

## CORPORATE GOVERNANCE MECHANISM AND FINANCIAL PERFORMANCE OF LISTED NON-FINANCIAL FIRMS IN NIGERIA.

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### **Abstract**

*The similarity of prior studies in this area of corporate governance mechanism and financial performance is the use of OLS regression analysis, which focuses on the effect of the independent variables on the conditional mean of the dependent variable. The classic regression shows the relationship between the dependent variable and the independent variable by assuming that the regression coefficients/covariates effects are constant across the population. However, this does not explain relationship at different conditional quantiles of the outcome variable, which helps to provide a more holistic scan of the whole distribution of the outcome. The regression analysis that meets the requirement of a conditional mean at different points is the quantile regression (QR). This study defers in methodology from other studies by adopting the quantile regression approach to ascertain the different level of performance. This is the research gap that this study bridged by examining the effect of corporate governance (CG) mechanisms on financial performance of listed non-financial firms in Nigeria. The study applied a statistical tool developed by Taro Yamane (1967) and employed a sample of sixty (60) listed non-financial companies from the Nigerian Stock exchange that have consistently issued their audited annual financial reports from 2013 to 2019. The secondary data collected are analyzed using descriptive statistics, correlation analysis and quantile regression approach. The empirical results from the quantile regression approach showed among other things that board size has a significantly positive effect on firm performance at the 25th and 75th percentiles, board independence has a significantly negative effect on firm performance at the 50th percentile, and Chief Executive Officer (CEO) ownership has a significantly positive impact on firm performance at that same percentile. It was suggested, based on the research's findings, that the management of Nigeria's publicly traded firms should maintain and grow an acceptable board size for better and improved company performance.*

**Keywords:** Corporate, Financial, Governance, Non-Financial, Performance

### **1.0 Introduction**

A topic that is hotly contested is how corporate governance affects financial performance. The performance of corporate and corporate governance factors has been significantly associated in research throughout the years. The numerous financial scandals involving prominent businesses and corporate failures, like those at Enron, WorldCom, Xerox, African Petroleum, Unilever Nigeria Plc, and Cadbury Nigeria Plc, among others, may be the cause of the rising interest in governance studies. Corporate governance is concerned with the ways in which the organization's stakeholders utilize all their influence to make sure those managers and directors steer the organization's affairs in a way that considers the interests of all stakeholders. Good corporate governance promotes manager to behave in the

shareholders' best interests as evidenced by literature and actual business circumstances (Ajagbe, Oluyinka & Long, 2011; Ferreira, 2010). In the governance of an organization, a manager's interest tends to conflict with shareholders' interest when they do not earn their desirables (Jensen & Meckling, 1976). This opportunistic behavior of management can negatively affect the performance of the firm. The fundamental issue in corporate governance from an agency point of view is how to avoid any form of opportunistic behavior and set out strategy that will lead to wealth maximization of shareholders (Macus, 2008).

The impact of corporate governance on the performance of listed companies in both developed and developing economies has, still, been the subject of numerous studies. In industrialized nations, a study on corporate traits and valuation inferences was conducted by Fekri, Milad, Hafezali, Omar and Omer (2016). According to the results of the study's ordinary least square method, there is evidence that corporate governance has considerable impact on firm performance. Conyon (2017) also examined the connection between corporate governance (female diversity in the boardroom) and firm performance in a study including more than 300 US companies between 2007 and 2014. The corporate governance variable, according to the study, has an impact on firm performance. In a developing country like Nigeria, researchers such as Agbim (2019), Dabor, Isiauwe, Ajagbe and Oke (2015), Enilolobo, Adesanmi and Aigbe (2019), Ngozi and Oranefo (2020) and Oladeju and Agbesanya (2019) have investigated the association between corporate governance and business performance. These studies conclusions are not conclusive and do not agree with one another. This can be the result of OLS incorrectly or using inadequate methods. Using the ordinary least square regression analysis, Al-Itomaidi, Almaqtari and Ahmad (2019), Badu and Appiah (2017), Enilolobo, Adesanmi and Aigbe (2019) and Oladeju and Agbesanya (2019) all revealed a substantial correlation between corporate governance system and business performance. Using conventional ordinary least square regression techniques Agbim (2019), Dabor, Isiauwe, Ajagbe and Oke (2015) and Ngozi and Oranefo (2021) found no discernable impact of corporate governance mechanisms or factors business performance. These studies are comparable in that they employ OLS regression analysis, which focuses on the impact of the independent factors on the conditional mean of the dependent variable. The classic regression shows the relationship the dependent variable and the independent by assuming that the regression coefficients/covariate effect are constant across the population. This does not. However, this does not explain relationships at different conditional quantiles of the outcome variable which helps to provide a more holistic scan of the whole distribution of the outcome. The regression analysis that meets the requirement of a conditional mean at different points is the quantile regression (QR). The quantile regression approach is used in this study

to deviate from standard methods and determine the various levels performance by looking at how corporate governance structures affect the performance of listed non-financial enterprises in Nigeria. To the study, the following research questions were developed.

