of the board affect financial performance of listed industrial goods companies in Nigeria?
iii. To what extent does board independence affect financial performance of listed industrial goods companies in Nigeria?
iv. What is the effect of Audit committee independence on financial performance of listed industrial goods companies in Nigeria?

1.4 Objectives of the Study

The study examined the effect of board composition on financial performance of listed industrial goods companies in Nigeria. While the specific objectives are to:

i. Investigate the effect of Board size on financial performance of listed industrial goods companies in Nigeria.
ii. Analyze the effect of Gender diversity of the board on financial performance of listed industrial goods companies in Nigeria.
iii. Assess the effect of board independence on financial performance of listed industrial goods companies in Nigeria.
iv. Determine the effect of Audit committee independence on financial performance of listed industrial goods companies in Nigeria.

1.5 Statement of the Hypotheses

The following hypotheses were tested in this study:

H_{01}: Board size has no significant effect on financial performance of listed industrial goods companies in Nigeria.

H_{02}: Gender diversity of the board has no significant effect on financial performance of listed industrial goods companies in Nigeria

H_{03}: Board independence has no significant effect on financial performance of listed industrial goods companies in Nigeria

H_{04}: Audit committee independence has no significant effect on financial performance of listed industrial goods companies in Nigeria

1.6 Significance of the Study

The study is important resource for academicians and future researchers who may wish to investigate the relationship between board composition and performance of firms within and outside Nigeria. Moreover, governance scholars and commentators suggest that governance is especially critical in imposing discipline and providing fresh leadership when the corporation is performing particularly poorly. It is possible that governance matters most in only certain firm events, such as the decision to change senior management. For this reason, the research will be useful in studying the relationship between governance, performance, and CEO turn over. It will also be useful in enhancing the existing body of knowledge.

The study also assists management and the board of directors in appreciating the importance of applying corporate governance tenets in enhancing firms' overall performance. The findings serve as guide to the management of both listed and not listed firms in determining the appropriate governance characteristics and how they relate to the financial performance of their respective organizations. This would help in designing a governance framework that is able to optimize financial output for them, including planning and administration.

Finally, the findings of the study will assist the policy makers in formulating appropriate regulations that will guide the governance of listed firms in Nigeria, including the composition and size of key governance within the council's administrative frameworks. The findings will assist the government agencies in setting up benchmark policy on corporate governance. It will also benefit Nigerian firms on how to effectively deal with corporate governance issues within their jurisdiction.

1.7 Scope of the Study

The study examines the relationship between board composition and financial performance of listed industrial goods companies in Nigeria. It will cover a period from 2009 to 2018. The choice of this period is based on the global financial crisis in 2008 and the recent interest of stakeholders in corporate governance issues. Return on Asset (ROA) will be used as the measure of financial performance while Board size, Gender diversity, board independence and audit committee independence are used to proxy board composition.

CHAPTER TWO

LITERATURE REVIW

2.1 Conceptual Framework

2.1.1 Concept of Board Composition

Board composition refers to the size of the board, the mix between executive and non-executive (independent) directors, and other desirable attributes, including gender diversity. Economic value of appropriate board composition has been a subject of scholarly research for more than five decades (Kesner, Victor & Lamont, 1986). It has been argued that firms with large proportions of outside directors in the board normally have less agency problems, and therefore, exhibit a better alignment between the interests of shareholders and those of management (Fernandes, 2005). Consequently, this may positively influence share price (Rosenstein & Wyatt, 1990). Yermack (1996) argues that smaller boards are more resourceful than larger ones in terms of obtaining a higher market valuation, improved return on assets and return on sales. It should be noted that larger boards invariably take longer in their deliberations, and often suffer the demerits associated with procrastination. However, too small a board will also deny the organization the requisite diversity and attendant synergy. Regarding gender diversity on boards, Burke and Nelson (2002) note that corporations are now beginning to experience significant changes in pools of potential candidates as women begin to compete for higher positions in corporations, leading to diversity at the board level. Erhardt, Werbel and Shrader (2003) however, contend that board diversity, in essence, is a deliberate effort to demonstrate a lack of discrimination, but it is really unclear whether it affects organizational financial performance in any way. This argument would amount to an affirmative action, which is largely political, and aimed at improving gender balance in decision making in corporations. This paper takes the

position that gender diversity should be embraced and celebrated in corporations because of the synergistic advantages associated with diversity in group decision making processes.

The concept of the board is derived from the attributes or incentives variable that play a significant role in monitoring and controlling managers and can be described as a bridge between company management and shareholders (Dalton & Kesner, 1998). The board is the supreme decision-making unit in the company, as the board of directors has responsibility to safeguard and maximize shareholders' wealth, oversee firm performance, and assess managerial efficiency. Fama and Jensen (1983) pointed out four actions of initiation, ratification, implementation, and monitory, undertaken by the board in the decision-making processes. Therefore, the main role of the board is seen as the ratification and monitoring of decisions, overseeing the actions of managers/ executives. From the above concept, the role of the board is quite daunting as it seeks to discharge diverse and challenging responsibilities. The board should not only prevent negative management practices that may lead to corporate failures or scandals but ensure that firms act on opportunities that enhance the value to all stakeholders.

To understand the role of the board, it should be recognized that boards consists of a team of individuals, who combine their competencies and capabilities that collectively represent the pool of social capital for their firm that is contributed towards executing the governance function (Westphal, 2001). Given this, it is important to identify the board characteristics that make one board more effective from the other. Therefore, this study is set to identify and examine the board characteristics that make it effective and contribute towards better financial performance.

Board Size

Board size refers to the total sum of members with voting privileges on the board of directors of a company (Pugliese & Wenstop, 2007). Pfeffer (1972) argues that the impact of board size on the finance of an organization is related to the organization's need to deal with the diverse stakeholder groups in the operating environment. Previous studies have demonstrated that the larger the size of the board the higher the likelihood that the performance of that company will be less than optimal (Belkhir, 2009). Belkhir argues that communication, coordination of tasks and resolution-making effectiveness among a bigger size of people is a bit harder and entails a bigger financial burden than a smaller group of people. Jensen (1993) posits that whenever the size of the board goes beyond eight people, they are less likely to function effectively and efficiently, thereby it's easier for the Chief executive officer to control them. This would obviously undermine the monitoring role of the board of directors. He further argues that keeping boards small can help improve the performance of the organizations through efficient use of resources, and by avoiding procrastination in decision making processes. It has also been argued that board size affects the number of outside independent directors in the board of directors. The outside directors sit on the board by virtue of their professionalism and track record in the industry. They are therefore, more likely to watch over the management than the inside directors as a way of protecting their reputation in the industry (Yermack, 1996). Pearce and Zahra (1992) argue that larger firms tend to have larger boards with more outside directors.

Gender Diversity

There is an increasing awareness that the absence of women in the top echelons of management and boards of corporations is detrimental both to the social and the economic outcomes

(European commission, 2010) of those corporations. This has therefore, led the business agencies globally to come up with changes in corporate governance guidelines to incorporate women in the governance structure of their companies. While participation of women has in recent times increased in the middle-level management, little has changed at the level of corporate governance across the globe (Hede, 2000). In Kenya, for example, it is said that corporate boards are dominated by the male gender mainly because most of the time, the appointing authorities are also male who their old boy networks and friends. This practice has therefore, denied women the chance to be adequately represented at the Kenyan corporate boards. However, the newly promulgated constitution of Kenya (2010) provides that at least a third of all appointments to public corporations must be of either gender, (Wachudi & Mboya, 2009). Past research has demonstrated that gender diversity brings about a better understanding of the market place. This is because gender diversity in the board matches the diversity of customers and employees in the market place, thereby enhancing the competitive edge of the companies (Robinson & Dechant, 1997). In addition, board diversity promotes creativity and innovation in the decision-making processes, which in turn, enhances the firm's financial performance in the long run. Diversity improves information provided by the board to the management due to special skill set, experiences and complimentary knowledge held by diverse directors. Diverse directors also provide access to important constituencies and resources in the external environment which increases the networks of the organization, and promotes prosperity. Women are thought to ask hard questions in the board that their men counterparts may not be comfortable to ask. The presence of women in the board therefore, increases the board's ability to monitor the management more objectively (Carter-Simkins & Simpson, 2003). Likewise, Smith, Smith and Verner (2006), note that women in the board uplift the image of the

organization due to the positive signals they send to the labor, product and the financial markets. They further argue that problems are better handled within the board when both genders are appropriately represented.

