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**MODERATING EFFECT OF LEVERAGE ON THE VALUE  
RELEVANCE OF ACCOUNTING INFORMATION IN THE NIGERIAN  
LISTED OIL AND GAS FIRMS**

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**Abstract**

*The study investigates the moderating effect of leverage on the value relevance of accounting information in the Nigerian listed oil and gas firms. The study used correlational research design and the data was extracted from the published annual financial reports of the firms for the independent variables and the moderator. On the other hand, the data for the dependent variable (share prices) was collected from Nigerian stock exchange website. A sample size of 6 firms were used for a period of eight years (2011-2018). The data was analysed using multiple regression analysis. Findings from the analysis showed that earnings per share, and leverage to be value relevant. Additionally, book value per share moderated with leverage was value relevant in addition to earnings per share moderated with leverage as well. Based on the findings, the study recommends that listed oil and gas firms in Nigeria should strategize to improve their earnings. Moreover, they should also find way of managing their book value, as any unnecessary investment means negative effect on share price. Additionally, listed oil and gas firms should maintain an appropriate level of leverage so that the cheap cost of leverage will reduce the weighted average cost of capital and subsequently increase value to investors. Finally, the explanatory power of the moderated variables are more than the ones not moderated.*

**Keywords:** Value relevance, Earnings per share, Book value per share and Leverage

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**1. Introduction**

Value relevance as an area of research in the field of accounting and finance has drawn the attention of academics for long, which attracted many researches and

made the area to be a centre of debate (Beest & Boelens, 2009). Value relevance is understood to be the ability of financial statement information (quantitative and qualitative) to capture and summarise information that affects share values and empirically tested as a statistical association between market values and accounting values (Hellstrom, 2005), financial information is only termed value relevant if there is an established association between accounting numbers and company share prices. Moreover, accounting information can only assist investors in coming up with the right investment decision that will give them higher returns on investment and minimize risks only if it gives the true and fair view of financial operations (Mamuda, 2015). financial statements achieve that role if they possess certain characteristics which are: reliability, relevance, comparability, timeliness and understandability (IASB, 2014). Bello (2009) also held accounting to be an information system that is used by various economic units to make informed decisions. The bases for all accounting decisions depend on readily available information. In line with this, the Companies And Allied Matters Act (CAMA) 1990 as amended, mandates all listed firms on the Nigerian stock-market to submit their yearly reports to the securities and exchange commission in addition to the shareholders (Companies And Allied Matters Act 1990, 2016).

The study of Ball and Brown (1967) published in 1968 was believed to be the pioneer study conducted in the area of value relevance (Global Asset management, 2014). If market participants consider accounting information to be of high quality, a positive relationship between the information and the share prices is expected, and vice versa (Sabri & Mohd-saleh, 2010). Hence, qualitative information disclosure is not only of benefit to the disclosing firms but to the investors as well. Earning is the most significant determinant of share prices because it is from it that investment rewards (dividend and capital gain) are earned and other business obligations are paid. Other investors consider value of the firm and how the firm gains wide acceptability from within and outside the country: investors of this preference favour long run benefits that accrue to them and therefore look at the firm's book value in their investment decision.

The pump price per litre of premium motor spirit (PMS) widely known as fuel, which the listed oil and gas firms trade in, has been unstable in the last two decades. For instance, former President Olusegun Obasanjo increased the price severally (Dailymedia, 2014). However, former president, late Umaru Musa Yar'adua decreased the price from ₦75 to ₦65. In contrast, former president Good luck Jonathan increased the pump price in the early month of January 2012 from ₦65 to

₦141 per litre, but after monumental pressure from the relevant stakeholders, the price was reduced to ₦97 in the same month. In converse, the administration reduced the price by ₦10 at the beginning of 2015. Moreover, present administration has increased the price severally. The unstableness in the prices of fuel will certainly affect the earnings and finally the market prices of the listed oil and gas firms.

The Nigerian capital market is today faced with numerous challenges ranging from the global financial crisis of 2008 where by many investors incurred some losses, which watered away a great part of their investment, to the recent economic recession of 2016. Premiumtimes, (2016) gave an editorial, where it compared the 2016 economic recession's effect on the Nigeria capital market to that of the global financial meltdown of 2008. A development that made some investors to lose a great part of their investment and some to even withdraw out of the market. The paper described 2016 as a year of wailing and lamentation to the investors in the market. Moreover, analysis of share prices showed that, forte oil emerged as the worst performing stock as it had dropped by 83.72%, having closed the year 2016 at ₦52.71 as against the opening value of ₦330.

Although, the empirical relationship between accounting information and share prices have been carried out by different scholars. However, one cannot find a commonly agreed conclusion. This is because different countries are at different level of development and have different institutional arrangements therefore the following mixed findings, for instance: (Bello, 2009); (Mamuda, 2015); (Alslehat, 2014) and ( Publisher, R. I., Shehzad, K., & Ismail, A. 2014) reported that accounting information positively and significantly affect market value while; (Abubakar, 2011) reported that accounting information is not value relevant. As for the foregoing, this study deems it necessary to introduce a moderating variable. Moderator is introduced when there are inconsistencies in findings regarding a particular area of study (Farooq and Vij,2017). Within the context of our study, we expect leverage to moderate the relationship highlighted. In line with the above, the study deems it necessary to use leverage as moderating variable. However, based on the Modigliani and miller's capital structure theory, one may say leverage has no impact on market value. however, the following empirical studies proved otherwise: Lixin and Lin (2008), Buigut et al., (2013), Aghdaei and Ghasemi (2012) and Adetunji et al (2016). Additionally, the assumptions of Modigliani and miller theory of capital structure theory may not be applicable in Nigeria because,

Nigerian capital market is not perfectly efficient and the presence of tax on the market returns.

The broad objective of this study is to examining the moderating effect of leverage on the value relevance of accounting information on the listed oil and gas firms in Nigeria. while the specific objectives are to examine the impact of:

- i. Earnings per share on share prices of listed oil and gas firms in Nigeria.
- ii. Book value per share on share prices of listed oil and gas firms in Nigeria.
- iii. Moderating effect of leverage on the relationship between earnings per share and share prices of listed oil and gas firms in Nigeria.
- iv. Moderating effect of leverage on the relationship between book value per share and share prices of listed oil and gas firms in Nigeria.

In line with the objectives of the study, the following null hypotheses were formulated in:

H<sub>01</sub>: Earnings per share have no significant impact on the share prices of listed oil and gas firms in Nigeria.

H<sub>02</sub>: Book value per share has no significant impact on the share prices of listed oil and gas firms in Nigeria.

H<sub>03</sub>: leverage has no significant impact on the share price of listed oil and gas firms in Nigeria.

H<sub>04</sub>: leverage has no significant moderating effect on the relationship between earnings per share and share prices of listed oil and gas firms in Nigeria.

H<sub>05</sub>: leverage has no significant moderating effect on the relationship between book value per share and the share prices of listed oil and gas firms in Nigeria.

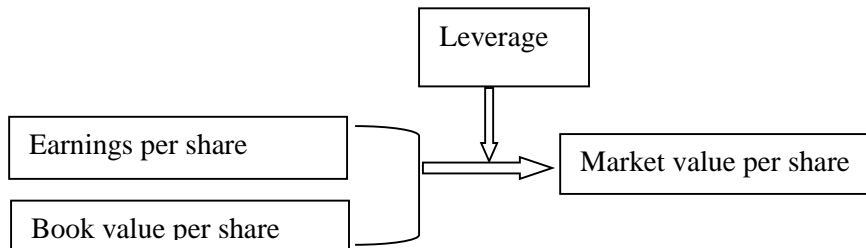
It is believed that the results of this study are beneficial to investors as it will provide information of the determinants of market value so that they can maximize their wealth, it will also increase to the available literature in the area of value relevance and serve as a guide to further researches.

The remaining part of this study is structured as follows: Section two provides the review of the relevant literature concerning the subject matter and the theoretical framework. Section three dealt with the methodology adopted for the purpose of this study. Section four centered on the discussion of the results. While conclusion and recommendations are presented in section five.

**2. Literature Review and Frameworks**

Value relevance is an ability of financial statements information to capture and summarize firm value. Value relevance is measured as the statistical association between financial statement information and stock market values or returns. Earnings and book value are regarded as the basis for firm valuation.

Below is the pictorial graph of the relationship between the variables



The theoretical framework that best underpins this study is efficient market hypotheses (EMH) theory developed by Eugene Fama in 1960s. The EMH states that in an efficient market there is large number of rational, profit maximisers competing with one another trying to predict future market values and this study uses predictability model of earnings.

**Review of Related Empirical Studies**

Amir and Lev (2008) examined value relevance in the wireless communication industry in the USA between 2003-2007 using OLS technique of data analysis and found that accounting information such as: book value and earnings have no value relevance. However, Nonfinancial indicators such as: POPS (a growth proxy) and Market Penetration (an operating performance measure), are highly value-relevant. But combined with nonfinancial information, earnings do contribute to the explanation of share prices. However, the period covered by this study is not current.

Bello (2009) studied value relevance of accounting information in the Nigerian listed cement firms using the whole population as the sample of the study. The study used a time frame of ten years between 1996 and 2005 using OLS technique of data analysis. In his comparative analysis of historical cost accounting information and inflation adjusted one; he found both the information to be of value relevant. However, the latter was found to be more value relevant. Yet, the study is

deficient as the data used in the study is old which may not reflect the current reality.

Sabri and Mohd-saleh (2010) investigated value relevance of Financial Instruments Disclosure in Malaysian Firms Listed in the Main Board of Bursa Malaysia, using a population of 812 firms and a sample size of 484. The study did a comparative analysis before and after financial instrument disclosure and presentation (MASB 24) compulsory adoption. The year 1999 and 2000 were used for pre while; 2002 and 2003 for the post implementation, using OLS technique of data analysis. The study found financial instrument disclosure to be less value relevant in the period when the standard becomes mandatory. However, as applicable to Bello (2009), a new study of this nature is needed because, the data of the study ended in 2003.

Buigut et al., (2013) investigated the relationship between capital structure and share prices in the Nairobi Stock Exchange. The study used panel data of listed energy sector between the period of 2006 and 2011 and employed multiple regression. The results indicated that leverage and equity among other variables are significant determinants of share prices for the sector under consideration.

Similarly, Ernest and Oscar (2014) examined value relevance of accounting information in the listed banking and oil & gas firms in Nigeria between 2007 and 2011, using OLS tool of data analysis. The study randomly selected 10 firms from each of the industries as samples. Finally, the comparative results revealed that accounting information revealed by the listed oil & gas firms to be of more value relevance to the one revealed by the listed banking firms. The study further revealed that earning is the most value relevant accounting information followed by leverage.

Additionally, Shehzad and Ismail (2014) researched value relevance in the listed banks in Pakistan using a time frame of 5 years between 2008 and 2012, the study used OLS tool of analysis and the results revealed that earnings and book value to be statistically and positively related to share prices. Besides the two variables used, this study introduced another variable.

Additionally, Mamuda (2015) studied value relevance in the listed industrial good firms in Nigeria, between the year 2007 and 2013, with a sample size of sixteen firms out of the twenty five listed firms, using OLS technique of data analysis, the study found earnings per share, dividend per share, book value per share to be

statistically and significantly correlated with market value. Despite the study reported mix findings by previous studies reviewed, however it made no effort to tackle the problem.

Omokhudu and Ibadin (2015) examined value relevance between the year 1994 and 2013. The study used OLS technique of analysis and a sample size of 47 firms out of the listed firms in the Nigeria stock market and found that earnings and dividends to be statistically and significantly associated with market value. But book value was related but not statistically significant.