1. What impact does the size of the board have on the performance of the firm at various quartile points?
2. What impact does board independence have on a firm's performance at various quartile points?
3. What impact does ownership by the CEO have on the performance of the firm at various quartile points?
4. What impact does the independence of the audit committee have on the performance of the firm at various quartile points?

## **2.0 Review of Literature**

### **2.1 Firm's Performance**

A method of assessing management performance and determining whether organizational objectives are met is through the performance of the company. It can be portrayed by growth, market value, return on assets (ROA), and return on capital employed (ROCE) (Boshnak, 2021; Conyon & He, 2017; Phan & Duong, 2021; Uribe-Boharquez, Martinez-Ferrero, Garcia-Sanchez, 2018). Economies of scale and market domination can be brought about by size, which can increase future profitability. Most of the time, the owner's, or manager's perceptions in response to the survey serve as gauge of the company's performance (Justin, Bell, Payne & Kreiser, 2010). According to Hawawini, Subramanian and Verdin (2003) argument, external influences role in deciding how business performance is affected. Companies' performance is assessed in three dimensions, according to Egbunike and Okerekeoti (2018). The level of business productivity comes first. Next, is the aspect of profitability followed by the aspect of market premium. The second dimension is identical to the company's financial performance which is a level of how much a company's earnings exceed its costs. A company's financial performance is evaluated using specific ratios. In a financial statement, ratios illustrate the relationship between two figures belonging to same unit. Return on assets (ROA), return on earnings (ROE), return on capital employed (ROCE), return on sales, net profit margin and operating margin are a few of these ratios.

Researchers like Amer, Ragal and Shehata (2014), Bansal and Sharma (2016), Hogue, Islam and Azam (2013) and Ibrahim and Abdulsammad (2011), employ accounting-based assessment as a performance metric for organizations since it is a useful tool for measuring a firm's profitability. It demonstrates an organization's short-term profitability and includes return on equity (ROE) and return on assets (ROA).

While authors like Ganguli and Agrawal (2009), Shan and McIver Ron (2011) and Wahla, Shahsyed and Hussain (2012) used market-based measurements that put an emphasis on the expectations of the organization's shareholders' (i.e., the owners') towards the company's future performance. Some market-based measures adopted in research are market-to-book value (MTBV), Tobin Q, market value added (MVA), log of market, dividend yield (DY), price-earnings ratio, capitalization and so on. The major distinction between markets-based measures and accounting-based measures is the forward-looking approach of the former and the backward-looking approach of the later. However, there are essentially two different types of performance measurement that management uses depends on their needs at the time.

## **2.2 Corporate Governance**

Corporate governance (CG) is the term for the procedures, organizational frameworks, and data used to direct and monitor an institution's management (Duncan & Cameron, 2005). It focuses on board responsibilities, disclosure, and investors' involvement. And other related topics, including the idea that a board's effectiveness is mainly determined by its makeup (Ogunsanwo, 2019). It concerns the creation of a balance between economic and social aims as well as between personal and collective ambitions (Udeh, Abiahu & Tambou, 2017). By assuring the protection of stakeholders' interests, a good CG structure lays the groundwork for achieving accountability between the organization's directors, management, and owners (Duncan & Cameron, 2005). A healthy economy is typically the result of good corporate governance standards, which also guide the economy to achieving superior returns for the business's owners (Jenkinson & Majer, 2012 as cited in Bala, Almustapha & Olarewaju, 2019). Since there are several corporate governance regulations for different economic sectors in Nigeria, the idea of corporate governance (CG) is not entirely new. To address the unique needs of their enterprises, industry authorities created CG codes.

The corporate governance for Banks and Discount House was introduced in 2014 specifically to address the needs of the banking sector. It was issued by the CBN (repealed 2006 CBN Code); in the telecommunication industry, the Code of Corporate Governance for the Telecommunication was introduced in 2016, it repealed the Nigerian Communications Commission code of 2014; Code of Good Corporate Governance for Insurance Industry was introduced in 2009. The National Insurance Commission (NIC) introduced it in 2014. The Securities and Exchange Commission (SEC) repealed its 2003 law with the Code of Corporate Governance for public Companies in Nigeria, which was implemented in 2011. Finally, the National Pension Commission's code of Corporate Governance for Licensed Pension Fund Operators, published in 2008 (PENCOM).

## **2.3 Corporate Governance mechanisms**

### **2.3.1 Board Size**

Since management implements board decisions, the board is seen as a crucial component of corporate governance. These choices have a big impact on not just the company's performance, but also on how long it will be in operation. It is thought that a large board size initially makes it easier to perform important board functions, but at some point, a large board starts to experience coordination and communication issues, which makes the board less effective, and the firm performs worse (Guest, 2009; Jensen, 1993; Lipton & Lorsch, 1992). What matters most is how big this crucial corporate governance mechanism is and how it affects the success of the company. Boards with smaller sizes are favored in many of the public discussions and empirical research conducted in the USA and other industrialized nations where boards are crucial to corporate governance. In contrast to the well-established negative correlation between board size and firm performance, some studies (Coles, Daei & Naveen, 2008; Dalton & Dalton, 2005; Guest, 2009; Topal & Dogan, 2014) show that board size is influenced by firm-specific factors, so the direction of the correlation between it and performance may vary between companies.