Board Independence

According to Dalton, Daily, Ellstrand, and Johnson (1998), independent board is generally composed of members who have no ties to the firm in any way, therefore there is no or minimum chance of having a conflict of interest because independent directors have no material interests in a company. Jacobs (1985) stating that independent directors are important because inside or dependent directors may have no access to external information and resources that are enjoyed by the firm's outside or independent directors (e.g., CEOs of other firms, former governmental officials, investment bankers, Social worker or public figures, major suppliers).

Many scholars, financial analysts, and investors consider outside directors to be better representatives of shareholder interests than inside directors (Carter Simkins, & Simpson, 2003) and studies have found their relationship to be stronger with overall corporate performance (Pearce & Zahra, 1992; Perry & Shivdasani, 2005) and larger shareholder returns (Shivdasani & Yermack, 1999). Not surprisingly, the number of outside board members tends to increase immediately after a firm performs poorly (Hermalin & Weisbach, 1988) and they are associated with improved performance during periods of corporate restructuring (Perry & Shivdasani, 2005). Conversely, market reaction to a firm's defensive action against a hostile takeover bid was negatively affected when the board was dominated by insiders (McWilliams & Sen, 1997). Board independence was clearly addressed in SOX, which specifies that members of a board's audit committee must be outside, independent directors (Klein, 2003).

Brennan (2006) argues that independent directors are part-timers and therefore, do not possess requisite inside information about the business, and hence, may not be competent enough to perform tasks assigned to them. Outside directors are creatures of the chief executive officers and therefore, are likely to forget their main purpose in the organization and align their own interests with those of the top management. This is especially true in jurisdictions where the chief executive is the sole source of information on potential nominees to the board.

Audit Committee Independence

The role of the Audit committee (AC) is important to stakeholders as better quality disclosed financial reporting might improve market performance. Over time, the role of the AC has evolved and has progressively been re-defined from a voluntary monitoring mechanism employed in high agency cost situations to improve the quality of information flows to shareholders. It is now a key component of the oversight function and the focus of increased public and regulatory interest. The current responsibilities of the AC are overseeing the accounting, audit and financial reporting processes of the company (Sarbanes-Oxley Act 2002, Section 2). The implied expectation is that a suitably qualified and committed independent AC acts as a reliable guardian of public interest (Abbott, Parker & Peters, 2002).

CEO Duality

Duality refers to situations in which the Chief Executive Officer (CEO) position is combined with the Board Chair (COB) position. This is typical of CEOs with long tenure (Coles, McWilliams & Sen, 2001) and is common in the United States. An agency theoretic perspective (Fama & Jensen, 1983) argues that this practice permits conflicts of interest since the leader of

the board which is charged with overseeing management decision-making is also the firm's top manager. According to this view, the managers are agents of the stockholders but are often tempted to pursue their own interests. The practice of duality, the process of assigning influential board committees, and the ratio of insiders to total board members are areas of expressed concern by agency theorists (Gibbs, 1993).

2.1.2 Concept of Financial Performance

Financial performance can be termed as a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. It is also referred to the general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Levasseur, 2002). Information on financial performance is useful in predicting the capacity of the enterprise hence analyzing how well or poorly an enterprise is doing against its set objectives.

Financial performance improvement is a key target for all businesses irrespective of their size (large, medium or small), type (listed or not listed) or sector (private or public). This is why companies always do try to remain competitive by improving their products or services thus reducing production costs (Trai, 2005). Firm performance was measured using the information obtained from the audited financial statements of the companies. Return on Assets is a measure of how the board and management have utilized assets under their stewardship to deliver value to the shareholders. Return on Equity is an indication of the amount of income returned as a percentage of shareholders' equity. This measures a company's profitability by showing how

much return the company has been able to generate using the shareholders' funds. Dividend Yield, on the other hand, is a financial ratio that shows how much a company pays out in terms of dividends each year relative to its share price. Various scholars have used these variables and come up with reliable results. Ongore and K'Obonyo (2011) utilized these three variables to measure financial performance of firms listed at the Nairobi Stock Exchange; Renee and Mehran (2011) also used ROA and ROE to measure financial performance in the banking industry in USA.

2.2 Empirical Review

2.2.1 Board Size and Financial Performance

Kader, Cigdem, and Aygun (2011) investigated the relationships between principles of good governance, marketing practices and financial performances of companies in Turkey, the authors examined the inter-relationships between board composition characteristics, corporate social responsibility practices and financial performance in this study. The population of this study is Turkish firms that are listed in the Istanbul Stock Exchange (ISE) in 2007 and have a published corporate governance compliance report. Using content and logistic regression analyses, the authors found that smaller board size leads to better financial performance, whereas inside directors and CEO duality lead to worse financial performance. On the other hand, independent directors lead to better corporate social responsibility. There is time lag between the scope of the study and the period in which the study was conducted hence, the period could have been extent to 2010.

Ujunwa (2012) investigate the impact of corporate board characteristics on the financial performance of Nigerian quoted firms. Board characteristics studied comprise board size, board

skill, board nationality, board gender, board ethnicity and CEO duality. He found that board size, CEO duality and gender diversity were negatively linked with firm performance, whereas board nationality, board ethnicity and the number of board members with a PhD qualification were found to impact positively on firm performance. The study of Ujunwa (2012) does not disclose the diagnostics test of the variables hence, the result of the study might be spurious due to the inadequacy in the analysis of the study.

Mohammad (2012) determine the relationship between board mechanisms (audit committee size, audit committee composition, board size, and board composition) and firm performance (ROA) based on the annual reports of listed companies in the year 2011 of sample of non-financial firms in the Saudi Market (*Tadawul*). The data was collected from a sample of 102 non-financial listed companies and regression analysis was utilized to examine the relationship between board characteristics and firm performance. The results of this study revealed that audit committee size, audit committee composition and board size have no effect on firm performance in the selected sample while board composition has a significant negative relationship with firm performance.

Olayinka (2010) examined the impact of board structure on corporate financial performance in Nigeria. It investigates the composition of boards of directors in Nigerian firms and analyses whether board structure has an impact on financial performance, as measured by return on equity (ROE) and return on capital employed (ROCE). Based on the extensive literature, four board characteristics (board composition, board size, board ownership and CEO duality) have been identified as possibly having an impact on corporate financial performance and these characteristics are set as the independent variables. The Ordinary Least Squares (OLS) regression was used to estimate the relationship between corporate performance measures and

the independent variables. Findings from the study show that there is strong positive association between board size and corporate financial performance. Evidence also exists that there is a positive association between outside directors sitting on the board and corporate financial performance. However, a negative association was observed between directors' stockholding and firm financial performance measures. In addition, the study reveals a negative association between ROE and CEO duality, while a strong positive association was observed between ROCE and CEO duality.

Wetukha (2013) examined the relationship between board composition and financial performance of listed firms at the Nairobi Securities Exchange. Specifically, this study examined board size, gender diversity, board independence and CEO duality and how they affect the financial performance of listed firms in Kenya. Firm performance was measured using Return on Assets (ROA). This study adopted a descriptive research design and data was analyzed using a multiple linear regression model. The study population was all the firms quoted at the Nairobi Securities Exchange from January 2008 to December 2012. Secondary data were collected using documentary information from the Nairobi Securities Exchange Notebook for the periods 2008 to 2012. The study found a positive relationship between board independence, board size and CEO duality and financial performance of companies listed at the NSE. However, gender diversity and the proportion of executive directors were found to negatively affect the financial performance of companies listed at the NSE. The period covered in the study is too small thus, the study could have increased the period of the study.

Duc and Tri (2014) examine the relationship between corporate governance and firm performance. The study measured corporate governance by dual role of the CEO, board's size, board independence and ownership concentration while firm performance is measured by return

on asset (ROA), return on equity (ROE), Z-score by Altman (1968) and Tobin's Q. Using the Feasible Generalized Least Squares (FGLS) on the dataset of 177 listed companies in Vietnam for the period of 5 years, from 2008 to 2012, the findings of this study indicate multiple effects of corporate governance on firm performance. First, duality role of the CEO is positively correlated with firm performance. Second, there is a structural change in relation between managerial ownership and firm performance. Third, board independence has opposite impacts on firm performance. Fourth, this study however fails to provide an empirical evidence support the statistically significant relationship between board size and firm performance.

Okiro (2006) examines the relationship between board size and board composition on firm performance: A study of quoted companies at the Nairobi stock exchange. He found that there was no significant relationship between board size and firm valuation.

Afzalur, Anura, Sudhir and Kathy (2010) examine the influence of corporate board composition in the form of representation of outside independent directors on firm economic performance in Bangladesh. Two hypotheses are developed to examine the relationship among composition of board memberships including independent directors and firm performance. An observation of 274 Bangladeshi firm-years is used in the study. A linear regression analysis is used to test the hypotheses. Results reveal that the outside (independent) directors cannot add potential value to the firm's economic performance in Bangladesh.