Mulenga (2015) conducted an empirical study of value relevance in the Bombay listed banks, between 2007 and 2012 using a sample of 20 banks and the study adopted OLS as tool of analysis, the result shows that earnings is positively and significantly related to share prices while book value was found to be negatively but insignificantly related to share prices.

Adetunji et al., (2016) studied the relationship between leverage and firms' value in the listed Nigerian manufacturing firms using a sample of 5 firms for a period of 6 years between 2007 and 2012. Data were sourced from annual reports of selected firms. The Ordinary Least Square (OLS) statistical technique was used for data analysis. The study revealed that there is significant relationship between financial leverage and firms. However, the data used by the study is not current.

Altahtamouni and Alslehat (2014) conducted a study of value relevance of all the Jordan listed banks between 2002 and 2011 using OLS tool of data analysis and found that book value and earnings per share are positively and statistically significant with share prices.

### **3. Methodology, Measurement and Model Specification**

The research design employed in this study is correlational; The choice of the design was informed by the effectiveness of the design in revealing the association of two or more variables and the impact of one variable on another. Data was collected from secondary sources through the use of Nigeria Stock Exchange fact book and audited financial reports and accounts of the study firms for a period of eight (8) years (2011– 2018), the choice of this period has been influenced by the abysmal performance of Nigerian stock exchange and government policy of deregulating the oil and gas industry. The population of the study consist of all the listed oil and gas firms on the floor of Nigerian stock exchange as at 31<sup>st</sup> December,

2016. The study employs census strategy. However, the following filters were used to arrive at the sample;

- i. a firm should not have been delisted within the last eight years
- ii. a company's data must be available throughout the period of the study.

Having applied the above filters, the following companies have made the sample; Conoil plc, Forte oil plc, Mobil plc, MRS Nigeria PLC, Oando Nigeria plc and Total Nigeria plc.

This study relies upon Ohlson model (1995) which has its root from the work of Edward and ball. It states that, market value is a function of book value and earnings. Beyond that, this study extends the model to incorporate leverage as moderating variable as follows:

$$MPS_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BPS_{it} + \varepsilon_{it} \text{-----} (1)$$

When the moderator is introduced into the model it becomes:

$$MPS_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BPS_{it} + \beta_3 LEV_{it} + \beta_4 EPSLEV_{it} + \beta_5 BPSLEV_{it} + \varepsilon_{it} \text{----} (2)$$

Where:

MPS = Market value per share of firm i during period t.

EPS = Earnings per Share of firm i during period t.

BPS = Book Value per Share of firm i during period t.

LEV = Leverage of firm i during period t.

EPSLEV= Earnings per Share moderated by leverage of firm i during period t.

BPSLEV= Book Value per Share moderated by leverage of firm i during period t.

$\beta_1 - \beta_4$  = the coefficients of independent variables

$\beta_0$  = intercept

$\varepsilon$  = error term of firm i during period t.

The variables of the study were measured as follows:

**Market share price:** this is the market price per share as obtained from the Nigerian stock exchange Website 4 months after the accounting period.

**Earnings:** this is computed as the profit after tax divided by the weighted average number of shares at the end of the accounting year.

**Book value:** this is measured as the net value of equity divided by the outstanding number of shares at the end of the accounting period.

**Leverage:** this is obtained by dividing total liabilities by the book value of equity.

**EPSLEV** and **BVPSLEV:** are obtained by multiplying the individual IVs by leverage

**4. Result and Discussions**

Under this section the results of the study are presented and discussed, from which conclusions were drawn. it begins by presenting descriptive statistics, followed by correlation matrix, multicollinearity tests, heteroskedasticity test and finally regression results.

**Descriptive statistics**

The descriptive statistics highlight the basic features of all the regression variables used in the study: The dependent, independent and the moderating variable as reported in the below table.

**Table 1: Summary of Descriptive Statistics**

Variables	Mean	Minimum	Maximum	Standard deviation
MPS	97.61	4.58	300	96.10
EPS	7.94	-15.97	43.58	11.81
BPS	36.25	1.02	87.26	27.48
LEV	3.81	1.48	8.82	1.52

**Source: Output of STATA, 2020**

From table 1, the mean value of MPS is 97.61, this means on average the share prices of listed oil and gas firms in Nigerian between 2011 and 2018 stand at 97.61. The minimum value of 4.58 and maximum of 300 means within the period of the study among the firms, the minimum share price was 4.58 and maximum was 300, and standard deviation of 85.40 shows that most market share prices in the Nigerian listed oil and gas companies are above average.

The table also shows the mean value of EPS was 7.94, minimum of -15.97 shows the highest loss per share within the period of the study; the maximum of 43.58 shows the highest earnings per share within the period of the study. The standard deviation of 9.34; signifies that earnings per share of most of the listed companies were above average.

The table also shows the average value of BPS was 36.25, the minimum value of BPS was 1.02 while the maximum was 87.26. the standard deviation of 27.48 shows the dispersion of the data from the mean to be above average. As can also be observed, the mean value of LEV is 3.81, minimum value stands at 1.48, while maximum value was 8.82 and standard deviation of 1.52 signifies that most of the companies are above average in size.

**Correlation matrix**

The correlation matrix table shows the relationship between all explanatory variables individually with explained variable and the relationships among the independent variables themselves.

**Table 2: Correlation matrix**

	MPS	EPS	BPS	LEV
MPS	1.0000			
EPS	0.4500	1.0000		
BPS	0.3156	0.4573	1.0000	
LEV	0.3102	0.4638	0.2635	1.0000

**Source: Output of STATA, 2020**

Table 2 shows the correlation matrix with the correlation coefficient between all pairs of variables. Checking the pattern of relationships between dependent and independent variables, it is observed that EPS is 45% positively related with market share prices of listed oil and gas firms in Nigeria, while a positive correlation of BPS and market share prices to the turn of 32%. Finally, leverage has a positive relationship with MSP at 31%. From the above table the correlation between the independent variables and the dependent variables all have values less than 0.8 which shows the unlikelihood of multicollinearity. However, it cannot be concluded except a multicollinearity test is conducted. Gujarati (2004) states that a correlation of greater than 0.8 may amount to multicollinearity however it cannot be confirmed until multicollinearity test is conducted. To test for multicollinearity, variance inflation factors (VIF) and tolerance tests were carried out. The results are presented below.

**Table 3: multicollinearity test**

Variable	VIF	1/VIF
EPS	4.16	0.2402
BPS	3.72	0.2688
LEV	1.86	0.5366
MEAN VIF	3.25	

**Source: Output STATA, 2020**

From the table 3 above, the tolerance value (1/VIF) of the individual variables are all greater than 10% and less than 1. So also, the highest value of VIFs is 4.16 (less

than 10), confirm the absence of multicollinearity among the variables (Gujarati, 2004).

To test for heteroskedasticity, the study employs breusch-pagan/cook-weisberg test. The test shows a chi2 value of 1.18 and the prob> chi2 of 0.2768 (insignificant). This indicates the absence of heteroscedasticity.

**Table 4: Regression result**

<b>Variables</b>	<b>Coefficient</b>	<b>Z- value</b>	<b>P&gt;(Z)</b>
EPS	0.220115	1.12	0.064
BPS	- 0.212254	-0.19	0.147
LEV	0.9315155	1.75	0.085
EPSLEV	1.759971	2.71	0.009
BPSLEV	11.42192	2.60	0.014
Constant	0.6853939	4.80	0.000
R. Squared	0.3508		
F- Statistics	4.69		
F-Sig	0.0050		

**Source: Output of STATA, 2020**

Having run the fixed effect and random effect regressions, hausman test for fixed effect was conducted and the probability of the chi2 was not significant. This informed the study to conduct langrangian multiplier test for random effect, it was also not significant, the researcher moved further to run robust regression. Based on the above, the results of robust OLS are interpreted below.

The multiple coefficient of determination (R2) gives the proportion or percentage of the total variation in the dependent variable explained by the explanatory variable jointly. Hence, it signifies that 35.08% of total variation in share prices of listed oil and gas firms in Nigeria is caused by their earnings per share, book value per share and leverage as moderator. The F-Statistics is 4.69, which indicates that the model is fit and the explanatory variable are properly selected, combined and used.

**Earnings Per Share and Market Share Prices**

The results show that the coefficient of earnings per share is 0.22 and a probability of 0.064 indicating a significant positive relationship between earnings per share and share prices of listed oil and gas firms in Nigeria at 10% level of significance. We therefore reject the null hypothesis. This is in line with the findings of Mamuda

(2015), Omokhudu and Ibadin (2015) and Ernest and Oscar (2014). This reveals that a one-naira increase in earnings will result to 0.22-naira increase in the prices. However, the coefficient of moderated earning per share is 1.76 and a probability of 0.009 indicating a significant positive relationship between moderated earnings per share and share prices of listed oil and gas firms in Nigeria at 1% level of significance. We therefore reject the null hypothesis. This reveals that a 1 Naira increase in moderated earnings will result to 1.76 Naira increase in the share prices.

Again, the coefficient of book value per share is -0.21 and a probability is 0.147, indicating negative relationship between book value per share and share prices of listed oil and gas firms in Nigeria. However, it is not significant. We therefore fail to reject the null hypothesis. This is in line with the findings of Mulenga (2015). This pointed out that book value is not a significant determinant of the share prices. Contrarily, the coefficient of moderated book value per share is 11.42 and the probability is 0.014, indicating a positive relationship between moderated book value per share and share prices of listed oil and gas firms in Nigeria at 5% level of significance. With this the researcher rejects the null hypothesis.

Finally, the coefficient of leverage is 0.93 and a probability of 0.085, indicating a significant positive relationship between leverage and share prices of listed oil and gas firms in Nigeria at 10% level of significance. We therefore reject the null hypothesis. This is in line with the findings of Omokhudu and Ibadin (2015) and Mamuda (2015). This means that, a naira increase in leverage will result to 0.93 Naira increase in share prices.

## **5. Conclusion and Recommendations**

The study focused on the moderating effect of leverage on the value relevance of accounting information in the listed oil and gas firms in Nigeria. In other to achieve this, the study made use of secondary data sourced from the firms' annual reports and accounts. The study considered share prices as proxy for firm value, while earnings per share and book value per share as accounting information. Additionally, leverage was used as moderating variable. Data were analysed using multiple regression (OLS). The study concluded that earnings per share and leverage to be value relevant; while book value per share was not. However, the moderated book value was value relevant as well as moderated earnings per share.

Based on the findings, the study hereby recommended that listed oil and gas firms in Nigeria should strategize to increase their earnings, as any increase means

increase in value (higher value for investors). Moreover, they should appropriately manage their book value, because any unnecessary investment means negative effect on share price. Additionally, listed oil and gas firms should maintain an appropriate level of leverage so that the cheap cost of leverage will reduce the weighted average cost of capital and subsequently increase value to investors.

Finally, the explanatory power of the moderated variables are more than the ones not moderated; as such investors should invest in firms with the higher earnings per share and appropriate leverage.