In Section.2 of the Nigerian corporate governance code empowers its users to determine the size and composition of their boards considering the scale and complexity of their operations; the need for sufficient members to serve on its committees; the need to secure quorum at meetings; as well as ensuring diversity (KPMG, 2019). The overall implications are that firms have the power to determine the size and make-up of their boards according to the requirements of their sectoral regulators.

### **2.3.2 Board Independence**

According to the literature on corporate governance, a company's ownership and management should be kept separate. Inside directors are not seen to be as impartial as independent non-executive directors with the appropriate skill sets, who do not have any business or other links that could obstruct their capacity to exercise independent judgment or act in the best interests of the shareholders. The independent non-executive directors take an objective perspective, which allows them to closely monitor the Chief Executive Officer (CEO) and challenge him or her when standards, policies, or procedures are broken to safeguard the interests of the shareholders (Duchin, Matsusaka & Ozbas, 2010). In many nations around the world, independent directors are required to make up a portion of the corporate body by laws or regulations. It is assumed that outside director' interests align more closely with minority shareholders' than with those of inside directors. Additionally, outside directors give businesses access to the outside world or a window into it, assisting with networking and securing essential resources. A majority of the board members should be outsiders, according to Fama and Jensen (1983), for it to be

considered independent. Independent directors are thought to be more attentive in keeping an eye on the company's actions and decisions.

### **2.3.3 CEO Ownership**

The performance of the company may suffer as a result if the CEO's interests are not aligned with those of the shareholders (Core, Holthansen & Larcker, 1999). Since it is used as a tool to complete this assignment, CEO compensation becomes relevant in this situation. For instance, financial bonuses and long-term income, including stock-related compensation, can be included in the CEO's compensation (Zajac, 1990). Given that numerous studies have found results that suggest this, including the CEO as a shareholder may be advantageous to organizational performance (Griffith, 1999; Kim & Lu, 2011). Elsilä, Kallunki, Nilsson and Sahlström (2013) evaluate the personal wealth of the CEOs to determine whether investing a larger percentage of the CEO's overall wealth in the company boosts the firm's incentives and, as a result, the performance of the company. The study examined data from a listed Swedish company as an example, and the findings showed that accounting profitability increased in direct proportion to the CEO's wealth.

### **2.3.4 Independence of the Audit Committee**

The foundation of the audit committee is two pillars of accountability: first, management's accountability to the boards, and second, the boards' accountability to the shareholders. To assure the accuracy of financial reporting, the audit committee and internal audit play crucial roles as the company's internal control system. The board's supervision responsibility, which includes monitoring the company's internal and external audit processes, directly informs the audit committee's work (Garg, 2007). The primary duties of the audit committee are to tighten internal accounting controls and conduct ongoing reviews of the company's financial data to increase the accuracy and integrity of financial reporting. The ratio of executive and non-executive committee's composition: Compared to audit committees with executive directors, the former is thought to be more independent. There is evidence that executive directors would predominate the top management of the company's decision-making process, leading to less impartial conclusion. For instance, Shivdasami (1993) and Yermack (1996) find that executive directors reveal only a limited portion of facts to non-executive directors aimed at preventing stakeholders from getting all the information. The oversight function of suitable checks and balances to ensure that management fulfills its duties of maximizing wealth as expected by the shareholders is the most critical function of an effective audit committee (Solomon & Solomon, 2004).