Aminu, Mohammed Tanko (2015) analyzed the effects of board size and board composition on the performance of Nigerian banks. The financial statements of five banks were used as a sample for the period of nine years and the data collected were analyzed using the multivariate regression analysis. The paper found that board size has significant negative impact on the

performance of banks in Nigeria. This signifies that an increase in Board size would lead to a decrease in ROE and ROA. On the other hand, board composition has a significant positive effect on the performance of banks in Nigeria. This signifies that an increase in Board composition would lead to a decrease in ROE and ROA.

Ozcan and Ali (2016) investigated the impact of board size and board composition on performance for a sample of 30 commercial banks from 2008 to 2012 in Turkey. We measure bank performance by two alternative measures widely used in the banking literature, i.e. operating return on assets (OROA) and return on assets (ROA). Controlling for bank size, credit risk, liquidity risk, net interest margin and non-interest income, the results of panel fixed effects regression suggest that board size has a significantly positive effect on bank's financial performance. This means that Turkish commercial banks may improve their financial performance by increasing their board size. The findings, however, show clearly that there is no significant relationship between board composition (ratio of outside directors on the board) and banks' financial performance. There is period lag between the period in which the study was conducted and the scope of the study hence, the period could have been extent to 2015.

2.2.2 Gender Diversity and Financial Performance

Irean, Chan and Rozaimah (2017) investigated the relationship between gender diversity in a firm's board of directors and financial performance of firms listed on Bursa Malaysia for the period between 2009 and 2013. Using unbalanced panel data analysis, we tested whether gender diversity in the boardroom may influence the firm's performance, as measured by Tobin's Q. The study employed four different proxies for gender diversity (the dummy variable for women,

the percentage of women on the board, the Blau index, and the Shannon index) to provide a more comprehensive measure of gender diversity. This study suggests that a higher degree of female representation on the board increases a firm's financial performance. Positive discrimination favouring female boardroom appointment is therefore likely to persist as a feature of the corporate governance landscape in Malaysia. The study could have extended the period to 2016.

Paul (2013) studied the relationship between board composition and financial performance of listed firms at the Nairobi Securities Exchange. Specifically, this study examined board size, gender diversity, board independence and CEO duality and how they affect the financial performance of listed firms in Kenya. Firm performance was measured using Return on Assets (ROA). The study adopted a descriptive research design and data was analyzed using a multiple linear regression model. The study population was all the firms quoted at the Nairobi Securities Exchange from January 2008 to December 2012. The study found a positive relationship between board independence, board size and CEO duality and financial performance of companies listed at the NSE. However, gender diversity and the proportion of executive directors were found to negatively affect the financial performance of companies listed at the NSE.

Stigring and Lyxell (2011) also found a positive relationship between gender diversity and firms' profitability level as measured by the return on assets and return on equity. Nevertheless, their study failed to take into account the endogeneity problems and the causal relationship between gender diversity and firm performance.

Erhardt, Werbel and Shrader (2003) studied the relationship between board diversity measured as the percentage of women and as female minority on board of directors and firm performance

of 127 large American firms. They found that a diverse board positively affects the firm's performance measure in terms of return on assets and return on investment.

Letting' (2010) determined the relationship between board diversity and financial performance of firms listed in the Nairobi Stock Exchange. He analyzed data on boards' age, gender, educational qualifications, study specialization, and board specialization as well as the companies' financial performance. The results indicated a statistically not significant effect of board diversity on financial performance except for the independent effect of board study specialization on dividend yield.

Kiran (2014) examined the relationship between gender diversity in board composition and firm performance. The relationship is examined using 2011 and 2012 financial performance data for 50 Finnish listed companies. Two models are used to examine the relationship between gender diversity and firm performance. The first model uses percentage of women representation on the boards to measure gender diversity. The second model uses a dummy variable with a value of 1 for boards with one woman and 0 for boards with more than one-woman representation on the board. The intended relationship is examined using Ordinary Least Square (OLS) regression method. Relationship between gender diversity and firm performance is controlled for board size, firm size, leverage and industry. The business case for gender diversity is not supported in this particular study. Even after using two different models to examine the relationship between gender diversity in the boardroom and firm performance, our results did not find a significant relationship. Female board members who break the glass ceiling are professionals representing the relevant experience and competence. They have been hired endogenously to the boards after a stringent selection process. Therefore, it is argued that the issue of gender does not matter and the impact of gender diversity on the performance of a firm is insignificant.

Letting, Aosa and Machuki (2012) in their study on Board Diversity and Performance of Companies Listed in Nairobi Stock Exchange concluded that when using the Ordinary Least Squares (OLS) regression, their results show that there is a weak positive association between board diversity and financial performance. On overall, their results indicate a statistically not significant effect of board diversity on financial performance except for the independent effect of board study specialization on dividend yield.

2.2.3 Board Independence Financial Performance

Victor-Octavian (2013) investigated using econometric regression models the impact of 9 corporate governance characteristics regarding board composition on the contemporaneous and next year's performance (measured as ROA) for companies listed on the largest European stock market (London Stock exchange) using a sample comprised of the constituents of FTSE100 between 2010 and 2011. Through this research we intend to contribute to the academic literature on the unsettled issue concerning the relationship between corporate governance and corporate performance. As hypothesized and in accordance with some previous researches we found that board independence and the proportion of foreign directors in the total number of directors (as characteristics of corporate board composition) have a significant strong positive impact on firm performance (both contemporaneous and subsequent).

Robert, Khondkar and Siyu (2016) study the effects of board independence and CEO duality on firm performance using NASDAQ-100 firms over the period 2010-2014. Three measurements of board independence are proportion of independent directors, committee overlap, and board interlock. Several significant results are found from this study. First, independent-director committee overlaps are shown to have a significantly positive relationship with firm

performance. Secondly, board interlocks of independent directors are also found to be positively associated with firm performance. Lastly, we find a negative relationship between CEO duality and firm performance. The relevance of these results is discussed from corporate governance policy and academic research perspectives.

Emeka and Alem (2016) investigated the effect of corporate governance on financial performance of banks in Nigeria. The effects of relative size of non-executive directors and the board size on return on investment (ROA) of a sample of 10 selected banks were investigated. Secondary data were sourced from the Nigeria Stock Exchange fact books issued for the years 2004-2013. The ordinary least square regression technique aided by SPSS 21 was employed in estimating the relationship between the selected variables. The study revealed that the relationship between corporate governance and bank performance in Nigeria is quite significant as a unit change in the board size and the relative size of non-executive directors increases the return on assets. The study therefore concludes that proper structuring of the stakeholders in the corporate governance team is a panacea to the perennial banking crisis experienced in Nigeria. It was recommended among others that banking sector should engage in strategic training of board members and senior bank managers especially in areas that promote internal control effectiveness, board structure and independence and in banking ethics.

Vincent, Peter, Martin and Eric (2015) examined effects of Board Composition and Financial Performance: Empirical Analysis of Companies Listed at the Nairobi Securities Exchange. Using multivariate regression analysis on panel data, with Return on Assets, Return on Equity, and Dividend Yield as performance indicators, the study found out that independent board members had insignificant effect on financial performance, but gender diversity did, in fact, have

significant positive effect on financial performance. Board size, on the other hand, had an inverse relationship with financial performance.

MacAvoy and Millstein (1998) in their study found that corporations with active and independent boards appeared to perform much better than those with passive, non-independent boards. Majority of investors prepare to pay a premium to invest in a company with good corporate governance.

Wei (2009) examines the correlation between board composition and firm's performance of Chinese listed companies. The sample is composed by Chinese local companies listed on Shanghai Stock Exchange. A quantitative approach was adopted to examine the correlation between board composition and firm performance for listed companies. The sample includes companies from the manufacturing industry, other service industries and financial service industry. Some other determinants that may have an impact on firm performance are also examined, such as the correlation between firm performance and ownership structure, firm performance and board size. After having analyzed the results, no significant associations between the proportion of independent directors in the board and firm performance were found. But the ownership structure has some association with firm performance. It found that a firm with higher concentrated duality structure has a tendency to have a better firm performance. A negative correlation between board size and firm performance was found too.