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## TRADING FLOORS AUTOMATION AND STOCK MARKET EFFICIENCY DURING EQUITY ISSUES ANNOUNCEMENTS IN NIGERIA

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### Abstract

*This paper examines effect of the automation of trading platforms on the reaction of the Nigerian stock market to Seasoned Equity Offerings (SEOs) announcements. The study utilized a sample of 86 SEO announcements between July 1995 and December 2019, out of which 27 were made before the automation of trading floors in 1999 and 59 after automation. To investigate reaction of the Nigerian stock market SEOs announcements, the standard event study methodology was employed, and the market model was utilized as the benchmark model for computing returns. On the other hand, effect of automation announcement was examined using difference test for abnormal return. In line with extant empirical evidence, the paper found negative and statistically significant announcement day abnormal returns -3.33% and -2.91% for the pre-automation and post-automation periods respectively. However, t-statistic of -0.26 was not significant at any of the conventional levels. The paper thus concluded that the negative reaction of the Nigerian stock market to SEO announcements is consistent with the notion that investors perceived the announcing firms as overvalued. It was found that the effect automation. It was also concluded that automation did not have significant effect on the market's reaction to SEO announcements in Nigeria. The paper recommended adequate disclosure of the intended use of proceeds from the SEO prior to the announcement. It was also recommended that the automated trading platforms and other market infrastructure should be constantly upgraded to enhance prompt information dissemination to all market participants.*

**Keywords:** Automation, Market efficiency, Seasoned equity offerings, Event studies, Nigeria

**JEL Classification:** G12, G14, G32, N27

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### 1. Introduction

Performance has been a major concern to corporate managers of firms as it is the major yardstick that justifies their effort at any time. Thus, managers of firms have been pre-occupied with improving performance more than any other aspect of corporate activities. There are many metrics that can be employed to measure performance in corporate organizations but one of the most important measures is the market value of the firm. Market value of a firm is often depicted as the value investors are willing to pay to hold a stake in the firm; its stock price. The market

price of a firm's stock is thus an essential measure of its performance because to investors, it reflects the present value of the firm's discounted future cashflows (Jensen, 1986). The value of these future cashflows is largely determined by the firm's current investment opportunities and how well the firm is able to leverage on such opportunities (Denis, 1994). However, exploiting investment opportunities available to a firm requires it to raise adequate capital to finance such operations.

One of the common ways for corporate organizations to raise large capital to finance investments is by issuing equity. Otherwise known as Seasoned Equity Offering (SEO), equity issues entail raising capital by a firm through the sale of additional units of stock to members of the public. The importance of SEO to corporate organizations can be seen in its rising popularity as a favoured means of raising capital among managers of corporate organizations (Kim & Weisbach, 2008). According to Fama (1970), the market, represented by investors, should react to such an announcement in a way that investors' judgment regarding the suitability of raising capital through SEOs is reflected in the firm's stock price. If the market is efficient, stock price of the issuing firm will instantly adjust to reflect investors' sentiment once the issue is publicly announced.

Extant empirical evidence by Hammar and Perman (2015), Liu, Akbar, Shah, Zhang and Pang (2016), Brau and Carpenter (2017), Huang and Chiu (2017), Kumar, Hawaldar and Mallikarjunappa (2018), Width and Arseth (2018) and Ulrich (2018) has shown that stock markets react to SEO announcements. Aside the fact that SEOs are a popular means of raising capital, it has since been established theoretically and empirically that SEOs are a strong tool for managers to signal to the market about the current underlying value of the firm (Leland & Pyle, 1977; Myers & Majluf, 1984; Masulis & Korwar, 1986). Stock market reaction to SEOs is commonly investigated using the event study methodology propounded by Fama, Fisher, Jensen and Roll (1969), and popularized by Brown and Warner (1985) and Mackinlay (1997). According to Ball and Brown (1968), the event study methodology establishes the impact of an event by computing the abnormal return arising from the announcement of such an event. Abnormal return is the difference between the return as a result of the announcement and what the return would have been had the announcement not been made. Empirical evidence suggests that SEO announcements can have positive or no effect on market value, but preponderance of studies support the notion that markets react negatively to SEO announcements in line with the fact that market agents perceive the

announcement as a signal of overvaluation (Myers & Majluf, 1984; Masulis & Korwar, 1986).

As is the case in all the other stock markets, SEOs in Nigeria are as old as the stock market itself but they only became popular from July 1995 when the stock market was liberalized to allow foreign investors access to securities in Nigeria (Kim & Singal, 2000). Since then, the number of firms conducting SEOs in Nigeria has increased astronomically. To further boost investors' confidence and enhance performance of the Nigerian stock market, all trading floors were fully automated in 1999; a development that should theoretically enhance efficiency in the speed of executing market transactions as well as dissemination of vital market information.

Previous studies have examined the reaction of Nigerian stock market to corporate announcements such as dividends, stock splits, earnings, and management change (Olowe, 1998; Adelegan, 2009a, 2009b; Afego, 2010). However, it is surprising that despite the importance of SEOs to the corporate survival and existence of a firm, none of these previous studies has attempted to examine reaction of the Nigerian stock market to SEOs announcements. It is equally worrisome that none of these studies have paid attention to the effect the deployment of Information and Communication Technology (ICT), in the form of trading automation, may have on the market's ability to react to such corporate announcements. According to D'Avolio, Gildor and Shleifer (2001), Omuchesi, Bosire and Muiru (2014), Lee, Alford, Cresson and Gardner (2017) and Lee, Tsai, Chen and Lio (2019), deployment of ICT to stock markets helps market participants to make more informed investment decisions at reduced risks. The works of Odeleye (2009) and Olowe (2009) only merely attempted to examine the effect of automation on the prices and trading volumes of listed firms on the Nigerian Stock Exchange without relating such effect to corporate actions such as SEOs. According to Fama (1998), efficiency is best tested in relation to corporate actions and disclosures (such as SEO announcements).

It is thus obvious that previous studies on corporate events' announcements in Nigeria have ignored SEOs and the effect of stock market automation on the market's reaction to SEO announcements. It is against this background that this study was conducted to examine the reaction of the Nigerian stock market to SEOs announcements. The study also examined effect of trading automation on efficiency of the Nigerian stock market during periods of SEOs announcements.

The rest of the paper is structured as follows: section 2 reviews literature and the study's underpinning theory, section 3 presents methodology adopted by the paper, section 4 analyzes and discusses the results, section 5 concludes the paper and recommends appropriate courses of action.

## **2. Literature Review**

There is sufficient empirical evidence in the literature supporting the fact that stock markets react to SEOs announcements. However, most of these studies are domiciled in developed and other emerging markets to the exclusion of African stock markets such as Nigeria. One of the few studies on SEOs covering African stock markets is Bhana (1998) that examined reaction of the Johannesburg Stock Exchange (JSE) to SEOs announcements from 1980 to 1995 based on a sample of 100 announcements. The study documented significant negative announcement day effect and thus concluded that the South African stock market reacts negatively to SEOs. However, the study did not control for effect of volatility on returns.

The study of SEOs is more common among developed and other emerging markets. Dissing, Rasmussen and Bartholdy (2015) employed a sample of 342 SEO announcements made across 15 European countries between 2000 and 2010 to examine reaction of stock market to SEO announcements. Based on the event study methodology, the study found negative and strongly significant reaction on the announcement day. The study concluded that European firms conducting SEOs are perceived as undervalued by the market. However, there is no evidence the study controlled for effects of volatility. Hammar and Perman (2015) investigated reaction of the Swedish stock market to SEO announcements using a sample of 253 offers from November 2006 to December 2013. Using the event study methodology, the study found negative and significant effect on the announcement day. It was concluded that Swedish firms react negatively to SEOs. However, the study did not control for the effect of volatility. Liu, et al. (2016) analyzed market reaction to SEO announcements in China from 1991 to 2010 using a total sample of 1,659 announcements. The study employed event studies in its analysis and found that rights issues and open offers recorded negative and significant market reaction while private placements and convertible debts experienced positive market effects. It was concluded that negative reaction to SEOs is as a result of market's perception of the offers as overvalued. However, the study did not control for the effects of volatility on returns. Brau and Carpenter (2017) employed a sample of 547 SEOs in the US between 2008 and 2016 to investigate the behavior of healthcare firms after the global financial crisis. The study, which utilized event

study methodology, found that healthcare stocks have exhibited underpricing and long-run underperformance. However, the study did not provide evidence of control for volatility effect, which is believed to have increased after the global financial crisis. Huang and Chiu (2017) examined effect of insider activities on SEO announcements using a sample of 506 announcements by Taiwanese firms between January 2006 and December 2014. Using the event study approach, the study found negative announcement day effect for net buying insiders and positive effect for net selling insiders. The study concluded that insiders buying stocks around SEOs experience losses while those selling record benefits. However, the study did not adjust the returns for thin trading effects. Kumar, Hawaldar and Mallikarjunappa (2018) examined reaction of the Indian stock market to SEOs announcements using a sample of 162 announcements made between 1992 and 2012. The study adopted event study methodology to establish abnormal return arising from the announcements. It was found that abnormal return for various windows were negative and significant, implying that the Indian stock market reacted negatively to SEOs announcements. It was concluded that the Indian stock market, consistent with previous findings, experienced underpricing as a result of SEOs announcements. However, absence for control of the effect of thin trading may have adversely affected the results. Width and Arseth (2018) assessed the announcement effect of SEOs on the Oslo Stock Exchange between 2005 and 2018. Using the event study methodology, the study found negative reaction by firms announcing SEOs, with the results being less severe for firms that announced intended use of SEO proceeds. The study thus concluded that adequate disclosure around the use and purpose of SEO proceeds produces credible signal to the stock market. However, results of the study may have been influenced by volatility effects. Feet and Ulrich (2018) examined effect of information asymmetry on reaction of stock markets to SEO announcements by European stock markets between 2000 and 2013. Using event study methodology, it was established that the market reacted negatively, with marginal evidence that the reaction was more negative for fully-marketed offers relative to accelerated offers. The study concluded that information asymmetry has effect on offer type. However, the study did not account for country-specific variations in stock markets.

On the other hand, the effect of ICT on stock market efficiency has since been established by previous studies (D'Avolio et al., 2001; Faghani, Habibi, Tabatabaee, Razavi & Emadzadeh, 2013; Chan & Chan, 2014). According to Faghani, et al. (2013), ICT leads to deployment of electronic trading processes and seamless dissemination of market information, which in turn enhances stock market

efficiency. Automation of trading platforms slashes unnecessary time wastage in the execution of investors' buy and sell orders in the stock market. Similarly, market information is more rapidly spread among investors to aid them in arriving at sound investment decisions.

Previous empirical studies have documented the relationship between ICT and stock market efficiency. However, only a few of such studies emanated from Africa; and this may not be unconnected with the fact that African stock markets are adjudged to be less efficient. Most of the reasons advanced for this assertion center around poor deployment and use of ICT in African stock markets. Odeleye (2009) examined effect of trading automation on the prices and trading volumes of selected firms listed on the Nigerian Stock Exchange. The study covered the period 1996-1998 as pre-automation and 2001-2003 as post-automation. Using OLS regression, the study documented statistically insignificant increase in trading volume and decrease in prices. It was concluded that automation did not significantly influence market efficiency. However, the use of only three listed firms and OLS regression as a tool to test efficiency may have affected the results. Olowe (2009) investigated effect of the introduction of the Automated Trading System (ATS) in the Nigerian stock market using monthly data from December 1986 to December 2006. Using the event study methodology, the paper established evidence of negative abnormal return, consistent with the notion that the Nigerian stock market is not informationally efficient. Similarly, Mwalya (2010) utilized market return and trading volume data for the Nairobi Stock Exchange (NSE) from 2005 to 2010. Initial Public Offering (IPO) announcement was used by the study to test the reaction of the market to use of ICT. Using event study methodology, the study found that the NSE return and trading volumes responded to announcement of ICT adoption. However, there was no evidence the observed abnormal returns were tested for statistical significance. In a related study, Omuchesi, et al. (2014) assessed effect of automation on efficiency of the Kenyan stock market using data from 2002-2012. Using Chi-Square analysis, the study found that automation had no significant effect on efficiency of the NSE. However, the technique of analysis used may not be appropriate for establishing market efficiency. Owido, Bichanga and Muiruri (2014) examined performance of the NSE in the face of improved ICT adoption by the market. The study employed non-parametric methods of runs tests Kolmogorov-Sminov tests, QQ-plots and PP-plots to investigate randomness in the market return series from January 2006 to November 2011. The study found that the NSE return was not random and thus exhibited non-normality in its distribution. It was concluded that the market was

inefficient in the weak-form sense. However, the use of non-parametric tools to test for the impact of ICT appears to be inappropriate.