## **2.4 Review of Relevant Theory**

### **Agency Theory**

The dominant paradigm in studies and analyses of corporate governance is undoubtedly agency theory, which has been applied widely in various aspects. This theory is based on the writing of Berle and Means (1932), who discussed the division of firm ownership from management. Jensen and Meckling (1976) and Fama and Jensen (1983), two seminal researchers, are frequently cited as sources for this theory. A person who is appointed or hired to act in the principal's best interests is known as an agent. The owners of every business initially serve as the organization's managers, but as the company grows, the owners will need to hire people who will be responsible for managing the business. Directors are those people, or agents. The owners' best interests must come first for them (directors). A contract between a company's owners (shareholders) and management is described as an agency relationship by Jensen and Meckling (1976). The shareholders engage the directors to manage the firm on their behalf. The three major costs incurred by the owners (principal) in ensuring that the managers act in their best interest. First, the monitoring cost is incurred, because of the monitoring and controlling activities of the principal. Second, the bonding cost is incurred, because the agents try to convince the shareholders that their interest will not be sidelined. The managers' (agents) actions that can jeopardize the interests of the owners or shareholders result in residual loss. The total of the bonding cost, monitoring cost, and residual loss is referred to as the agency cost. According to Berle and Means (1932), the manager (agent) is viewed as a man who is self-interested, self-serving, egotistical, and opportunistic by nature. Due to these characteristics, shareholders are required to keep an eye on their operations and hire an external auditor to check them. When the shareholders' (owners') and managers' objectives conflict, a conflict of interest is all but guaranteed. Principals should make sure that any lapses in the contract between the owners and the agents are effectively addressed because these lapses are the most likely places where management may behave opportunistically (Adelopo, 2010; Gomez-Mejia & Wiseman, 2007). In the organization, other kinds of agency issues might appear in a variety of situations, especially when decisions are made regarding mergers and acquisitions, investing, and diversification (Lane, Cannella & Lubatkin, 1998). This may show up as management's propensity to block reasonable offers to advance their own interests at the expense of the shareholders (Buchholtz & Ribbens, 1994). The main goal is to decrease or eliminate the agency's operating expenses to boost the returns that can be distributed among the remaining claimants. Consequently, the focus of this theory was on how directors, who are also thought of as agents, manage the activities of organisations on behalf of owners (shareholders).

## **2.5 Empirical Review**

### **2.5.1 Board Size and Financial Performance**

With varying degrees of success, several studies have investigated how board size affects financial performance.

Omotoye, Adeyemo, Omotoye, Okeme and Leigh (2021) examined the relationship between different audit committee and board characteristics and the market performance of listed deposit money banks in Nigeria. Twelve (12) banks with annual reports that were listed on the Nigerian stock exchange between 2013 and 2017 were used to collect data, and the fixed and random regression analysis was used to evaluate the data. The study concluded that the size of the board of directors has a negative and significant impact on firm performance.

Boshnak (2021) used a sample of 210 Saudi Stock Exchange listed companies from 2017 to 2019 to examine the relationship between corporate governance mechanisms and firm performance in Saudi Arabia. To examine the relationship between corporate mechanism and business performance, descriptive and multivariate regression models were used. The findings showed that the size of the board had a negative impact on company performance.

The effect of corporate governance on firm performance during the Covid-19 pandemic In Sri Lanka was explored by Farwis, Siyam, Nazar and Aroosiya (2021) using a sample of 27 listed enterprises during the years 2019 to 2020. To test the established assumptions, data were gathered using quantitative techniques from 27 businesses listed on the Colombo Stock Exchange (CSE) using descriptive statistics, correlation analysis, t-test, and ordinary least square regression techniques. It was discovered that the number of directors and their qualifications had a considerable favorable impact on the performance of the company.

### **2.5.2 Board Independence and Financial Performance**

The proportion of independent non-executive directors to all directors, or “board independence,” is the measure of board effectiveness. In several studies, the relationship between board independence and firm performance was investigated. The findings were inconsistent. According to certain studies, there is a positive relationship (Ahmed & Handam, 2015; Pan, Huang & Gopal, 2018), a negative relationship (Vo & Nguyen, 2014) or even no relationship (Zabri, Ahmad & Wah, 2016).

Boshnak (2021) conducted study on the relationship between Saudi Arabian firm performance and corporate governance mechanisms. Regression analysis and manual content were both used in the study of 210 Saudi Stock Exchange companies that have been listed as a sample from 2017 to 2019. The dependent variable, company performance, which is proxied by ROA, ROE, and Tobin’s Q, was analyzed

using descriptive and multivariate regression techniques. The findings demonstrated a negative relationship between board independence and firm performance.

The moderating impact of institutional context was examined by Uribe-Bohorquez, Martinez-Ferrero and Garcia-Sanchez (2018) in their study of board independence and company performance. 2,185 businesses from across the global were analyzed from 2006 to 2015. To analyze the data for the study, regression models for panel data were adopted. It was discovered that board independence increases the firm's technical efficiencies.

### **2.5.3 CEO Ownership and Financial Performance**

According to Douong (2016) research, the 2003 dividend tax cut provided evidence about CEO ownership and company performance. The research involved 541 distinct companies in 41 industries and covered the years 2002 to 2006. According to the study, the shift in CEO ownership affects business performance and investment efficiency in an unevenly balanced way.

An empirical study on the connection between governance and financial performance was carried out in Indonesian by Garad, Rahmawati and Pratolo (2021). The study's objective was to investigate the connections between ownership, financial performance, board size, audit committee, and company value. With the use of the WordStat 8 statistical method, the study used descriptive statistics, correlation, and the cloud analysis procedure. The findings reveal that audit committee independence has a considerable beneficial impact on financial performance whereas ownership structure has a significant negative impact.

Frydenberg and Neegaard (2018) looked at CEO ownership and stock market performance of listed Oslo Stock Exchange (OSE) from 2010 to 2016. Data were collected from a sample of 73 companies on OSE, and multivariate regression was used to examine the results. According to the findings, businesses that have a CEO who owns at least 5% of the company perform better than both businesses that do not.