EL-Maude, Bawa and Shamaki (2018) examine the effect of board size, board composition and board Meetings on the financial performance of listed consumer goods in Nigeria over the period of ten years from 2006 to 2015. The study uses expo factor research design and purposive sampling technique (filter) as research design and sampling technique. The population of the study is twenty (20) listed consumer goods companies in Nigeria and a sample size of ten (10)

companies were studied. The data was analyzed by means of descriptive statistics, Correlation and Regression analysis. The study made use of secondary data generated from annual report and account of the sampled companies through Nigeria Stock Exchange fact book. The finding shows that Board size is negatively significant, Board composition is positively significant with firm performance and finally, Board meeting is negatively insignificant with firm performance.

2.2.4 Audit committee independence and Financial Performance

Kipkoech and Rono (2016) investigate the effect of audit committee size and experience on firm performance among listed firms in Nairobi securities exchange, Kenya. The study was conducted in firms listed on the Nairobi Securities Exchange for the period ranging from 2006 to 2011. Multiple Regressions was used to test hypothesis. Research findings showed that audit committee experience and audit committee size a have significant effect on firm performance. The period of the study is too small hence; it can lead to spurious findings and conclusion.

Mohammad (2012) determine the relationship between board mechanisms (audit committee size, audit committee composition, board size, and board composition) and firm performance (ROA) based on the annual reports of listed companies in the year 2011 of sample of non-financial firms in the Saudi Market (*Tadawul*). For the purpose of this study, data was collected from a sample of 102 non-financial listed companies. Furthermore, an analysis of regression analysis is utilized to examine the relationship between board characteristics and firm performance. The results of this study revealed that audit committee size, audit committee composition and board size have no effect on firm performance in the selected sample while board composition has a significant negative relationship with firm performance.

Zábojníková (2016) analyses the impact of various audit committee characteristics on firm financial performance using the evidence from non-financial UK companies listed on the London Stock Exchange. The study found that features of audit committees have an impact on UK firm performance. The findings suggest that there is a significant positive relationship between the audit committee size, frequency of its meetings and its financial experience and firm financial performance. On the contrary, the audit committee independence appeared to be negatively correlated with firm performance.

Glover-Akpey and Azembila (2016) assessed the association between the characteristics of audit committees and performance of firms. Data were collected from a sample size of 36 trading stocks on the Ghana Stock Exchange for the financial year of 2015. The number of meetings and financial experts among other characteristics were the predictors of the performance of the traded stock on the Ghana Stock Exchange (GSE). The study used Logit cross-sectional regression was used for the analysis. This study revealed a relationship between the characteristics of the audit committees and the performance of the firms. Meanwhile, the number of independent members on the audit committee had no influence on the performance of the firms. However, the number of independent members of the audit committee with finance or accounting degrees impacted negatively on the firm's performance.

Baliga, Moyer and Rao (1996) studying the relationship between duality and firm performance presented opposite results. First, in this study, there is no significant difference in performance when the change in duality status occurs. Second, in the long term, there is no significant difference on the impact of duality and non-duality on firm performance. This study also indicated that although the duality does change the managerial process change, it does not create more assets and as such fails to affect firm performance. The main findings of this research is

very important for increasing the value of a company. It improves company governance by checking the nature of determinants which affect performance.

2.3 Theoretical Framework

2.3.1 Agency Theory

The theoretical framework upon which this study will be based on is the agency theory, which posits that in the presence of information asymmetry the agent (in this case, the directors and managers) is likely to pursue interests that may hurt the principal, or shareholder (Fama, 2000). At first the theory was applied to the relationship between managers and equity holders with no explicit recognition of other parties interested in the well-being of the firm. Subsequent research efforts widened the scope to include not just the equity holders but all other stakeholders, including employees, creditors, government, etc. This approach, which attempts to align the interests of managers and all stakeholders, has come to be regarded as the stakeholder theory.

The stakeholder theory has been a subject of some investigation. Jensen (2001) provides a comprehensive review of corporate governance, with a particular focus on the stakeholder theory. The authors note the presence of many parties interested in the well-being of the firm and that these parties often have competing interests. While equity holders might welcome investments in high yielding but risky projects, for example, such investments might jeopardize the interests of debt holders especially when the firm is teetering on the edge of bankruptcy. The review also emphasizes the role of non-market mechanisms, citing as an example the need to determine an optimal size of the board of directors especially in view of the tendency for board size to exhibit a negative correlation with firm performance. Other non-market mechanisms

reviewed by Young (2003) include the need to design a committee structure in a way that allows the setting up of specialized committees with different membership on separate critical areas of operations of the firm. Such a structure would allow, for example, productivity-oriented committees and monitoring-oriented ones.

In an article extending the stakeholder theory, Jensen (2001) also recognizes the multiplicity of stakeholders. He concurs with Young that certain actions of management might have conflicting effects on various classes of stakeholders. This implies that the managers have a multiplicity of objective functions to optimize, something that Jensen sees as an important weakness of the stakeholder theory "because it violates the proposition that a single-valued objective is a prerequisite for purposeful or rational behavior by any organization (Jensen, 2001).

In search of a single valued objective function that conforms to rationality, Jensen suggests a refinement of the stakeholder theory – the enlightened stakeholder theory. For him, the enlightened stakeholder theory offers at least two advantages. First, unlike the earlier version with multiple objectives, the modified form of the theory proposes only one objective that managers should pursue: the maximization of the long-run value of the firm. If the interest of any major stakeholder was not protected, the objective of long-run value maximization would not be achieved. A second, related, appeal of the enlightened stakeholder theory is that it offers a simple criterion to enable managers to decide whether they are protecting the interests of all stakeholders: invest a dollar of the firm's resources as long as that will increase by at least one dollar the long-term value of the firm. There is an important caveat, however. Jensen himself cautions that the criterion may be weakened by the presence of a monopoly situation or externalities.

2.3.2 Upper Echelon Theory

The upper echelons theory developed by Hambrick and Mason (1984) hypothesizes that demographic characteristics of decision makers partially predict their strategic orientations. It proposes that organizational outcomes are related to top level decision makers possessing particular demographic profiles, and so 'if you want to understand why organizations do the things they do, or why they perform the way they do, we must consider the biases and dispositions of the most powerful actors- their top executives' (Hambrick, 2007).

The core assumption of Hambricks and Manson's (1984) perspective is the belief that demographic characteristics of corporate executives serve as surrogates for their cognitive orientation, beliefs, values, perceptions and knowledge base, with implications for financial performance. According to Hambrick (2007), executives act based on their personalized interpretations of a given strategic situations they are confronted with, and the personalized interpretations are a function of their experiences, values, beliefs and personalities.

Although upper echelons theory was based on top management teams, this study contends that boards of directors are 'the apex of corporate power' (Zahra & Pearce, 1989), and so are involved in firm's decisions. Due to changing role of the board of directors from control to service and strategic roles, their involvement in firms' strategic decisions is critical. Taking cognizance of this, upper echelons theory views firms' leaders as a critical component in influencing organizational outcomes (Hambrick & Mason, 1984), and therefore, 'organizational outcomes- both strategies and effectiveness- are viewed as reflections of values and cognitive bases of powerful actors in the organization and in this case the board of directors. They argued

that demographic characteristics (e.g. age, formal education, career experiences, and functional background) shape the lenses through which they view strategic opportunities.

Proponents of the theory hypothesized that strategic choices cannot be separated from inherent demographic characteristics of decision makers. While most studies on corporate executives and corporate strategy have emphasized more on CEO and/or Top Management Teams (TMT), this study follows Finkelstein and Hambrick's (1996) suggestion that research needs to extend to board of directors because boards of directors have a significant influence in strategic decisions of the firm. Boards of directors provide advisory roles, and play a major role in reviewing, approving, and facilitating strategic decisions. Golden and Zajac (2001) argues that demographic features of board of directors may influence the inclination of the company in terms of financial performance. This is particularly important because corporate governance will require the involvement of the board; in terms of advising, review, and approval of strategic decisions.

2.3.3 Resource Dependency Theory

Resource dependency theory considers agents (management as well as the board) as a resource since they would provide social and business networks and influence the environment in favor of their firm (Carpenter & Westphal, 2001). Appreciation of different theoretical perspectives will give insights into the contribution of boards to firm's financial performance. The United Kingdom Cadbury Report (Cadbury, 1992) defined corporate governance as "the system by which companies are directed and controlled". Due to large number of recent corporate collapses good corporate governance has emerged as a global issue. A number of theoretical perspectives are used in explaining corporate governance and problems.

The study adopts agency theory as the underpinning theory of the study because it explains the relationship between the board composition and financial performance of the companies. In this study, it explained how composition of board size, gender diversity, board independence and audit committee independence affect the financial performance of industrial goods companies in Nigeria.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

The study adopts Ex-post facto design. Ex-post facto research design is used because the study relies on existing secondary data on board composition and financial performance of listed industrial goods companies in Nigeria.