Like SEOs, most of the studies that have examined the nexus between ICT and market efficiency were from non-African stock markets. For instance, Lee, et al. (2017) investigated the effect of ICT on market capitalization using a cross-country panel dataset consisting of 81 countries from 1998 to 2014. Using country-specific fixed effect models, the study found positive correlation between ICT deployment and growth in stock market capitalization. The study concluded that increased deployment of ICT can enhance efficient information flows within local and across global financial markets. However, non-inclusion of several other crucial variables that affect stock market capitalization may have affected explanatory power of the model estimated by the study. Also, Lee, et al. (2019) employed a cross-country dataset of 71 stock markets between 2002 and 2014 to investigate the extent to which ICT has promoted transparency in the dissemination of stock market news and information. Findings based on panel unit root tests and variance ratio tests indicated that countries with higher ICT diffusion were more efficient than those with low to medium diffusion levels. The study also found that ICT diffusion was more significant in reducing stock market noise rather than amplifying it. It was concluded that ICT has significant effect on stock market efficiency. However, the mere use of unit root and variance ratio tests may affect the findings.

This study is underpinned by the market efficiency theory propounded by Fama (1965) and popularized by subsequent works of Fama (1970, 1991, 1998). In its simplest form, the efficient market theory holds that in an efficient market, stock prices adjust instantaneously to impound new information so that no investor is given undue advantage to use such information exclusively to the detriment of other market participants and agents. Since its introduction, a number of studies have supported the validity of this theory by confirming that stock markets adjust prices to reflect the public announcement of corporate events. Being a major corporate event SEO announcement elicits market response, and the magnitude of reaction will depend on the type of offering. Therefore, the announcement of SEOs in Nigeria should translate to market changes that will reflect the perceived value of such corporate action to investors and other market participants. Similarly, a major action such as the automation of the Nigerian stock market trading floors should result in enhanced dissemination of market information; and this should in turn have some implications for how investors value corporate actions such as SEO announcements.

**3. Methodology and models**

This paper examined effect of trading automation reaction of the Nigerian stock market to SEOs announcements. The paper employed the standard event study methodology developed by Fama, et al. (1969) and popularized by Brown and Warner (1985) and Mackinlay (1997). In this study the corporate event under investigation is the announcement to conduct SEO by firm listed on the Nigerian Stock Exchange from July 1995 to December 2019. A total of 109 SEO announcements were recorded within the period of the study but for an announcement to be considered as part of the sample, it must meet some set criteria: there must be relevant data on the event, the announcement must have been made publicly, the announcement must be for equity issues, and there must not be a simultaneous value-relevant announcement that that is capable of contaminating the effect of the SEO announcement. Application of the filters resulted in a clean sample of 86 SEO announcements, after 23 announcements have been dropped.

In order to test for the effect of trading automation on the reaction of the Nigerian stock market to SEO announcements, the sample was partitioned into SEOs before automation (pre-automation) and SEOs after automation (post-automation). Based on the Nigerian Stock Exchange’s announcement on 27<sup>th</sup> April 1999 that all trading floors were fully automated and have migrated to the Automated Trading System (ATS) platform, the study considered all SEO announcements before 27<sup>th</sup> April 1999 as pre-automation and those announced after 27<sup>th</sup> April 1999 as post-automation SEOs. A total of 27 SEO announcements fell under the pre-automation period, while 59 SEOs were announced during the post-automation period.

In line with requirements of event studies, this paper adopted an event window of 31 trading days consisting of 15 trading days before the announcement, the announcement day, and 15 trading days after the announcement. Similarly, the paper adopted an estimation window of 120 trading days before the first day of the event window. Thus, the estimation runs from day -135 to day -16 while the event window covers -15 to day +15. The study collected data on daily closing prices of the 86 announcing firms and the corresponding stock market index. Values. The series of stock prices and corresponding market indexes were then converted to continuously compounded returns using the formula below:

$$R_{i,t} = \ln \left[ \frac{V_{i,t} - V_{i,t-1}}{V_{i,t-1}} \right] \dots\dots\dots(1)$$

Where:

$R_{i,t}$  = Return on firm i at time t

$V_{i,t}$  = Value of firm i at time t

$V_{i,t-1}$  = Value of firm i at time t-1

ln = Natural logarithm

Being time series in nature, the stock and market return series for the 86 samples were tested for stationarity using the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests. In order to compute the abnormal return and cumulative abnormal return, estimate benchmark returns for the sample SEO announcements, the market model was employed as the benchmark model for return estimation. The market model assumes a linear relationship between return of a security and the return on the market portfolio (Fama et al., 1969). The model is stated as follows:

$$R_{i,t} = \alpha_0 + \beta_1 R_{m,t} + \varepsilon_{i,t} \dots\dots\dots(2)$$

where  $R_{i,t}$  is the actual return on firm i's stock at time t;  $\alpha_0$  and  $\beta_1$  are parameters to be estimated;  $R_{m,t}$  is the market return at time t; and  $\varepsilon_{i,t}$  is firm i's random disturbance term at time t. Assuming a constant beta value, the estimated return for firm i's stock can be computed by substituting the estimated values of  $\alpha_0$  and  $\beta_1$  over the estimation window in equation (2) above as follows:

$$\bar{R}_{i,t} = \hat{\alpha}_0 + \hat{\beta}_1 R_{m,t} \dots\dots\dots (3)$$

where  $\bar{R}_{i,t}$  is the expected return on firm i's stock at time t;  $\hat{\alpha}_0$  and  $\hat{\beta}_1$  are the estimated parameters based on the estimation window; and  $R_{m,t}$  is the market return at time t. The abnormal return is defined as the difference between equation (2) and equation (3) as follows:

$$AR = R_{i,t} - \bar{R}_{i,t} \dots\dots\dots (4)$$

Once the estimated equation has been obtained, the actual return on firm i's stock is calculated as follows:

$$\bar{R}_{i,t} = \hat{\alpha}_0 + \hat{\beta}_1 R_{m,t} + \varepsilon_{i,t} \dots\dots\dots (5)$$

Since  $\bar{R}_{i,t} = \hat{\alpha}_0 + \hat{\beta}_1 R_{m,t}$  equation (5) simplifies to:

$$R_{i,t} = \bar{R}_{m,t} + \varepsilon_{i,t} \dots\dots\dots (6)$$

This implies that abnormal return for firm i at time t is simply given as:

$$AR_{i,t} = \varepsilon_{i,t} \dots\dots\dots (7)$$

Given that the market model was estimated using OLS, the residuals were examined for auto-correlation, heteroskedasticity and normality using Breusch-Godfrey tests, Engle test, White test and Jarque-Bera test. In the event that significant volatility was observed in the residuals, the OLS model was replaced with ARCH/GARCH specification according to their best fits so as to appropriately capture volatility. The model can be specified as follows:

When a GARCH (1,1) model is considered, equation (5) is replaced with:

$$\sigma_{i,t}^2 = \alpha_{i0} + \alpha_{i1} u_{i,t-1}^2 + \alpha_{i2} \sigma_{i,t-1}^2 \dots\dots\dots (8)$$

Equation (8) becomes an ARCH (1) process if  $\alpha_{i2} = 0$ . The cumulative abnormal return of firm *i* in the sample for a given period was obtained by summing up the abnormal return in a given period. The procedure is demonstrated by the following formula (Peterson, 1989):

$$CAR_i(t_0, t_1) = \sum_{t=0}^1 AR_{i,t} = \sum_{t=0}^1 \varepsilon_{i,t} \dots\dots\dots (9)$$

where  $CAR_i(t_0, t_1)$  is the cumulative abnormal return of firm *i* from time  $t_0$  to  $t_1$ ;  $AR_{i,t}$  is the abnormal return of firm *i* at time *t*;  $\varepsilon_{i,t}$  is the residual of firm *i* at time *t*. Similarly, the sample average abnormal return at time *t* is simply the arithmetic mean of *n* number of stocks, as shown below:

$$AAR_t = \frac{1}{n} \sum_{i=1}^n AR_{i,t} \dots\dots\dots (10)$$

where  $AAR_t$  is the sample average abnormal return at time  $t$ ;  $n$  is the number of observations; and  $AAR_{i,t}$  is the abnormal return of firm  $i$  at time  $t$ . As a consequence of the foregoing, the cumulative average abnormal return will be computed as follows:

$$CAAR(t_0, t_1) = \sum_{t=0}^1 AAR_t \dots\dots\dots (11)$$

Where  $CAAR(t_0, t_1)$  is the sample cumulative average abnormal return from time  $t_0$  to  $t_1$ ; and  $AAR_t$  is the sample average abnormal return at time  $t$ . The significance of abnormal return and cumulative abnormal return was tested using the t-test for significance of abnormal return. According to Brown and Warner (1985) and Panayides and Gong (2002), the test statistic is simply the ratio of period  $t_0$  to period  $t_1$  CAR to its estimated standard deviation over the estimation window as shown in the equation below:

$$t(CAR) = CAR(t_0, t_1) / [S(AAR_t)] \dots\dots\dots (12)$$

where  $t(CAR)$  is the test statistic for cumulative abnormal return;  $CAR(t_0, t_1)$  is as defined above;  $S(AAR_t)$  is the standard deviation of average abnormal return over the parameter estimation window.

In order to test for the effect of automation on the reaction of the market to SEO announcements, a test for the difference in means between mean abnormal return for the pre-automation period and the post-automation period was conducted using the following formula (Angelovska, 2011).

$$t = \frac{MAR_{post} - MAR_{pre}}{\sigma_{pre-post}} \dots\dots\dots (13)$$

Where  $MAR_{post}$  is the mean abnormal return for the post-automation period,  $MAR_{pre}$  is the mean abnormal return for the pre-automation period, and  $\sigma_{pre-post}$  is a pooled standard error of the difference between the pre-automation and post-automation periods abnormal return. The event window mean abnormal return for the pre-automation and post automation periods were computed using the formula below:

$$MAR = \frac{\sum_{i=1}^n AR}{n} \dots\dots\dots (14)$$

Where *MAR* is mean abnormal return and *n* is the number of days within the event window. The pooled standard error of the difference between the two samples of SEO announcements was calculated as follows:

$$\sigma_{pre-post} = \sqrt{\left(\frac{(n_1 - 1)\sigma^2_1 + (n_2 - 1)\sigma^2_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)} \dots\dots\dots (15)$$

Where  $\sigma^2_1$  is the variance of pre-automation abnormal return,  $\sigma^2_2$  is the variance of post-automation abnormal return, and  $n_1, n_2$  are the number of announcements in the pre-automation and post-automation periods respectively. To compute the pooled standard errors, separate standard deviations were computed for the pre-automation and post-automation periods using the formula below:

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (AR - MAR)^2}{n - 1}} \dots\dots\dots (16)$$

**4. Results and Discussions**

As was spelt out in the methodology section, the paper examined stationarity of the individual announcing firms’ return as well as the corresponding market return. The firm and corresponding market return series were for the period from the beginning of the estimation window to the end of the event window for each announcement. Results of stationarity tests showed that out of the total sample of 83 firm announcements, 83 return series were found to be stationary at levels using ADF and PP tests while 81 were found to be stationary at levels using the KPSS test. For the corresponding market return series, 85 out of the 86 series were found to be stationary at levels using the ADF and PP tests while 84 were found stationary at levels using the KPSS test. For brevity, the tables could not be presented in the paper but are available upon request.