### **2.5.4 Audit Committee (AC) Independence and Firm Performance**

Oroud (2019) looked at the relationship, between the audit committee's attributes and revenue. From 51 companies, 255 observations were collected for the panel data. As of 2017, the Australian Stock Exchange (ASE) had 63 industrial enterprises listed as members. According to the regression research, the profitability of the industrial enterprises listed on the ASE is significantly impacted by AC independence.

Study by David, Chang and Low (2021) on corporate governance practices and Real Estate Investment Trusts' ten-year performance in Malaysia and Hong Kong (2010 to 2019). The analysis of the panel data was used to investigate how corporate governance mechanisms affected business performance (ROA, ROE, and Tobin's Q). According to the analysis's findings, Tobin's q, return on equity, and return on assets are all significantly impacted by the audit committee's independence.

However, Mohammad (2018) used a sample of 74 non-financial enterprises listed on the Jordanian Stock Exchange (JSE) between 2010 and 2016 to examine the effect of AC features on firm performance. The Bruesh and Pagan Lagrangian multiplier (LM), which allows users to choose between pooled OLS, fixed, and random effects, was used. According to the study's findings, AC independence and business performance have a poor association.

### 3.0 Methodology

The longitudinal research design was used in this study. It recorded activity of listed non –financial institutions on the Nigeria Stock exchange (NSE) for the years 2013 to 2019. 116 non-financial companies listed on the Nigerian Stock Exchange (NSE) from 2013 to 2019 make up the study's population (NSE, 2019). The Taro Yamane (1967) method was used to determine a sample size of sixty (60) using the formula:

$$4.0 \ n = \frac{N}{1+N(e)^2} \text{Where: } n = \text{sample size, } N = \text{Population of the study, } e = \text{error term (9\%)}$$

$$5.0 \ n = \frac{116}{1 + 116 (0.09)^2}$$

$$7.0 \ n = \frac{116}{1.9396}$$

$$9.0 \ n = 60$$

Consequently, the purposive sampling technique was used to select sixty (60) listed firms and the descriptive statistical method was used to describe the data. It provides information on the mean, standard deviation and Jarque-Bera. While the Ordinary Least Square and the Quantile Regression method were adopted for the estimation of the model.

### Model Specification

The study adapts the Liu, Hsueh, and Wu, (2017) model which was expressed as:

$$ROA_{itq} = a + \beta_{1q}BSIZE_{it} + \beta_{2q}BOIDN_{it} + \beta_{3q}CEOSH_{it} + \beta_{4q}ACIND_{it} + \beta_{q5}FS_{it} + \beta_{6q}FLEV_{it} + \mu_{i,t} \text{ ----(1)}$$

$$ROE_{itq} = a + \beta_{1q}BSIZE_{it} + \beta_{2q}BOIDN_{it} + \beta_{3q}CEOSH_{it} + \beta_{4q}ACIND_{it} + \beta_{q5}FS_{it} + \beta_{6q}FLEV_{it} + \mu_{i,t} \text{ ----(2)}$$

$$TOQ_{itq} = a + \beta_{1q}BSIZE_{it} + \beta_{2q}BOIDN_{it} + \beta_{3q}CEOSH_{it} + \beta_{4q}ACIND_{it} + \beta_{q5}FS_{it} + \beta_{6q}FLEV_{it} + \mu_{i,t} \text{ ----(3)}$$

Where: ROA = Return on Assets, ROE = Return on Equity, TOQ = Tobin's Q, BSIZE = Board size, BOIDUN = Board independence, CEOSH = CEO ownership, ACIND = Audit committee independence,

FS = Firm size, FLEV = Firm leverage, i = number of industries, t = number of years, q = Quantile and  $\mu$  = the error term.

#### 4.1 Data and Analysis

**Table 1: Descriptive Statistics**

Variables	Mean	Std. Deviation	Jarque-Bera
ROA	1.92	19.14	11.15 (0.00)
ROE	23.56	527.61	13.24 (0.00)
TOQ	1.54	1.49	11.06 (0.00)
BSIZE	9.16	2.94	5.61 (0.00)
BOIDN	67.79	14.19	4.90 (0.00)
CEOSH	4.95	12.37	11.47 (0.00)
ACIND	48.39	14.19	8.79 (0.00)
FS	7.12	0.84	4.14 (0.00)
FLEV	65.05	41.00	11.08 (0.00)
All data observation	418	418	418

**Source:** Authors' Compilation (2022)

Table 1 displays the mean (average) for each variable, together with the standard deviation and Jarque-Bera (JB) statistics (normality test). According to a review of firm performance metrics, the average return on asset (ROA) throughout the seven-year period was 1.92 percent, with standard deviation value of 19.14. This shows that non-financial listed companies in Nigeria were able to utilize their total assets to generate an average profit of 1.92 percent. The average returns on equity (ROE) and return on assets (RETOA) were 23.56 percent and 527.61, respectively. Tobin Q (TOQ), as determined by the market-to-book ratio of the sample firms, was N1.54k with a standard deviation value of 1.49. This means that the non-financial quoted firms in Nigeria were able to use their equity capital in generating profit on average of 23.56 percent. Accordingly, the market-to-book ratio for listed non-financial companies in Nigeria was N1.54k. it was noted that the board size (BSIZE) averaged 9.16 with a standard deviation of 2.94 throughout the seven- year period (2013-2019). This means that there were nine (9) directors on average on the board of the tested listed companies in Nigeria. Board independence (BOIDN) has a standard deviation of 14.19 and has been on average 67.79 percent during the past seven years. This indicates that non-executive directors made-up most of the boards of directors for the sampled listed companies in Nigeria.