3.2 Population, Sample and Sampling Techniques

The population of the study comprises of all the industrial goods companies in Nigeria. The total number of quoted industrial goods companies listed on the Nigeria stock exchange is thirteen (13). The listed industrial goods companies selected for the study based on the availability of data and are also listed and remain listed on Nigerian Stock Exchange throughout the period under study.

3.3 Method of Data Collection

The study uses secondary data. The data are collected from the annual reports and account of the sampled companies listed on the Nigerian stock exchange and contain in fact book and other relevant sources for a period of ten (10) years (2009 to 2018). The firms are public limited companies listed on the Nigerian Stock Exchange. By virtue of being public limited companies and as a requirement of being listed, annual financial report has to be made available to the Nigerian Stock Exchange.

3.4 Technique for Data Analysis and Model Specification

In line with the research paradigm underpinning and the objectives of this study, the study uses panel regression technique to analyze the data. The study used one dependent and four independent variables. The dependent variable is ROA while the independent variables include Board size, Gender Diversity, board independence and audit committee independence. Panel regression model is used. The model captures the contribution of Board size, Gender Diversity, board independence and audit committee independence on financial performance.

The model is formulated in mathematical form to be:

$ROA = f(BS, GD, BI, ACI)$

$ROA_{it} = \beta 0 + \beta_1 BS_{it} + \beta_2 GD_{it} + \beta_3 BI_{it} + \beta_4 ACI_{it} + \varepsilon it$

Where:

ROA_{it} = Return on Assets

BS_{it} = Board size

GD_{it} = Gender Diversity

BI_{it} = Board independence

ACI_{it} = Audit committee independence

$\beta 0$ = constant

$\beta 1$- $\beta 4$ = coefficient of the parameter estimate.

ε=error term.

i = Company

t = time

Definition of Variables

Variables	Description	Measurement
ROA	Return on Assets	Profit before tax / total assets
BI	Board independence	Proportion of non- executive directors to executive directors on the board
BS	Board size	Total number of board members
GD	Gender Diversity	The percentage of women on board composition
ACI	Audit committee independence	Total number of audit committee independence

3.5 Justification of the Methods

The expo facto research design was chosen based on the fact that, the data for the study are existing data which were extracted from the financial records of the companies selected for the study. Panel regression analysis is used because the data are both cross sectional data and time

series in nature. The choice of regression as the tool of analysis in this study is informed by the fact that, the technique is effective in estimating the effect of one variable on another. The period is chosen to make the study more recent.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Data Presentation

In this section, reference is made to the data collected with respect to the study variables ranging from Return on Assets (ROA), Board Size (BS), Gender Diversity (GD), Board independence (BI) and audit committee independence (ACI). These data are attached at the appendix.

4.2 Data Analysis and Results

Table 4.1 Descriptive Statistics

	ROA	BS	GD	BI	ACI
Mean	0.802385	9.538462	0.164744	0.286855	5.415385
Median	0.135000	9.000000	0.166667	0.250000	6.000000
Maximum	4.510000	15.00000	0.333333	0.700000	7.000000
Minimum	-1.830000	4.000000	0.000000	0.083300	4.000000
Std. Dev.	1.211529	2.524773	0.072800	0.151954	0.887332
Skewness	0.990866	0.472580	0.007796	1.109850	-0.644791
Kurtosis	3.541110	2.473433	2.389644	3.455159	2.005666
Jarque-Bera	22.85866	6.340749	2.019212	27.81044	14.36349
Probability	0.000011	0.041988	0.364363	0.000001	0.000760
Observations	130	130	130	130	130

Source: Researcher's Computation, 2019 (Eviews)

The above table described the characteristics of the study's variables in terms of ROA, BS, GD, BI and ACI. The result shows that return on asset (ROA), has an average mean score of 0.802385 with median of 0.135000 while the maximum addition on return on asset for the period ascertained in this study is 4.510000 with the minimum value of -1.830000 which indicates that the industrial goods companies in Nigeria has experience loss on the return on asset within the period of this study while the probability indicates that return on asset is not normally distributed because it has a probability less than 5% level of confidence.

Board size is not normally distributed because it has a probability less than 5% level of confidence with an average mean score of 9.538462 while the median is 9.000000 and the standard deviation is lower than the mean which is 2.524773. The maximum board size in the Nigeria industrial goods companies as well as the minimum board size within the period of this study is 15 and 4 respectively.

Gender diversity is normally distributed because it has a probability greater than 5% while the average mean score is 0.164744 while the standard deviation is 0.072800 which is lower than the mean score and the maximum percentage of female proportion on the board is 33% while the minimum proportion of the female members on the board is 0.000000. This indicates that at a particular period of time, there was no female board member on the Nigeria industrial goods companies. The skewness and kurtosis of gender diversity is 0.007796 and 2.389644 respectively.

Board independence is not normally distributed because it has a probability less than 5% and the mean is 0.286855 while the median is 0.250000 and the maximum board independence over the scope of the study is 0.700000 and the minimum board independence is 0.083300. The finding also shows that the skewness is between 1 and 3 which is 1.109850 and the kurtosis is 3.455159.

Audit committee independence (ACI) is not normally distributed because it has a probability of 0.000760 which is less than 5% and the maximum audit committee independence on the industrial goods companies in Nigeria is 7 while the minimum audit independence 4. The standard deviation is 0.887332 while the skewness and kurtosis are -0.644791 and 2.005666 accordingly.

Table 4.2 Correlation Matrix

	ROA	BS	GD	BI	ACI
ROA	1.000000				
BS	0.054165	1.000000			
GD	0.311424	0.201696	1.000000		
BI	0.085141	0.008341	-0.057370	1.000000	
ACI	0.242872	0.155443	-0.089130	-0.207467	1.000000

Source: Researcher's Computation, 2019 (Eviews)

The correlation matrix explains the association between the dependent and the independent variable. This table clearly depicts positive correlation/association between the explained and the explanatory variables. Hence, board size has positive correlation with return on asset to the extent of 0.054165 while gender diversity has positive correlation to the extent of 0.311424.

Furthermore, the result shows that both board independence and audit committee independence have positive correlation with return on asset to the extent of 0.085141 and 0.242872 respectively.

Table 4.3 Variance Inflation Factor

Variance Inflation Factors			
Date: 09/05/19 Time: 13:55			
Sample: 1 130			
Included observations: 130			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
BS	0.001587	16.62045	1.080405
GD	1.885406	6.575515	1.067337
BI	0.427855	4.844945	1.055242
ACI	0.013012	42.17045	1.094333
C	0.585198	62.99194	NA

Source: Researcher's Computation, 2019 (Eviews)

Multicollinearity table that test whether the explanatory or independent variables are highly correlated. These variables can only be highly correlated if the Variance Inflation Factor (VIF) is greater than 10. However, since the respective VIFs are less than 10 (i.e. 1.080405, 1.067337, 1.055242 & 1.094333), this means that there is absence of autocorrelation.

Table 4.4 Test of Heteroskedasticity

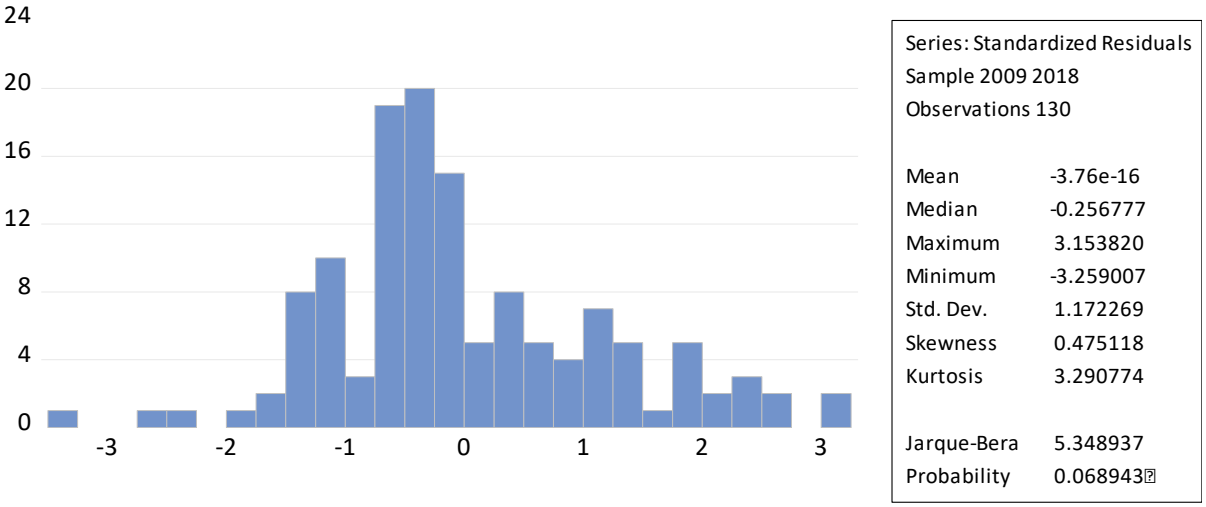
Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	1.724400	Prob. F(4,125)	0.2323
Obs*R-squared	3.324466	Prob. Chi-Square(4)	0.1897
Scaled explained SS	0.944276	Prob. Chi-Square(4)	0.6237

Source: Researcher's Computation, 2019 (Eviews)

Heteroskedasticity test explains the homokedasticity of the study's variables. The Observed R-Squared of 3.324466 with its Probability value of 0.2323 is greater than the t-value of 5% which indicates Homokesdasticity of the residuals. This however, reveals absence of heteroskedasticity in the residuals, since the null hypothesis says that the residuals are Homokesdasticity, and the alternative hypothesis says the residuals are heteroskedasticity.