A look at the results from the pre-automation and post-automation perspectives reveals that out of the total of 83 firm return series that were found stationary using ADF and PP tests, 25 fell within the pre-automation period, and 58 were within the post-automation period. For the KPSS test, 24 of the stationary firm return were within the pre-automation phase while the balance of 57 series were within the post-automation phase. On the other hand, the 85 corresponding market return series that were found to be stationary using the ADF and PP tests consisted of 26 series in the pre-automation period and 59 in the post-automation period. Using the KPSS test, the 84 market return series that were found to be stationary were made up of 25 pre-automation series and 59 post-automation series respectively.

Therefore, results of stationarity test on the whole suggest that almost all the firm and corresponding market return series were found to be stationary at levels using all the three tests for stationarity. The fact that the series were found to be stationary at levels implies that the firm and market return series were integrated of the order I(0). The finding of stationary returns lends credence to existing empirical and theoretical evidence that asset prices are traditionally non-stationary, while asset returns tend to be stationary (Agung, 2009; Brooks, 2008; DeMedeiros & Matsumoto, 2006).

After the test of stationarity, the abnormal return for each firm, arising from its SEO announcement, was computed in line with the methods specified under the methodology section. The individual firms’ abnormal return was then aggregated to obtain the abnormal return and cumulative abnormal return. Table 1 presents the descriptive statistics for the computed abnormal return and cumulative abnormal return.

**Table 1: Pre-Recession and Post-Recession Return Descriptives**

<i>Panel A: Pre-Automation Return Descriptives</i>							
	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>Jarque-Bera</i>
Pre-AR	-0.005	0.014	-0.045	0.021	-0.638	3.773	2.874
Pre-CAR	-0.130	0.068	-0.211	0.000	0.394	1.734	2.872
<i>Panel B: Post-Automation Return Descriptives</i>							
	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min.</i>	<i>Max.</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>Normality</i>
Post-AR	-0.004	0.016	-0.044	0.023	-0.619	3.096	1.990

Post-CAR	-	0.064	-0.171	0.043	0.159	1.675	2.400
	0.073						

**Source:** Author’s Compilations from E-Views 10 Output, 2020

\*, \*\*and\*\*\* imply significance at the 10%, 5% and 1% levels respectively.

It can be seen from Panel A of Table 1 that mean pre-automation abnormal return and cumulative abnormal return are negative, indicating that the market, on the average, reacted adversely to the announcement. The standard deviations of 0.014 and 0.068 for the pre-automation abnormal return and cumulative abnormal return respectively suggest mild dispersion around the mean values. The evidence of mild dispersion is further supported by the relatively low variability between the minimum and maximum values of abnormal return and cumulative abnormal return respectively. The panel further shows that while the pre-automation abnormal return series is negatively skewed and this have a longer left tail, the cumulative abnormal return series is positively skewed and thus have a longer right tail. In terms of kurtosis, the descriptives show that distribution of pre-automation abnormal return is leptokurtic or slightly peaked around the mean while the distribution of cumulative abnormal return is reasonably platykurtic or flat at the surface around the mean as it is by far less than the threshold value of 3, which suggests mesokurtosis. On the whole, the series of pre-announcement abnormal return and cumulative abnormal return both failed to reject Jarque-Bera’s null hypothesis of normality. This implies that the series are normally distributed. The evidence of normality is important to this paper as it is a fundamental requirement for the application of t-test of significance.

On the other hand, Panel B of Table 1 shows that the mean abnormal return and cumulative abnormal return in the post-automation period SEO announcements were both negative, supporting the theoretical assertions that SEO announcements are meted with negative market reaction. Like in the pre-automation period, the standard deviation, minimum and maximum values of abnormal return and cumulative abnormal return all support the presence of slight deviation and variation around the mean. It can also be seen from the panel that while the post-announcement abnormal return series is negatively skewed, the cumulative abnormal return series is positively skewed. The panel also depicts slight leptokurtosis for the post-automation abnormal return series and platykurtosis for the cumulative abnormal return series. In addition, the insignificance of Jarque-Bera statistics for both the post-automation abnormal return and cumulative abnormal return series is an indication that the series are normally distributed.

The evidence of normality for the abnormal return and cumulative abnormal return series in both the pre-automation and post-automation periods contradicts finance theory regarding the distributional characteristics of financial asset returns. According to Greene (2003), Gujarati (2004) and Brooks (2008), financial asset returns exhibit leptokurtosis and fat tails, and therefore; this distributional features make their distribution anything but normal.

The paper then compiled the abnormal return and cumulative abnormal return arising from SEO announcements for the pre-automation and post-automation periods. Table 2 presents the event window pre-automation and post-automation periods abnormal returns, cumulative abnormal returns as well as their corresponding t-statistics and levels of significance. The pre-automation estimation window standard deviation was 0.0125, while the post-automation estimation window standard deviation was 0.0101.

**Table 2: Event Window Effect of SEO Announcements in Nigeria**

Day	Pre-automation Period Return (%)				Post-automation Period Return (%)			
	AR	t(AR)	CAR	t(CAR)	AR	t(AR)	CAR	t(CAR)
-15	0.00	0.00	0.00	0.00	-0.86	-0.86	-0.86	-0.86
-14	-1.38	-1.10	-1.37	-1.10	0.50	0.50	-0.36	-0.36
-13	-1.35	-1.08	-2.72	-2.18**	1.09	1.08	0.72	0.72
-12	-2.19	-1.75*	-4.91	-3.93***	1.71	1.69	2.43	2.41**
-11	-0.92	-0.74	-5.83	-4.67***	-0.23	-0.22	2.21	2.18*
-10	-1.06	-0.85	-6.89	-5.51***	2.08	2.06*	4.29	4.25***
-9	-1.68	-1.34	-8.57	-6.86***	-4.37	-4.33***	-0.08	-0.08
-8	1.61	1.29	-6.96	-5.57***	-0.62	-0.62	-0.71	-0.70
-7	-1.39	-1.11	-8.35	-6.68***	-2.14	-2.12*	-2.85	-2.82***
-6	0.25	0.20	-8.10	-6.48***	0.21	0.21	-2.64	-2.61**
-5	-0.93	-0.74	-9.03	-7.22***	-1.85	-1.83*	-4.49	-4.44***
-4	0.25	0.20	-8.77	-7.02***	0.26	0.25	-4.23	-4.19***
-3	-1.12	-0.89	-9.89	-7.91***	-0.14	-0.14	-4.37	-4.32***
-2	-0.88	-0.71	-10.77	-8.62***	-0.47	-0.46	-4.84	-4.79***
-1	-4.54	-3.64***	-15.32	-12.25***	-1.10	-1.09	-5.94	-5.88***
0	-3.33	-2.67**	-18.65	-14.92***	-2.91	-2.88***	-8.85	-8.76***
+1	-1.25	-1.00	-19.90	-15.92***	-1.23	-1.22	-10.08	-9.98***
+2	-2.41	-1.93*	-22.31	-17.84***	0.78	0.77	-9.30	-9.21***
+3	0.32	0.26	-21.98	-17.59***	-0.07	-0.07	-9.36	-9.27***
+4	-0.30	-0.24	-22.28	-17.83***	0.02	0.02	-9.35	-9.25***
+5	0.35	0.28	-21.93	-17.55***	-3.69	-3.65***	-13.03	-12.90***
+6	0.38	0.30	-21.56	-17.25***	-0.30	-0.30	-13.34	-13.20***
+7	0.54	0.43	-21.02	-16.82***	0.78	0.77	-12.56	-12.43***
+8	-0.61	-0.49	-21.64	-17.31***	-2.19	-2.17**	-14.74	-14.60***

+9	0.33	0.26	-21.31	-17.05***	0.66	0.65	-14.09	-13.95***
+10	-0.36	-0.29	-21.67	-17.33***	-0.68	-0.67	-14.77	-14.62***
+11	1.48	1.18	-20.19	-16.15***	-2.35	-2.33**	-17.12	-16.95***
+12	-0.47	-0.38	-20.66	-16.53***	2.32	2.29**	-14.80	-14.65***
+13	1.61	1.29	-19.05	-15.24***	0.01	0.01	-14.79	-14.65***
+14	2.13	1.70*	-16.93	-13.54***	0.61	0.60	-14.19	-14.05***
+15	0.32	0.26	-16.60	-13.28***	0.55	0.54	-13.64	-13.50***

**Source:** Author’s Compilations from E-Views 10 Output, 2020

\*,\*\*and\*\*\* imply significance at the 10%, 5% and 1% levels respectively.

From Table 2, it can be seen that the pre-automation announcement day abnormal return on day 0 is negative and statistically significant. The table also shows that the corresponding cumulative abnormal return on the announcement day is negative and statistically significant. These results indicate that the Nigerian stock market’s reaction to SEO announcements in the period before automation of trading platforms was negative. The table further reveals that almost all the pre-automation abnormal returns and cumulative abnormal returns were negative, cutting across the pre-announcement day and post announcement day periods within the event window.

The second segment of the table shows that the post-automation announcement day abnormal return and cumulative abnormal return were negative and significant. As was the case under the pre-automation period, the post-announcement abnormal return and cumulative abnormal return were predominantly negative. Furthermore, almost all the post-automation period cumulative abnormal returns were negative and strongly significant. However, there were more significant abnormal returns within the event window for the post-automation period relative to the pre-automation period. The results also point strongly to the fact that the market recorded negative reaction on the announcement day for SEOs in Nigeria.

In a nutshell, Table 2 shows that the Nigerian stock market reacted negatively to SEO announcements before and after the automation of trading floors. The evidence of negative announcement day reaction of the market to SEO announcements is in consonance with extant theoretical and empirical evidence that markets experience adverse effects because of investors’ perception of the issuing firm’s stock as overvalued. Thus, the result of negative market reaction is consistent with Bhana (1998), Rasmussen (2015), Hammar and Perman (2015), Liu, et al. (2016), Brau and Carpenter (2017), Huang and Chiu (2017), Kumar, Hawaldar and Mallikarjunappa (2018), Width and Arseth (2018) and Ulrich (2018).

The paper also examined for the effect of automation of the Nigerian stock market on the market’s reaction to SEOs. To achieve this, the paper tested for difference in market reaction for SEO conducted before automation and after it. Table 3 presents results of the difference test as specified under the methodology

**Table 3: Difference Test Results for Effect of Automation on SEO Announcements**

	<i>Pre-Automation</i>	<i>Post-Automation</i>	<i>Pre-Post</i>
<i>MAR</i>	-0.54	-0.44	-0.10
$\sigma$	1.44	1.58	-
$\sigma^2$	2.07	2.50	-
$\sigma_{pre-post}$	-	-	0.38
<i>T</i>	-	-	-0.26

**Source:** Author’s Compilations from E-Views 10 Output, 2020

Table 3 shows that the mean abnormal returns for the pre-automation and post-automation event windows were both negative, further lending credence to the fact that SEOs induced negative reaction in Nigeria. The table also shows that the difference between the mean abnormal returns in the pre-automation and post-automation windows respectively was -0.10, suggesting that the difference itself was adverse. As can be seen from the table, the t value of -0.26 was not statistically significant at any of the conventional levels. This result indicates that automation of the Nigerian stock market did not significantly affect reaction of the market to SEOs announcements.