Additionally, we noticed that the average CEO ownership (CEOSH), which was calculated as the CEO total shares divided by the total directors' share, was 4.95 percent with a standard deviation of 12.37. We found that the audit committee independence (ACIND) of the chosen publicly traded companies was, on average, 48.39 percent, with a standard deviation of 14.19. Firm leverage (FLEV), a control variable,

was on average 65.05 with a standard deviation of 41.00 and firm size (FS), on average 7.12 with a standard deviation of 0.84. The Jarque-Bera (JB) statistics in Table 2 also demonstrate that all the variables had a normal distribution. This indicates that the data was not skewed and could be trusted to be used to generalize about the sampled Nigerian listed companies. To find out if the series deviates from normality, consider the results of the skewness and Kurtosis as well. The data fit into a normal data series because of the importance of the variables, as seen in table 2 below, and this is depicted below.

**Table 2: Skewness/Kurtosis tests for Normality**

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Variable	Obs	ObsPr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
roa	418	0.0000	0.0000	-	0.0000
roe	418	0.0000	0.0000	-	0.0000
toq	418	0.0000	0.0000	-	0.0000
bsize	418	0.0000	0.1282	28.40	0.0000
boidn	418	0.0000	0.2824	19.59	0.0001
ceosh	418	0.0000	0.0000	-	0.0000
acind	418	0.0000	0.0000	-	0.0000
fs	418	0.0201	0.0851	7.95	0.00188
flev	418	0.0000	0.0000	-	0.0000

Source: Authors' Compilation (2022)

**Table 3: Pearson Correlation Matrix**

	ROA	ROE	TOQ	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
ROA	1.00								
ROE	0.66	1.00							
TOQ	0.22	0.34	1.00						
BSIZE	0.14	0.07	0.03	1.00					
BOIDN	0.08	0.06	-0.07	0.19	1.00				
CEOSH	-0.16	-0.12	-0.09	-0.34	-0.31	1.00			
ACIND	0.14	0.13	0.09	0.14	0.22	-0.01	1.00		
FS	0.18	0.15	0.01	0.51	0.07	-0.28	0.06	1.00	
FLEV	-0.46	-0.05	0.11	-0.13	-0.18	0.14	-0.08	0.11	1.00

Source: Authors' Compilation (2022)

Table 3 focuses on the relationship between company performance (ROA, ROE, and TOQ) and characteristics related to corporate governance (BSIZE, BOIDN, CEOSH, ACIND, FS and FLEV). According to the findings, board size (BSIZE) was positively correlated with return on asset (ROA=0.14), return on equity (ROE=0.07), and Tobin Q as determined by market-to-book ratio (TOQ) =0.03). This means that most companies with a larger board of directors were more likely to experience an increase in market-to- book value, return on equity, and return on assets. In the instance of board independence (BOIDN), the variable was positively correlated with return on asset (ROA=0.08), return on equity (ROE=0.06), and Tobin Q measured by market-to-book ratio (TOQ=-0.007), and negatively correlated with both. This suggests that companies with more board independence were probably better at

producing returns on assets and returns on equity, but their market-to-book value appeared to be declining. In the instance of CEO ownership (CEOSH), we also noticed that the variable was negatively correlated with return on asset (ROA=-0.16), return on equity (ROE=- 0.12), and Tobin Q as determined by market-to-book ratio (TOQ=-0.09). As a result, firms with higher CEO ownership were more likely to have a decline in market-to-book value as well as a reduction in return on assets and return on equity. The return on asset (ROA=0.14), return on equity (ROE=0.13), and Tobin Q evaluated by the market-to-book ratio (TOQ=-0.09) were all positively correlated with the audit committee independence (ACIND). As a result, companies with greater audit committee independence were probably more effective at producing return on assets, return on equity, and increasing market-to-book value. Return on asset (ROA=0.18), return on equity (ROE=0.15), and Tobin Q as determined by market-to-book ratio (TOQ=0.010 were all positively correlated with firm size (FS), which served as control variable. This suggests that larger businesses were more likely to generate higher returns on assets and equity as well as higher market-to-book values. Additionally, firm leverage (FLEV) was negatively correlated with return on asset (ROA=-0.46) and return on equity (ROE=-0.05) but favorably correlated with Tobin Q as assessed by the market-to-book ratio (TOQ=0.11). Moreover, we noted that no two explanatory factors were perfectly connected, according to correlation analysis. We also observed that correlation analysis revealed that no two explanatory variables were perfectly correlated. This means that there is the absence of multi co-linearity problem in our model.