Table 4.5 Histogram Normality Test



Source: Researcher's Computation, 2019 (Eviews)

The residual normally test indicates that the variable are normally distributed because it has a probability of 0.068943 which is greater than 5%

Table 4.6 Summary of Panel Regression (Random Effect Model)

Variables	**Coefficient**	**t- statistics**	**P-Value**
BS	-0.034018	-0.833742	0.4060
GD	6.064440	4.311854	0.0000
BI	1.383473	2.064895	0.0410
ACI	0.440154	3.767090	0.0003
C	-2.652674	-3.385387	0.0010
R^2	0.202715		
Adj. R^2	0.177202		
F-statistics	7.945528		
F-significance	0.000010		
Hausman p-value	0.6276		

Source: Researcher's Computation, 2019 (Eviews)

Hausman Specification test guides the study to choose between Fixed and Random Effect Models. However, the result indicated that, Random effect model is more appropriate to fixed

effect model given its probability value of 0.6276 which is greater than critical value of 0.05 (5%).

The regression shows that board size has a negative insignificant effect on return on asset with p-value greater than 5% level of confidence. Hence, good size of the board size is more appropriate in industrial goods companies because the high the board size, the lower it will result in the financial performance of the firms.

However, the study indicates that a good representative of the female board members will increase the return on asset of the firm because gender diversity has a positive significant effect on return on asset with p-value of 0.0000 which is less than 5% level of confidence. This could be as a result of professionalism among the board members in the proportion of female to total board members.

Furthermore, the study indicates that board independence is significant in industrial goods companies because the more the independence of the board members, the better the outcome of their result in terms of financial performance monitoring. Hence, board independence has positive significant p-value of 0.0410 which is less than 5% level of confidence.

The result also indicates that the higher the independent audit committee members, the better the outcome of financial performance of industrial goods companies because the outcome indicates that any increase in audit committee members, it will increase return on asset by 0.440154 coefficient because it has a positive significant effect on return on asset with p-value of 0.0003 which is less than 5% level of confidence.

The R-Squared of 0.202715 indicates that about 20% of variation in ROA of quoted industrial goods companies in Nigeria can be explained by board size, gender diversity, board

independence and audit committee independence. The remaining is captured by the disturbance or error term. The F-statistics of 7.945528 with its p-value of 0.000010 indicates fitness of the model.

4.3 Discussion of Findings

It is evident from the above results and analyses that, Board size is insignificantly negatively related to ROA of quoted industrial goods companies in Nigeria. This implies that, profitability of quoted industrial goods companies in Nigeria decreases with increase in the number of board members. This is sufficed to state that, increase in the number of board members makes it difficult to arrive at good decisions that will enhance the financial performance of the companies. This finding is consistent with the findings in the previous studies such as Jensen (1993); Belkhir (2009); Okiro (2006); Afzalur, Anura, Sudhir and Kathy (2010); and more recently, Aminu, Mohammed and Tanko (2015).

Conversely, a significant positive effect of gender diversity on ROA is found. This implies that profitability of quoted industrial goods companies in Nigeria increases as number of women in the board increases. This finding tallies with the findings in the previous works of Letting, Aosa and Machuki, (2012); Kiran (2014); Erhardt, Werbel and Shrader (2003); Stigring and Lyxell (2011); and more recently, Irean, Chan and Rozaimah (2017). The study aligns with the theory of Resource Dependency which states that, agents (management as well as the board) as a resource since they would provide social and business networks and influence the environment in favour of their firm. This means that women are more capable of influencing good decision that will enhance the profitability of the firm.

In the case of board independence and ROA, the study finds also a significant positive effect of board independence on ROA. This is sufficed to say that, profitability of quoted industrial goods companies in Nigeria increases significantly as the number of non-executive directors in the board increases. This finding is in tandem with the findings in the works of Pearce and Zahra (1992); Perry and Shivdasani (2005) Carter Simkins and Simpson (2003); Wei (2009); Victor-Octavian (2013); and more recently, EL-Maude, Bawa and Shamaki (2018).

Lasly, the study asserts that an increase in the members of audit committee independence will result in better financial performance because it better the monitoring the activities of the management. When the management are properly check, the tends to do their activities well hence, it increases the financial performance of the organization. This finding is in line with the study of Kipkoech and Rono (2016), Zábojníková (2016) that audit committee members has positive effect on financial performance but disagree with the findings of Glover-Akpey and Azembila (2016), Mohammad (2012) that audit committee independence has negative effect on financial performance of the firms.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study examines the effects of board compositions on financial performance of quoted industrial goods companies in Nigeria. The study was guided by four research questions, objectives and four research hypotheses while the scope spanned from 2009 to 2018 to make the study more recent. The variables of the study were conceptualized in the study which covered board composition variables and financial performance variables. The board composition was decomposed into board size, gender diversity, board independence and audit committee independence while financial performance was measured by return on asset. Furthermore, the theories that underpinned the study were reviewed and based on the objectives of the study, the study reviewed previous studies in line with the variables used in this study.

The study adopts Ex-post facto research design because of its reliability on existing secondary data on board composition and financial performance of listed industrial goods companies in Nigeria. The population of the study comprises of all the industrial goods companies in Nigeria.

The study uses secondary data. These data are collected from the annual reports and account of the sampled companies listed on the Nigerian stock exchange and are contained in fact book and other relevant sources for a period of ten (10) years (2009 to 2018). The firms are public limited companies listed on the Nigerian Stock Exchange. By virtue of being public limited companies

and as a requirement of being listed, annual financial report has to be made available to the Nigerian Stock Exchange.

In line with the research paradigm underpinning and the objectives of this study, the study uses the panel regression technique to analyze the data. It is found that, Board size is insignificantly negatively related to ROA of quoted industrial goods companies in Nigeria. Conversely, a significant positive effect of gender diversity on ROA is found. This implies that profitability of quoted industrial goods companies in Nigeria increases as number of women in the board increases. Also, board independence has positive significant effect on return on asset which signifies that increase in the board independence will increase firm financial performance.

Furthermore, audit committee independence has positive significant effect on financial performance of industrial goods companies in Nigeria which means that increase in audit committee independence will increase financial performance of the company.

5.2 Conclusions

Based on the finding that, board size is negatively related to profitability with statistical insignificance, the study concludes that, increase in the number of board members will affect the financial performance of industrial goods companies negatively. The study also concludes in line with the positive effect of gender diversity on financial performance of quoted industrial goods companies in Nigeria that proper combination of the female directors on the board enables professionalism which in turns affects the performance of the firms positively. In the same way, women are more honest and sincere in decision making, and are more committed to the task of the company than their male counterparts. Thus, increase in the number of women in the board enhances the financial performance of the firm.

Furthermore, the study concludes that proper board independence will enable monitoring the activities of the management hence reducing power concentration on the management. The monitoring of the management will enable management to act in favour of the board thus maximizing shareholders wealth.

Lastly, independent audit committee checks the excesses of the management and report to the shareholders thus, good independent audit committee members will report appropriately. Their activities will improve the financial performance of the companies. This conclusion is reached in line with the positive and significant effect of audit committee independence on ROA.