Even though no known previous study has specifically examined effect of automation of the Nigerian stock market within the context of value-relevant corporate actions such as SEOs, this finding is, on the general note of efficiency, consistent with those of Odeleye (2009) and Olowe (2009) who found insignificant effect of automation on efficiency of the Nigerian stock market. The insignificant effect of automation on SEOs announcements may be explained by the fact that the automation process did not markedly improve the speed of processing buy or sell orders in the market.

**5. Conclusion**

This study examined effect of automation of the Nigerian stock market’s trading floors on the market’s reaction to SEO announcements made between July 1995

and December 2019. Consistent with extant empirical evidence, the study found negative and significant announcement day reaction by the Nigerian stock market. In addition, almost all the days within the event window experienced negative and significant market reaction. It was concluded that the adverse reaction was, irrespective of the reason provided for raising capital through SEOs, perceived by the market as a signal that the issuing firms' assets were overvalued.

The study also found that automation of the Nigerian stock market trading floors has little or insignificant effect on the market's reaction to SEO announcements. This indicates that the reaction of the market to SEOs was essentially the same before and after the trading floors were automated in Nigeria. The study therefore concluded that the deployment of technology in trading does not really matter for emerging stock markets like Nigeria's. The traditional attachment to manual techniques even where information technology is adequate may also have affected the market's response to the announcement.

The study recommends that firms announcing SEOs in Nigeria should clearly specify the reason for which the firm is issuing new capital as well as the intended use of proceeds from the SEO. This is particularly important in reducing the extent of adverse reaction. With adequate disclosure prior to SEO announcements, the market will properly value the effect of new equity issues. For instance, extant empirical evidence has shown that markets react positively to SEOs conducted to finance investment or growth opportunities if the reason for the issue has been effectively communicated to the market.

The study also recommends that it is not enough to merely automate trade platforms in the Nigerian stock market without equally automating the channels of market information dissemination as such channels are at the heart of promptly availing market information to investors and other market participants. It is further recommended that automated trading platforms and other electronic information dissemination channels within the stock market must be constantly upgraded to meet changing needs and sophistications as the market continues to grow. This is necessary to keep up with the pace of improved investor awareness over the years.

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## **AUDIT QUALITY, GOVERNANCE MECHANISMS AND EARNINGS MANAGEMENT OF QUOTED DEPOSIT MONEY BANKS IN NIGERIA**

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### ***Abstract***

*Corporate failures across the globe have become an issue of concern for stakeholders and regulators. Financial reporting scandals that occurred in oceanic bank, intercontinental bank and the recent bank crises of Skye Bank in 2016 really motivated the need for this study. The study examines audit quality, governance mechanism and earnings management of listed deposit money banks in Nigeria for the period of eleven years from 2009-2019. The population of the study consists of all the 14 listed deposit money banks in Nigeria as at 31<sup>st</sup> December, 2019. The study adopted expo-factor and correlation research designs, and multiple regression was employed as technique of data analysis. The findings of the study revealed that audit independence, managerial ownership and board independent have significant negative impact on earnings management of quoted Nigerian banks while auditor size and audit tenure have insignificant influence on earnings management of listed deposit money banks in Nigeria. In line with the findings, the study therefore concluded that audit independence, managerial ownership and board independence have significant negative impact on earnings management of banks in Nigeria while audit firm size and audit tenure have no significant impact on earnings management of listed deposit money banks in Nigeria. It is therefore recommended that Nigeria listed deposit money banks should maintain the audit fees they are paying to the audit firm or increase it as any attempt to reduce the audit fees can increase earnings management. However managerial shareholding should be increase as it will reduce earnings management and also board independent directors on the board should be increased from minimum of two as it will reduce earnings management of listed deposit money banks in Nigeria on the other hand there is no significant impact between audit firm tenure and audit firm size on earnings management of listed deposit money banks in Nigeria. For audit firm size the study recommended that local audit firms should be used instead of the Big 4 as the size*

*have no effect on earnings management. Also the study recommended that for audit tenure the bank should maintain its audit tenure as it does not have any influence on earnings management.*

**Keywords:** Audit quality, Governance mechanisms, Earnings management, Deposit money banks

## **1. Introduction**

With the increase and growth in business and commercial activities across the globe, it becomes necessary for owners of businesses to entrust their investments into the hands of Managers who manage the business on their behalf and in their best interest. This contractual relationship between owners and managers has given rise to discretionary behavior of management (earnings management). Nigeria has experience corporate failures in 2009, where banks such as oceanic bank, intercontinental among others were in distress despite reporting high profit and statutory audit by big audit firms. Recently, what motivated this study was actually what happened in Skye bank Nigeria Plc in 2016 where the Central bank of Nigeria (CBN) ordered for the change of directors and top management of skye bank Nig plc, and it is believed that the central bank of Nigeria (CBN) as a regulatory body will not for no reason ordered for the change of directors and top management of a bank. Though the central bank of Nigeria publicly declare that sky bank is not in distress. This depicted that skye bank was in a serious crisis before the central bank of Nigeria have to intervene. This caught my attention and also considering what happen to oceanic bank and others in 2009, before the central bank of Nigeria intervened.

Managers discretionary behavior known as earnings management; income smoothening, creative accounting or window dressing may lead to conflict of interest and consequently earnings management to cause erosion in earnings quality thereby rendering financial reporting quality to illusion (Levitt, 1998). Earnings management is a purposeful intervention in the external financial reporting process with the intent of obtaining some private gain (Schipper, 1989). Hussainey (2009) claimed that earnings management means managers manipulating financial reports in order to produce a good image of themselves and the firms they manage. In order to curtail management discretionary behavior, there is need for the principal to engage a monitoring mechanism that will monitor and checkmate earnings management. One of such monitoring mechanism is audit quality.

The banking sector in Nigeria play a major role in growth and development of Nigeria economy, it is a sector that serves as an intermediary between lenders and borrowers of funds. Any economy that must grow and develop must encourage

investment across the country and the only way to achieve this, is by bringing two players together. The two players are those who are willing to part with funds and those who are willing to utilize these funds for investment and standing at the middle is the public quoted deposit money banks in Nigeria. Considering the present administration drive to revamp Nigeria economy, it is necessary to tackle earnings management in listed DMBs in Nigeria before economic growth and development can be achieved. The adverse effect of earnings management is a global issue and that is why different countries have their codes of corporate governance, in order to prevent corporate failures. Nigeria listed DMBs is a critical and sensitive sector not only to owners, investors and stakeholders but the Nation at large. The nature and peculiar role play by DMBs in Nigeria economy make the government have a regulatory body that supervise and monitor the funds under the custody of all DMBs in Nigeria. The failure of DMBs in Nigeria is the failure of the economy as a whole because the economy will be adversely affected. Financial scandals and collapse of some multi-national corporations are continuously experienced. Therefore, is it a weak corporate governance or non-quality audit? These are critical questions to be answered at the end of this research work. However, it could be one or both of them resulting into unethical accounting practices also known as earnings management.

Considering the case of Skye bank Nig P.L.C as reported in vanguard dailies (2016), where the Central bank of Nigeria ordered for the change of directors and management of Skye bank Plc due to liquidity crises despite audit by Big audit firms, Central bank of Nigeria have to take this measure in order to ensure that depositors funds are safe for viable economy. Though the central bank of Nigeria publicly declare that Skye bank is not in distress, as a regulatory body of course central bank have to come out to publicly declare in order to calm panic and tension for Skye bank customers across Nigeria but the major cause for this change of directors and top management is liquidity crises. Despite the yearly audit why then was the liquidity crises not reflected in the yearly audit report by the so call big audit firms. As researchers we must continue to research on reliable financial reporting in order to salvage investors and other stakeholders from opportunists' managers', this motivates the study of audit quality, governance mechanism and earnings management of public quoted DMBs in Nigeria. The study chooses variables that can monitor and can align management/ owners interest in order to reduce earnings management so as to avoid further bank crises among Nigeria quoted DMBs unlike other studies that examined audit quality, managerial ownership or board independent directors on earnings management separately and

in other sectors, such studies are; Tijjani (2015), Shayanfar (2016), Houque, Ahmed and Zijl (2015), Solima and Ragab (2014), Nuryama (2013), Okolie, Izendonmi and Enofe (2013), Inaan, Khmoussi and Fatima (2012). Lin and Hwang (2010), Jordan, Clark and Hames (2010), Yasar (2013), Memis and Cetenak (2012), Okolie (2014), Adeyemi and Okpala (2011), Rad, Salehi and Pour (2016), Ebrahim (2001), Reichelt and Wang (2010), Jenkins and Velury (2008), Alves (2012), Ali, Salleh and Hassan (2008), Shen (2016), Spino (2012), Isenmila and Elijah (2012), Ogbonnaya, Ekwe and Ihendinihu (2016), Farouk and Hassan (2014), Alfayoumi, Abuzayed and Alexander (2010), Khalil and Ozkan (2016), Chen, Cheng and Wang (2011), Nahandi, Baghbani and Bolouri(2011), Roodposhti and Chashmi (2010), Hassan and Ibrahim (2014), Abdullahi and Ismail (2009), Oba (2014), Nugroho and Eko (2011), Yang, Chun and Ramadili (2009) and Saleh, Iskandar and Ramat (2005). This study is different from previous studies because it considered audit quality variables (Audit size, audit tenure, audit independence) as well as corporate governance variables (managerial ownership and independent director) altogether on earnings management of DMBs in Nigeria.

Another gap this study is set to fill is that of methodology, earnings management measurements, most previous studies used accrual measurements whereas in banking sector the components of the accruals measurement are not found. Previous studies that adopted accrual measurement to measure earnings management are; Tijjani (2015), Houque, Ahmed and Zijl (2015), Solima and Regard (2014), Nuryaman (2013), Okolie Izendonmi and Enofe (2013), Innam, Khmoussi and Fatima (2012), Lin and Hwang (2018), Jordan and Clark (2010), Yasar (2013), Mamis and nCetenak (2012), Adeyemi and Okpala (2011), Rad, Salehi and Pour (2016), Ebrahim (2001), Alves (2012), Spino (2013), Isenmila and Elijah (2012), Farouk and Hassan (2014) among others. Some components of the model are not obtainable in bank financial statement of listed deposit money bank in Nigeria. This study therefore adopted loan loss provision (LLP) model of Change, Shen and Fang (2008) considering the domain of the study.

The main objective of this study is to examine the effect of audit quality and governance mechanisms on earnings management of quoted DMBs in Nigeria, other specific objectives are;

- i. to determine the impact of audit firm size on earnings management of quoted DMBs in Nigeria.
- ii. to examine the effect of audit independence on earnings management of quoted DMBs in Nigeria.

- iii. to identify the extent to which audit firm tenure influences earnings management of quoted DMBs in Nigeria.
- iv. to investigate the impact of managerial ownership on earnings management of quoted DMBs in Nigeria
- v. to evaluate the influence of board independence on earnings Management of quoted DMBs in Nigeria

In line with the objectives of the study, the following hypotheses were formulated in null form:

H<sub>01</sub>: Audit firm size has no significant impact on earnings management of quoted DMBs in Nigeria.

H<sub>02</sub>: Audit firm independence has no significant effect on earnings management of quoted DMBs in Nigeria.

H<sub>03</sub>: Audit firm tenure has no significant influence on earnings management of quoted DMBs in Nigeria.

H<sub>04</sub>: Managerial ownership has no significant impact on earnings management of quoted DMBs in Nigeria

H<sub>05</sub>: Board independence has no significant influence on earnings management of quoted DMBs in Nigeria

This research gains its weight from the increasingly strategic business activities in the financial sector, which allows banks to be more strategic in their business approach, and enables them to play its financial intermediation role in an efficient and profitable manner.