**The OLS Regression and Quantile Regression Results for Return on Asset (ROA)**

**Table 4.1a. The OLS method results for Return on Asset (ROA)**

	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-17.28	-0.56	-0.08	-0.06	0.13	5.03	-0.18
t-value	-1.76	-1.52	-1.24	-0.84	2.11	3.94	-8.91
p-value	0.079	0.129	0.214	0.401	0.036	0.000	0.000

R<sup>2</sup> = 0.2064, F = 17.69, Prob = 0.0000

**Table 4.2b. The quantile regression results for Return on Asset (ROA)**

**25%**  
R<sup>2</sup> = 0.2158

	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-18.15	-0.48	-0.04	-0.09	0.06	5.04	-0.24
t-value	-2.97	-1.42	-0.66	-1.33	1.02	4.27	-12.72
p-value	0.046	0.157	0.507	0.184	0.306	0.000	0.000

**50%**  
R<sup>2</sup> = 0.1326

	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-1.18	-0.31	-0.01	-0.07	0.04	2.50	-0.17
t-value	-0.04	-2.41	-0.82	-2.85	1.87	5.52	-23.76
p-value	0.733	0.017	0.413	0.005	0.062	0.000	0.000

**75%**

R <sup>2</sup> = 0.0907	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	2.01	-0.35	-0.01	-0.08	0.03	2.29	-0.15
t-value	0.35	-1.62	-0.31	-1.84	0.90	3.06	-12.54
p-value	0.726	0.105	0.759	0.067	0.367	0.002	0.000

We observed from table 4.1ab that the OLS R<sup>2</sup> was about 21%, the Pseudo R<sup>2</sup> of 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles were 22%, 13% and 9% systematic variations in firm performance measured by return on asset (ROA) which were jointly explained by the independent variables (board size, board independence, CEO ownership, audit committee independence, firm size, and firm leverage). The F – statistics value of 17.69 and a P-value of 0.0000 (Prob = 0.0000) shows that the model overall was statistically significant at 5%. This reveals that the model is fit, and its variables were carefully selected.

**The OLS Regression and Quantile Regression Results for Return on Equity (ROE)**

**Table 4.2a The OLS method results for Return on Equity (ROE)**

	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-108.03	-2.56	1.23	-1.05	-0.79	12.87	0.41
t-value	-0.36	-0.26	0.61	-0.45	-0.40	0.33	0.64
p-value	0.722	0.796	0.543	0.650	0.686	0.744	0.520

R<sup>2</sup> = 0.0031, F = 0.21, Prob = 0.9721

**Table 4.2b The quantile regression results for Return on Equity (ROE)**

<b>25%</b>							
R <sup>2</sup> = 0.0099	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-37.54	-0.49	0.05	-0.11	0.22	4.71	-0.05
t-value	-1.47	-0.51	0.32	-0.60	1.33	1.42	-1.08
p-value	0.143	0.609	0.747	0.548	0.184	0.157	0.280
<b>50%</b>							
R <sup>2</sup> = 0.0063	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-14.66	-0.38	0.007	-0.11	0.15	2.72	0.01
t-value	-1.64	-1.14	0.12	-1.66	2.75	2.35	0.95
p-value	0.101	0.255	0.901	0.097	0.006	0.019	0.343
<b>75%</b>							
R <sup>2</sup> = 0.0103	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-11.87	-0.71	0.08	-0.17	0.08	2.52	0.17
t-value	-0.93	-1.62	0.61	-1.11	0.65	0.96	3.96
p-value	0.352	0.105	0.543	0.268	0.516	0.339	0.000

Given the tables above, we observed that the OLS R<sup>2</sup> was about 1%, the Pseudo R<sup>2</sup> of 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles were 1%, 1% and 1% systematic variations in firm performance measured by return on asset (ROA) which were jointly explained by the independent variables (board size, board independence, CEO ownership, audit committee independence, firm size, and firm leverage). The F – statistics value of 0.21 and a P-value of 0.9721 (Prob = 0.9721) shows that the model overall was statistically insignificant at 5%. This reveals that there are some variables significant to the model that has not been captured.

**The OLS Regression and Quantile Regression Results for Tobin Q (TOQ)**

The OLS and quantile regression results obtained shown in table 4.3 below.