5.3 Recommendations

In line with the findings and conclusions drawn there from, the study makes the following recommendations:

i. Quoted industrial goods companies in Nigeria should be steadfast in making sure that, the number of the board members is not too many to create unnecessary debates that will degenerate to making wrong decision for the companies. This is to say that, when more members participate in the companies' decision-making body, the tendency of reaching into conclusion in time cannot be guaranteed.

ii. Quoted industrial goods companies in Nigeria should encourage women participation in the board. This is because as more women participate in the board of a firm, honesty, sincerity and total commitment can be guaranteed.

iii. Quoted industrial goods companies in Nigeria should continue to insist on the division of powers between the board members. This separation of responsibility will

encourage the sound participation of the respective persons in ensuring the attainment of the organizational financial objective easier.

iv. The presence of audit members with experience will also reduce financial misreporting and enhance quality monitoring. As such, having experienced audit committee members should be a key priority for firms. Also, there is need for firms to have an audit committee that is not too small such that there is lack of expert advice and too large such that it has free riders that are prone to follow other members opinion.

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Appendix

COMPANY	YEAR	ROA	BOARD INDEPENDENCE	BOARD SIZE	AUDIT COMMITTEE INDEPENDENCE	Gender DIVERSITY
AUSTIN LAZ & COM	2009	0.49	0.2857	7	5	0.2
	2010	0.28	0.2857	7	5	0.2
	2011	0.31	0.375	9	5	0.166667
	2012	0.35	0.5556	7	5	0.166667
	2013	1.99	0.625	9	5	0.166667
	2014	0.71	0.7	8	5	0.166667
	2015	1.16	0.6667	12	5	0.2
	2016	1.13	0.6667	13	5	0.166667
	2017	2.82	0.6667	15	5	0.166667
	2018	2.26	0.6875	7	5	0.166667
BERGER PAINTS	2009	2.39	0.0833	8	5	0.111111
	2010	0.23	0.6	14	6	0.111111
	2011	1.45	0.2727	12	6	0.090909
	2012	0.65	0.2727	11	6	0.090909
	2013	1.37	0.25	10	6	0.1
	2014	1.82	0.3077	9	6	0.1
	2015	1.91	0.3	7	6	0.083333
	2016	2.36	0.25	9	6	0.111111
	2017	2.28	0.3636	13	6	0.111111
	2018	2.26	0.5714	12	7	0.111111
BETA GLASS	2009	2.23	0.3333	7	6	0.090909
	2010	2.12	0.5556	9	6	0.090909
	2011	1.47	0.5	8	6	0.090909
	2012	1.54	0.2727	12	6	0.333333
	2013	1.66	0.2727	13	6	0.3
	2014	1.59	0.2727	15	6	0.222222
	2015	1.89	0.2	7	6	0.222222
	2016	2.41	0.2	8	6	0.25
	2017	2.69	0.3636	14	6	0.25
	2018	2.71	0.3636	12	6	0.142857
CAP PLC	2009	3.11	0.2222	11	6	0.3
	2010	3.28	0.3591	10	6	0.25

	2011	3.33	0.1827	9	6	0.25
	2012	3.09	0.1907	7	6	0.25
	2013	4.51	0.1959	9	6	0.25
	2014	4.28	0.397	7	6	0.25
	2015	4.13	0.204	9	6	0.25
	2016	3.94	0.3009	8	6	0.25
	2017	1.13	0.1162	12	6	0.25
	2018	1.28	0.3069	13	6	0.25
CCNN	2009	-1.83	0.1767	15	6	0
	2010	-1.68	0.1835	7	6	0
	2011	-1.37	0.1896	8	6	0
	2012	-1.06	0.2243	14	6	0.142857
	2013	0.55	0.2075	12	6	0.142857
	2014	0.62	0.2957	11	6	0.142857
	2015	0.59	0.3123	10	6	0.142857
	2016	1.88	0.1591	9	6	0.166667
	2017	1.93	0.1662	7	6	0.166667
	2018	2.91	0.171	9	6	0.166667
CUTIX PLC	2009	1.24	0.16	7	6	0
	2010	2.44	0.1681	9	6	0
	2011	2.52	0.1804	8	6	0.228571
	2012	2.41	0.1655	12	6	0.228571
	2013	2.22	0.1711	13	6	0.228571
	2014	2.2	0.2026	15	4	0.228571
	2015	2.04	0.1876	7	4	0.228571
	2016	0.31	0.2675	8	4	0.228571
	2017	0.79	0.2828	14	4	0.228571
	2018	0.03	0.1441	12	4	0.228571
DANGOTE	2009	0.22	0.1508	11	4	0.125
	2010	0.11	0.1552	10	4	0.125
	2011	0.26	0.1453	9	4	0.125
	2012	0.31	0.153	7	4	0.125
	2013	0.21	0.1583	9	4	0.125
	2014	0.11	0.1875	7	4	0.125
	2015	0.16	0.1737	9	6	0.125
	2016	0.11	0.2479	8	6	0.125
	2017	0.12	0.2621	12	6	0.142857
	2018	0.13	0.1337	13	6	0.2
GRIEF NIGERIA	2009	0.03	0.1399	15	6	0.2

	2010	0.01	0.1441	7	6	0.2
	2011	0.05	0.135	8	6	0.25
	2012	0.09	0.1422	14	6	0.25
	2013	0.21	0.1472	12	6	0.25
	2014	0.04	0.1744	11	6	0.25
	2015	0.03	0.1617	10	6	0.25
	2016	0.06	0.2309	9	6	0.1
	2017	0.02	0.2443	7	6	0.1
	2018	0.06	0.1247	9	6	0.1
LAFARGE CEMENT	2009	0.01	0.1305	7	6	0.090909
	2010	0.02	0.1345	9	6	0.090909
	2011	0.02	0.1261	8	6	0.142857
	2012	0.01	0.1188	12	6	0.142857
	2013	0.03	0.2757	13	5	0.125
	2014	0.05	0.114	15	5	0.1
	2015	0.04	0.1513	7	5	0.111111
	2016	0.05	0.2161	8	5	0.3
	2017	0.03	0.2287	10	6	0.3
	2018	0.03	0.1168	12	6	0.3
DN MEYER	2009	0.03	0.4	9	6	0.2
	2010	0.08	0.4	10	6	0.2
	2011	0.06	0.4	10	6	0.2
	2012	0.01	0.25	10	6	0.25
	2013	0.26	0.25	11	6	0.25
	2014	0.03	0.2222	11	6	0.111111
	2015	0.03	0.3	11	6	0.1
	2016	0.01	0.3	9	5	0.1
	2017	0.01	0.3	9	5	0.1
	2018	0.15	0.3636	9	5	0.090909
NOTORE CHEMICAL IND PLC	2009	0.01	0.3636	13	6	0.090909
	2010	0.05	0.3636	13	6	0.090909
	2011	0.04	0.3333	8	7	0.111111
	2012	0.02	0.3333	8	7	0.111111
	2013	0.04	0.2857	6	6	0.071429
	2014	0.01	0.2308	6	7	0.076923
	2015	0.12	0.2308	6	6	0.076923
	2016	0.15	0.125	5	6	0.125

	2017	0.05	0.125	5	6	0.125
	2018	0.06	0.3333	5	6	0.166667
PORTLAND PAINTS & PRODUCTS NIGERIA PLC	2009	0.04	0.3333	4	4	0.166667
	2010	0.14	0.3333	8	4	0.166667
	2011	0.06	0.4	8	4	0.2
	2012	0.02	0.2	8	4	0.2
	2013	0.05	0.25	10	4	0.25
	2014	0.05	0.25	8	4	0.25
	2015	0.08	0.125	8	4	0.125
	2016	0.07	0.125	8	4	0.25
	2017	0.05	0.125	10	4	0.25
	2018	0.05	0.6	10	4	0.25
PREMIER PAINTS PLC.	2009	0.04	0.625	8	4	0.142857
	2010	0.02	0.625	8	4	0.142857
	2011	0.01	0.625	8	4	0.181818
	2012	0.04	0.4	7	4	0.1
	2013	0.07	0.4	7	4	0.1
	2014	0.09	0.4	7	4	0.090909
	2015	0.03	0.5	8	4	0.090909
	2016	0.08	0.5	9	4	0.111111
	2017	0.05	0.5	8	4	0.2
	2018	0.07	0.4286	10	4	0.272727

Appendix II

DESCRIPTIVE STATISTICS

	ROA	BS	GD	BI	ACI
Mean	0.802385	9.538462	0.164744	0.286855	5.415385
Median	0.135000	9.000000	0.166667	0.250000	6.000000
Maximum	4.510000	15.00000	0.333333	0.700000	7.000000
Minimum	-1.830000	4.000000	0.000000	0.083300	4.000000
Std. Dev.	1.211529	2.524773	0.072800	0.151954	0.887332
Skewness	0.990866	0.472580	0.007796	1.109850	-0.644791
Kurtosis	3.541110	2.473433	2.389644	3.455159	2.005666
Jarque-Bera	22.85866	6.340749	2.019212	27.81044	14.36349
Probability	0.000011	0.041988	0.364363	0.000001	0.000760
Sum	104.3100	1240.000	21.41676	37.29120	704.0000
Sum Sq. Dev.	189.3466	822.3077	0.683688	2.978627	101.5692
Observations	130	130	130	130	130