## **2. Literature Review and Theoretical Framework**

### **Audit Firm Size and Earnings Management**

Shayanfar (2016) investigated the impact of audit quality on earnings response coefficient of the listed companies in Tehran Stock Exchange in Iran for the period of five years (2009-2013) by taken 83 firms using Cochrane method as the sample size of the study. The independent variable of the study was proxied by audit firm size while the dependent variable was proxied by earnings response coefficient measure by  $CAR = a + b(SUE) + e$ , where;  $CAR_i$ : Modified return of the firm  $i$  for a 12-month period  $t$ ,  $SUE_i$ : Annual dividend of the firm  $i$  in the year  $t$ ,  $E_i$ : residual term. Secondary data was collected using the annual reports and accounts of the selected companies; the study adopted regression technique as a technique of data

analysis and found that audit firm size negatively and significantly impacted on earnings response coefficient of the listed firms in Iran. The study fails to validate any theory as such the conclusion is questionable.

Furthermore, Tijjani (2015) examined the relationship between audit quality and earnings management of listed building material firms in Nigeria over a period of seven years 2007-2013, the study used the whole population of listed building material firms in Nigeria as the sample size of the study. Audit quality as an independent variable of the study was proxy by audit firm size while earnings management as the dependent variable of the study was proxy by discretionary accruals and modified jones model of 1995 was adopted. The study was hinge on agency theory to validate the result of the study. Secondary data was collected from the annual reports and accounts of the selected building material firms and analyze with generalize least square regression technique. The study found a negative and significant relationship between audit firm size and earnings management of listed building material firms in Nigeria. This conclusion may not be applicable in other sector such as, quoted banks in Nigeria as such its need to conduct a similar study in such sector.

Conversely, Houqe, Ahmed and Zijl (2015) examined the effect of audit quality on earnings quality and cost of equity capital evidence from India for the period of 1998-2009. The study adopted filter to arrive at the sample size of 7,308 firms after removing oil and gas companies, utilities companies and financial service companies. The regressor was audit quality proxied by auditor size while the dependent variable of the study earnings management was proxied by discretionary accruals of modified Jones 1991 model. Secondary data was collected from the annual report and accounts of the sampled firms and analysed with multiple regression as a technique of data analysis. The study found that audit firm size negatively influences earnings management. The study did not validate any theory as such the conclusion may not hold water.

In addition, Soliman and Ragab (2014) examined audit committee effectiveness; audit quality and earnings management of 40 Egyptian listed companies for the period 2007 – 2010 by taken 40 companies as the sampling size by filter sampling excluding banks, insurance companies and leasing companies. The audit quality was proxied by Big 4 and non- Big 4 audit firms, on the other hand the dependent variable of the study was proxied by earnings management modified model of Jones (1991) after controlling for firm size, leverage and cash flow for operating

activities. Secondary data was collected from the annual reports and accounts of the listed companies and analyzed with multiple regression technique of data analysis. The study found that audit firm size has significant negative association with discretionary accruals. The study failed to hinge on theory and excludes financial service firms is a shortcoming of the study.

### **Audit Firm Independence and Earnings Management**

Okolie (2014) examined Auditor Tenure, Auditor independence and accrual-based earnings management of quoted companies in Nigeria for the period of 2006 to 2011 using a sample 57 firms. Audit tenure and audit independence as the independent variable of the study was proxied by audit tenure and audit fees while the earnings management as the dependent variable of the study was proxy by discretionary accrual of modified Jones (1991) model of Dechow, Sloan and Sweeney (1995). Theory of inspired confidence was adopted to underpin the findings of the study. Secondary data was collected from the annual reports and accounts of the selected firms and analysed using regression as a statistical technique of data analysis, the study found a significant and negative relationship between audit independent and earnings management. The study did not adopt any scientific sampling technique to arrive at the sample size of the study and the study excludes financial service firms.

Again, Okolie,et al (2013) examined Audit Quality and Accrual – Based Earnings Management of Quoted Companies in Nigeria for the period of 2006 to 2011 by taken a sample of 57 firms as the sample size of the study. Audit quality as the independent variable of the study was proxied by audit firm size, audit firm tenure and audit fees while earnings management as the dependent variable of the study was proxies by discretionary accrual of reformed Jones (1991) by Dechow, Sloan and Sweeney (1995). The study underpinned by theory of inspired confidence to support the findings of the study. Secondary data was collected from annual reports and accounts of the selected firms and analyzed using regression as a statistical technique of data analysis and found that audit tenure has negative but insignificant impact on earnings management. The study failed to adopt any sampling technique as such the conclusion of the study may not represent the population of the study.

### **Audit Firm Tenure and Earnings Management**

Rad, Salehi and Pour (2016) examined the impact of audit quality and ownership structure on earnings management of listed firms on Tehran Stock exchange for the period of 2009-2013 by taken a sample of 100 firms. Audit quality and ownership

structure as an independent variable of the study was proxied by auditor reputation, audit tenure and ownership structure while earnings management as the dependent variable of the study was proxied by modified Jones model, Secondary data was collected from the annual reports and accounts of the selected firms and analyzed using multiple regression as a statistical tool of data analysis and found that audit tenure has a significant negative impact on earnings management. The study failed to validate its claim with a theory and did not adopt a sampling technique to arrive at the sample size of the study. Furthermore, Okolie (2014) the study found a significant and negative relationship between audit tenure and earnings management. The study did not adopt any scientific sampling technique to arrive at the sample size of the study and the study excludes financial service firms.

Again, Okolie et al, (2013) examined Audit Quality and Accrual – Based Earnings Management of Quoted Companies in Nigeria for the period of 2006 to 2011 by taken a sample of 57 firms as the sample size of the study. Audit quality as the independent variable of the study was proxied by audit firm size, audit firm tenure and audit fees while earnings management as the dependent variable of the study was proxies by discretionary accrual of modified Jones (1991) by Dechow, Sloan and Sweeney (1995). The study was underpinned by theory of inspired confidence to support the findings of the study. Data was collected from annual reports and accounts of the selected firms and analyzed using regression as a statistical technique of data analysis and found that audit tenure have negative significant impact on earnings management. The study failed to adopt any sampling technique as such the conclusion of the study may not represent the population of the study.

### **Managerial Ownership and Earnings Management**

Previous studies revealed that ownership by management is directly related with earnings power for incomes. The ownership by management is either negative or positive effect on earnings management (Warfield & Wild 1995). It is expected that ownership by management should reduce the conflict of interest between management and owners as such aligning the interest of both the owners and management which will go a long way in curtailing management discretionary behavior.

Alves (2012) examined the relationship between corporate ownership structure and earnings management evidence from Portugal for the period of 2002 to 2007 using a sample of 34 non-financial firms as sample size of the study by filter. The earnings management as the dependent variable of the study was measured by discretionary

accruals of modified Jones model of Dechow et al (1995). Agency theory was adopted to underpin the findings of the study. Data was collected from secondary source via annual reports and accounts of the sample companies and analyzed using ordinary least square regression as a statistical tool of analysis and the study found that earnings management is negatively related to managerial ownership. The findings may not be applicable in financial service firms due to their peculiarity.

Again, Ali, Salleh, and Hassan (2008) examined ownership structure and earnings management in Malaysian Listed Companies: The Size Effect for the period of 2002 to 2003 by taken a sample of 1,001 firms as the sample size of the study using filter criteria to arrive at the sample of the study. Ownership structure as the independent variable of the study was measured by managerial ownership while earnings management as the dependent variable of the study was proxied by discretionary accruals of cross-sectional modified Jones (1991) model as suggested by Defond and Jiambalvo (1994). Agency theory was adopted to underpin the findings of the study. Data was collected from secondary source via annual reports and accounts of the sampled firms and analysed using ordinary least square regression as the statistical tool of analysis and found a negative association between managerial ownership and earnings management. The study excluded financial service firms.

In addition, Shen (2016) examined industry competition, ownership structures and earnings management: Empirical Analysis based on Listed Banks in China for the period of 2005 to 2014 by taking a sample of 16 banks out of the total 200 banks that disclose their annual operating condition. Industry competition and ownership structure as the independent variable of the study was measured by managerial ownership while earnings management as the dependent variable of the study was measured by discretionary accrual of risk adjusted loan loss provision rate. Agency theory was adopted to underpin the findings of the study. Data was collected from secondary source via annual reports and accounts of the sampled banks and analysed using OLS and found a negative relationship between managerial ownership and earnings management. The study did not back up the earnings management adopted with an argument or as used by prior scholars.

Furthermore, Spinos (2013) who investigated the Managerial ownership and earnings management in times of financial crisis: evidence from USA for the period of 2004 to 2009 by taken a sample of 235 U.S firms as the sample size of the study. Managerial ownership as an explanatory variable of the study was represented by

share of managerial ownership to total shareholding while earnings management as the explained variable of the study was proxied by discretionary accrual of modified Jones model of Dechow et al (1995). Agency theory was adopted to underpin the findings of the study. Secondary source of data was collected from the annual reports and accounts of the sample firms and analysed using ordinary least square regression as a tool statistical tool of analysis and found no significant relationship between managerial ownership and earnings management. The study failed to adopt a sampling technique to arrive at the sample size of the study.

Conversely, Isenmila and Elijah (2012) after they examined the impact of ownership structure on earnings management of listed for the period of 2006 to 2010 by taken a sample size of 10 commercial banks out of 24 banks in Nigeria using simple random sampling technique. Ownership structure as the explanatory variable of the study was represented by insider ownership, institutional ownership and external block ownership while earnings management as the explained variable of the study was measured by discretionary accruals. Agency theory was adopted to underpin the findings of the study. Data was collected from secondary source via annual reports and accounts of the listed commercial banks and CBN statistical bulletin of the sampled banks and analysed using multivariate regression technique as a statistical tool of analysis and found that managerial ownership is positive and statistically significant in influencing earnings management. Considering the domain of the study loan loss provision should have been used to measure the discretionary accruals instead of the modified Jones model.

Ogbonnaya, Ekwe, and Ihendinihu (2016) investigated corporate governance and ownership structure on earnings management of brewery industry in Nigeria for the period of 2004 to 2013 by taken 2 companies as the sample size of the study because only these two companies have complete data. Corporate governance and ownership structure as the independent variable of the study was proxy by CEO duality, managerial ownership, net asset present value, price earnings ratio while earnings management as the dependent variable of the study was proxy by earnings profit. Agency theory was adopted to underpin the findings of the study. Data was collected from secondary source via annual reports and accounts of the sampled companies and analyzed using ordinary least square regression as a statistical technique of analysis and found that ownership by management has significant positive influence on earnings management. The study used earnings in terms of profit instead of earnings management models and also the study sampled just two

companies which may not represent the whole brewery industries listed in Nigeria stock exchange.

Consequently, Farouk and Hassan (2014) examined the influence of possession formation on earnings management of Quoted Chemical and Paints Firms in Nigeria for the period of 2007-2011 by taken a sample of 8 companies using a filter criteria to arrive at the sample size of the study. Possession formation as the explanatory variable of the study was measured by managerial ownership, institutional ownership and block-holder ownership contrarily earnings management as the explained variable of the study was measured discretionary accruals of modified Jones model of Dechow et al (1995). Agency theory was adopted to validate the findings of the study. Secondary data was collected from audited annual reports of the sampled companies and analysed using ordinary least square regression as statistical technique of analysis with SPSS 15 as a tool of analysis and found direct significant association amid managerial ownership on earnings management.