**Table 4.3a The OLS method results for Tobin Q (TOQ)**

	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	1.39	0.05	-0.01	-0.008	0.003	0.01	0.008
t-value	1.68	0.19	-1.90	-1.31	0.63	0.14	5.06
p-value	0.093	0.849	0.058	0.189	0.515	0.890	0.000

R<sup>2</sup> = 0.0753, F = 5.53, Prob = 0.0000

**Table 4.3b The quantile regression results for Tobin Q (TOQ)**

<b>25%</b>							
R <sup>2</sup> = 0.0585	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	0.56	0.01	-0.001	0.001	0.001	-0.06	0.007
t-value	2.86	2.14	-0.89	1.20	1.56	-2.34	17.51
p-value	0.004	0.033	0.376	0.232	0.120	0.020	0.000
<b>50%</b>							
R <sup>2</sup> = 0.0448	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	1.12	0.02	-0.001	-0.002	0.003	-0.12	0.006
t-value	2.65	1.44	-0.39	-0.73	1.31	-2.18	7.69
p-value	0.008	0.147	0.700	0.466	0.090	0.030	0.000
<b>75%</b>							
R <sup>2</sup> = 0.0772	C	BSIZE	BOIDN	CEOSH	ACIND	FS	FLEV
Coef.	-0.01	0.12	0.004	0.01	0.01	-0.14	0.009
t-value	-0.01	3.08	0.60	1.75	1.58	-0.99	4.16
p-value	0.989	0.002	0.546	0.081	0.116	0.323	0.000

We observed from table 4.3.3ab that the OLS R<sup>2</sup> was about 8%, the Pseudo R<sup>2</sup> of 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles were 6%, 5% and 8% systematic variations in firm performance measured by return on asset (ROA) which were jointly explained by the independent variables (board size, board independence, CEO ownership, audit committee independence, firm size, and firm leverage). The F–statistics value of 5.53

and a P-value of 0.0000 (Prob. = 0.0000) shows that the model overall was statistically significant at 5%. This reveals that the model is fit.

## 4.2 Discussions

### Board Size and Financial Performance

The results revealed that board size had a positive coefficient signs and probability values  $<0.05$ . This implies that the effect of board size on firm financial performance is statistically significant only in performance measured by Tobin Q at 25<sup>th</sup> and 75<sup>th</sup> percentiles while statistically insignificant at OLS results. This implies that increase in board size would lead to increase in firm financial performance. Larger board sizes significantly lead to higher performance. The OLS result was consistent with the findings of Omotoye, Adeyemo, Omotoye, Okeme and Leigh (2021) who established that board size exerts a negative and significant impact on firm performance.

### Board Independence and Financial Performance

The results revealed the effect of board independence on firm financial performance is statistically insignificant by the different parameters over the different points of conditional distribution and even the OLS. This implies that increase in the number of non-executive directors sitting on the board has no effect on firm performance, because it only failed the significance test at p-values  $>0.05$ . On the other hand, the insignificant outcome of the parameters suggests that board independence is not a strong determinant of firm performance. The insignificant nature of the variable 'board independence' could be attributed to the fact that, despite the provision of the revised SEC Code that the non-executive directors should be in the majority among the board of directors, the total average of non-executive directors in our study showed 67.7%. Empirically, the OLS result was consistent to the findings of Uribe-Bohorquez, Martinez-Ferrero and Garcia-Sanchez (2018) on relationship between board independence and firm performance and revealed that board independence increases the firm's technical efficiencies.

### CEO Ownership and Financial Performance

The results revealed that the effect of CEO ownership on firm financial performance is negatively and statistically significant at firm performance measured by return on asset (ROA) at 50<sup>th</sup> percentile and not statistically insignificant from the OLS result. This implies that increase in shareholding by the Chief Executive Officer significantly led to a decrease in firm performance the OLS result was contrary to the

findings of Garad, Rahmawati and Pratolo (2021) who revealed that CEO ownership exhibits a significant negative effect on financial performance.

### **Audit committee Independence and Financial Performance**

The results revealed that the effect of audit committee independence on firm financial performance is positive and statistically significant at 50<sup>th</sup> percentile and even the OLS results measured by return on asset (ROA) at p-values <0.05. This implies that the proportion of non-executive directors in the audit committee of the sampled companies would significantly lead to increase in firm performance. From the empirical evidence, the OLS results were consistent with the findings of David, Chang and Low (2021) revealed that audit committee independence has a significant effect on firm performance.

### **5.0 Conclusion and Recommendations**

The audit committee's independence and board size have a favorable and significant impact on a company's financial performance at the 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles, respectively, according to our research findings using the quantile regression technique. The effect of CEO ownership on firm financial performance is negatively and statistically significant at 50<sup>th</sup> percentile while board independence has insignificant effect on firm financial performance measured by the different parameters over the different points of conditional distribution.

Based on major findings, we therefore recommend that:

- (i) For improved company performance, management of Nigeria's listed non-financial companies should maintain and grow an acceptable board size. It provides a positive message for Nigerian businesses that perform above average and below average.
- (ii) The study suggests that that firms with high level of non-executive members' sitting on the board as corporate governance mechanism did not drive performance for below-average, average and above-average performing firms.
- (iii) The study also suggested that management's attention should be drawn to CEO ownership because it leads to a decrease in performance for average performing firms.
- (iv) The study suggested that management should increase the number of out-side directors in the audit committee to increase performance for average performing firms.

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