CORRELATION MATRIX

	ROA	BS	GD	BI	ACI
ROA	1.000000	0.054165	0.311424	0.085141	0.242872
BS	0.054165	1.000000	0.201696	0.008341	0.155443
GD	0.311424	0.201696	1.000000	-0.057370	-0.089130
BI	0.085141	0.008341	-0.057370	1.000000	-0.207467
ACI	0.242872	0.155443	-0.089130	-0.207467	1.000000

VARIANCE INFLATION FACTOR

Variance Inflation Factors
Date: 09/05/19 Time: 13:55
Sample: 1 130
Included observations: 130

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
BS	0.001587	16.62045	1.080405
GD	1.885406	6.575515	1.067337
BI	0.427855	4.844945	1.055242
ACI	0.013012	42.17045	1.094333
C	0.585198	62.99194	NA

HETEROSKEDASTICITY TEST

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

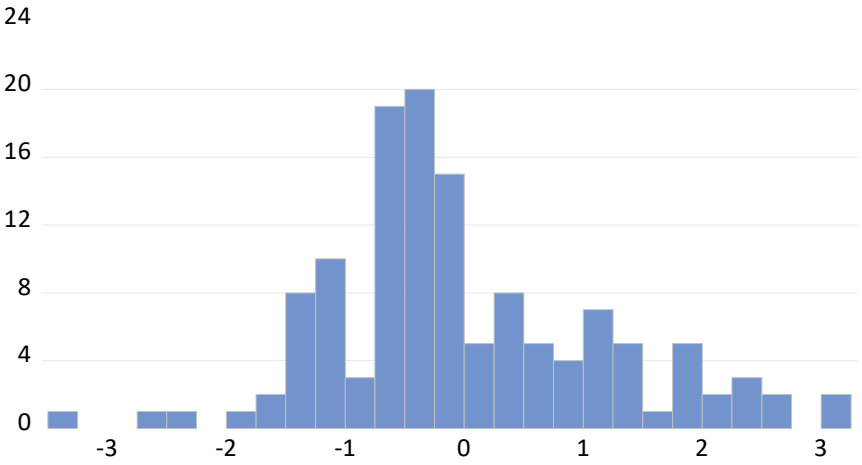
F-statistic	1.724400	Prob. F(4,125)	0.2323
Obs*R-squared	3.324466	Prob. Chi-Square(4)	0.1897
Scaled explained SS	0.944276	Prob. Chi-Square(4)	0.6237

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/05/19 Time: 13:56
Sample: 1 130
Included observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.995170	1.022953	-1.950402	0.0534
BS	-0.049506	0.053267	-0.929388	0.3545
GD	4.411833	1.836144	2.402771	0.0177
BI	-0.419872	0.874687	-0.480025	0.6320
ACI	0.558087	0.152538	3.658670	0.0004

R-squared	0.132596	Mean dependent var	1.161255
Adjusted R-squared	0.104839	S.D. dependent var	1.553224
S.E. of regression	1.469551	Akaike info criterion	3.645494
Sum squared resid	269.9477	Schwarz criterion	3.755784
Log likelihood	-231.9571	Hannan-Quinn criter.	3.690308
F-statistic	4.777029	Durbin-Watson stat	1.152434
Prob(F-statistic)	0.001279		

HISTOGRAM NORMALITY TEST



Series: Standardized Residuals	
Sample 2009 2018	
Observations 130	
Mean	-3.76e-16
Median	-0.256777
Maximum	3.153820
Minimum	-3.259007
Std. Dev.	1.172269
Skewness	0.475118
Kurtosis	3.290774
Jarque-Bera	5.348937
Probability	0.068943

POOLED REGRESSION ANALYSIS

Dependent Variable: ROA
Method: Panel Least Squares
Date: 09/05/19 Time: 13:45
Sample: 2009 2018
Periods included: 10
Cross-sections included: 13
Total panel (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BS	-0.034018	0.039834	-0.853996	0.3947
GD	6.064440	1.373101	4.416603	0.0000
BI	1.383473	0.654106	2.115058	0.0364
ACI	0.440154	0.114071	3.858605	0.0002
C	-2.652674	0.764982	-3.467629	0.0007

R-squared	0.202715	Mean dependent var	0.802385
Adjusted R-squared	0.177202	S.D. dependent var	1.211529
S.E. of regression	1.098956	Akaike info criterion	3.064301
Sum squared resid	150.9631	Schwarz criterion	3.174591
Log likelihood	-194.1796	Hannan-Quinn criter.	3.109116
F-statistic	7.945528	Durbin-Watson stat	0.427929
Prob(F-statistic)	0.000010		

FIXED REGESSION

Dependent Variable: ROA
Method: Panel Least Squares
Date: 09/05/19 Time: 13:46
Sample: 2009 2018
Periods included: 10
Cross-sections included: 13
Total panel (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BS	-0.034456	0.042356	-0.813479	0.4176
GD	6.121405	1.459316	4.194707	0.0001
BI	1.449956	0.681108	2.128819	0.0354
ACI	0.459166	0.117626	3.903596	0.0002
C	-2.779914	0.798371	-3.481983	0.0007

Effects Specification

Period fixed (dummy variables)

R-squared	0.223735	Mean dependent var	0.802385
Adjusted R-squared	0.136740	S.D. dependent var	1.211529
S.E. of regression	1.125654	Akaike info criterion	3.176045
Sum squared resid	146.9831	Schwarz criterion	3.484856
Log likelihood	-192.4429	Hannan-Quinn criter.	3.301525
F-statistic	2.571807	Durbin-Watson stat	0.412937
Prob(F-statistic)	0.003695		

RANDOM EFFECT MODEL

Dependent Variable: ROA
Method: Panel EGLS (Period random effects)
Date: 09/05/19 Time: 13:47
Sample: 2009 2018
Periods included: 10
Cross-sections included: 13
Total panel (balanced) observations: 130
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BS	-0.034018	0.040802	-0.833742	0.4060
GD	6.064440	1.406458	4.311854	0.0000
BI	1.383473	0.669997	2.064895	0.0410
ACI	0.440154	0.116842	3.767090	0.0003
C	-2.652674	0.783566	-3.385387	0.0010

Effects Specification	S.D.	Rho
Period random	0.000000	0.0000
Idiosyncratic random	1.125654	1.0000

Weighted Statistics

R-squared	0.202715	Mean dependent var	0.802385
Adjusted R-squared	0.177202	S.D. dependent var	1.211529
S.E. of regression	1.098956	Sum squared resid	150.9631
F-statistic	7.945528	Durbin-Watson stat	0.427929
Prob(F-statistic)	0.000010		

Unweighted Statistics

R-squared	0.202715	Mean dependent var	0.802385
Sum squared resid	150.9631	Durbin-Watson stat	0.427929

HAUSMAN SPECIFICATION

Correlated Random Effects - Hausman Test
Equation: Untitled
Test period random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	2.595632	4	0.6276

** WARNING: estimated period random effects variance is zero.

Period random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
BS	-0.034456	-0.034018	0.000129	0.9693
GD	6.121405	6.064440	0.151482	0.8836
BI	1.449956	1.383473	0.015013	0.5874
ACI	0.459166	0.440154	0.000184	0.1610

Period random effects test equation:
Dependent Variable: ROA
Method: Panel Least Squares
Date: 09/05/19 Time: 13:47
Sample: 2009 2018
Periods included: 10
Cross-sections included: 13
Total panel (balanced) observations: 130

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.779914	0.798371	-3.481983	0.0007
BS	-0.034456	0.042356	-0.813479	0.4176
GD	6.121405	1.459316	4.194707	0.0001
BI	1.449956	0.681108	2.128819	0.0354
ACI	0.459166	0.117626	3.903596	0.0002

Effects Specification

Period fixed (dummy variables)

R-squared	0.223735	Mean dependent var	0.802385
Adjusted R-squared	0.136740	S.D. dependent var	1.211529
S.E. of regression	1.125654	Akaike info criterion	3.176045
Sum squared resid	146.9831	Schwarz criterion	3.484856
Log likelihood	-192.4429	Hannan-Quinn criter.	3.301525
F-statistic	2.571807	Durbin-Watson stat	0.412937
Prob(F-statistic)	0.003695		