### **Board Independence and Earnings Management**

Khalil & Ozkan, (2016) examined board independence, audit quality and earnings management: Evidence from Egypt for the period of 2005 to 2012 by taken a sample of 125 firm using filter criteria. Board independence and audit quality as the independent variable of the study was represented by proportion of non-executive directors and the big-4 audit firms while earnings management as the dependent variable of the study was proxied by accruals of Kothari et al (2005) model. Data was collected from secondary source via annual reports and accounts of the sample firms and analysed using the ordinary least square regression technique as a statistical tool of analysis and the study found that their results cast doubt on the notion that a higher ratio of non-executive board members is associated with lower earnings management. The study also found that the effect of board independence on earnings management practices is contingent on the levels of ownership held by executive directors and large shareholders as well as the composition of audit committee composed. The study failed to validate any theory and excluded financial service firms.

Again, Chen, Cheng, and Wang, (2011) examined whether increase in board independence reduce earnings management? evidenced from recent regulatory reforms for the pre-regulation period of 1999-2001 to the post-regulation period 2004-2006 by taken a sample of 1205 as the sample size of the study using filter

criteria. Noncompliance as the independent variable of the study was proxy by 1 for firms that did not have a majority independent board in 2000 and 0 otherwise while earnings management as the dependent variable was proxied by discretionary accrual of modified Jones (1995) cross-sectional model. Data was collected from annual reports and accounts of the sampled firms and analyzed using regression as a statistical technique of data analysis and found that the coefficient on the Non-Compliance indicator is negative but is not significantly different from zero at conventional levels. That is, compared to compliance firms, non-compliance firms do not experience any incremental decrease in earnings management. Considering differences in regulatory environment among Countries, this conclusion cannot be generalized and no theory was used to underpin the study.

In addition, Nahandi, Baghbani, and Bolouri, (2011) examined Board Combination and Earnings Management: Evidence from Iran for the period of 2001-2008 by taken a sample of 480 firm year observation using filter criteria to arrive at the sample size of the study. Board combination as the independent variable of the study was represented by board size, board combination and CEO duality while earnings management as the dependent variable of the study was measured by accrual of modified Jones model of Dechow et al (1995). Agency theory was adopted to underpin the findings of the study. Secondary data was collected from annual reports and accounts of the sample firms and analysed using Ordinary least Square regression as a statistical tool of analysis and found that board independence has a negative but insignificant relationship with earnings.

Furthermore, Roodposhti and Chashmi (2010) examined the effect of board composition and ownership concentration on earnings management: evidence from Iran for the period of 2004-2008 by taken a sample of 196 firms using a filter criteria to eliminate financial service firms and firms without complete data. Board composition as the independent variable of the study was proxied by board independence, CEO duality and percentage of block ownership while the dependent variable of the study earnings management was proxied by modified Jones (1995) model. Secondary data was collected from annual reports and accounts of the sample firms and analysed using the regression as a statistical tool of analysis and found a negative and significant association between board independence and earnings management. The study did not validate any theory and it excluded financial service firms.

In addition, Hassan and Ibrahim (2014) examined the Governance attributes and real Activities manipulation of listed manufacturing firms in Nigeria for the period of 2007-2012 by taken a sample of 20 firms using filter criteria. Governance attributes as the independent variable of the study was measured by inside Directors, outside Directors, gray Directors, women Directors, audit committee independence, audit Committee financial literacy, audit committee meeting, audit committee size while real activities manipulation as the dependent variable of the study was proxied by Roychowdhury (2006) model of abnormal cash flow. The study adopted opportunistic theory to underpin the findings of the study. The study adopted correlation and expo-factor research design and secondary data was collected from the annual reports and accounts of the sample firms and analysed using ordinary least square regression as a statistical technique of analysis with SPSS as a tool of analysis. The study found that outside directors and gray directors are negatively associated with earnings management, which implies that, managers' opportunistic manipulative accounting can be constrained or deter by them. The study does not include financial service firms.

Addressing the preposition of agency theory, the concept of agency theory was early used by Jensen and Mecklin (1976). They apply the concept of agency to elaborate the issues associated with the separation of principal and agent in a large corporation, in line with Berle and Means (1932) propositions. The issue in agency theory is conflicts of interest that arise between principal and agent. The shareholders delegate decision making power to the Managers who execute duties on their behalf (Jensen & Meckling, 1976). Conflicts of interest give birth to information asymmetry between the principal and the agent. An agent is expected to act in the best interest of the principal through their actions and decisions. Therefore, monitoring and agency theory was used to anchored audit quality proxied by audit firm size, audit firm independence audit firm tenure, managerial ownership and board independence against earnings management of quoted deposit money banks in Nigeria.

### **3. Methodology and Variable Measurement**

This study examines impact of audit quality, governance mechanism on earnings management of quoted deposit money banks in Nigeria for the periods of eleven (11) years from 2009-2019, The base of choosing this period is in line for the world financial predicament in 2009 and numerous financial predicaments in Nigeria between this period which has coxswained to the noise for the quality of earnings amongst listed DMBs in Nigeria. The Correlational and Ex-post factor approach

was employed, the approach is suitable because it aids in explaining the effect of Audit quality, governance mechanisms on earnings management of the sampled banks. The data is from secondary source through audited reports and accounts as a method of data collection. A total of fourteen (14) banks out of the fifteen (15) quoted was used as a result of unavailability. The panel multiple regression technique was used as techniques of data analysis as it was found suitable for the analysis.

$$\frac{LLP_{it}}{TA_{it}} = \alpha_{it} + \beta_1 \frac{LCO_{it}}{TA_{it}} + \beta_2 \frac{BBD_{it}}{TA_{it}} + \beta_3 \frac{\Delta NPL_{it}}{TA_{it}} + \mu$$

Where:

LLP = Loan Loss Provision

LCO = Beginning balance of bad and doubtful debt + additional provision of bad and doubtful

Debt – bad debt written off

BBD = Beginning balance of bad and doubtful debt

ΔNPL = Change in non- performing loan

TA = Total Assets

α = constant term

it = Firm i at time t

β1, β2, β3, = the parameters for estimation

μ = Error term

Therefore, the study’s parsimonious model is presented as follows:

$$EMG_{it} = \beta_0 + \beta_1 AFS_{it} + \beta_2 AFI_{it} + \beta_3 AFT_{it} + \beta_4 MO_{it} + \beta_5 BIND_{it} + \beta_6 FSIZ_{it} + \varepsilon_{it}$$

Where:

EMG = Earnings management

AFS = Audit firm size

AFI = Audit firm independence

AFT = Audit firm tenure

MO = Managerial Ownership

BIND = Board independence

FSIZ = Firm size

β0 = Constant

β1- β6 = coefficient of the parameters

it = firm and year  
 ε = error term

The variables of the study consist of dependent variable which is earnings management measured by discretionary loan loss provision change et al (2008) model. Earnings Management (Dependent Variable)

Earnings Management: Measured by absolute values of the residuals (discretionary accruals) using Chang *et al* (2008) model of loan loss provision.

Audit Firm Size (Independent Variable) is Dichotomy of 1 for Big4 and 0 for non-Big 4 (Okolie, Izedonmi and Enofe, 2013)

Audit Firm Tenure (Independent Variable) is measured by Dichotomy of 1 for 3years and above and 0 otherwise (Okolie 2014)

Audit Firm Independence (Independent Variable) is measured by the Audit fees (Lin & Hwang, 2010)

Managerial Ownership (Independent Variable) is defined as the % of managerial share-holding to total shares Farouk and Hassan (2014)

Board Independent (Independent Variable) is Measured using Measured by the proportion of independent directors on the board, expressed in percentage Che Haat (2006); Shehu (2011).

**4. The Results and Discussions**

This section presents the results of the empirical study. Interested in the presentation, analysis and interpretation of data collected from secondary sources. The section provides a conclusion and recommendations of the study results. Multiple regression analysis; specifically, the fixed regression model (FEM) was used to test the mentioned hypotheses.

Descriptive statistics for each of the variables were identified to indicate minimum, maximum, average, standard deviation. It helps readers understand the measures of central tendency associated with the study variables.

**Table 1: Descriptive Statistics**

Variable	Mean	Minimum	Maximum	Std. Dev
EMG	.0247	.0110	.1852	.0220
AFT	.8116	0	1	.3922
AFI	18.3458	16.213	19.68	.7983
AFS	.9285	0	1	.2583
MO	.0685	0	0.19	.0466

BIND	.1122	0.05	.21	.0306
FSIZE	17.774	12.509	21.604	2.896

**Source: Stata Output, 2020**

Table 1 reports the descriptive statistics for the dependent and independent variables respectively (EMG= Earnings Management, AFT=Audit firm tenure, AFI=Audit firm independence, AFS= Audit firm size, MO= Managerial ownership and BIND= Board independence). The results show that the mean Earnings Management, audit firm, Audit firm independence, Managerial ownership, audit firm size and Board independence are 0.0247, 0.8116, 18.346, 0.9285, 0.0685 and 0.1122 respectively. A similarity of the mean values with the maximum values for each of the variables shows the banks managed earnings up to 2.47%. The mean value indicates that 81% of listed deposit money banks in Nigeria rotate audit firm after 5 years in office. The average mean of audit independence (measured by audit fees) paid by quoted deposit money banks in Nigeria is ₦18.3 million, meaning on average each of the listed deposit money banks in Nigeria paid ₦18.3 million naira as audit fees. The average value of audit firm size is (0.92) which means on average 92% of the listed deposit money banks in Nigeria were audited by one of the Big 4 globally recognized audit firms while (0.08) 8% on average were audited by the non-Big 4 audit firm, the average mean is (0.06) which means that on average 6% of the total equity ownership of listed deposit money banks in Nigeria is owned by management while the remaining 94% average is owned by other shareholders. However, the average mean revealed a value of (0.11) which means on average 11% of board size of listed deposit money banks in Nigeria are independent directors.

**Table 2: Correlation Matrix**

Variable	EMG	AFT	AFI	AFS	MO	BIND	FSIZE
EMG	1.0000						
AFT	-0.0615	1.0000					
AFI	-0.2488	-0.0784	1.0000				
AFS	0.0283	-0.1336	0.5343	1.0000			
MO	0.0193	0.0159	0.0605	0.0888	1.0000		
BIND	0.0384	-0.0185	0.1314	0.289	0.0429	1.0000	
FSIZE	0.0638	0.1806	-0.0972	-0.1841	0.0374	0.1236	1.0000

**Source: Stata Output, 2020**

Table 2 shows that earnings management is negatively associated with audit firm tenure at 6%. This signifies that higher audit tenure gives auditors better insight for quality audit. It also indicates that audit firm independence is associated with earnings management at 24% indicating that higher audit fees can influence the quality of audit which will constrain earnings management of quoted deposit money banks in Nigeria. The table also shows that there is positive association between EMG of listed banks and audit firm size, from the correlation coefficient of 0.0283. This relationship implies the possible consideration of the financial reporting scandals even after been audited by the big audit firms. Moreover, the table indicates a correlation between earnings management and managerial ownership from the correlation coefficient of 1%. This is possible due to entrenchment hypothesis which support that too much managerial ownership can encourage earnings management at the expense of minority shareholders. The table also indicates a positive relationship between earnings management and board independence from the correlation coefficient of 3.8%.

**Summary of Regression Results**

The summary of the regression results obtained from the parsimonious model of the study is presented as follows:

**Table 3: Regression Results**

Variables	Coefficients	t-values	p-values	Tolerance values/Vif
AFT	-.0064	-1.55	0.124	0.95/1.05
AFI	-.0083	-3.24	0.002	0.70/1.43
AFS	.0099	1.10	0.270	0.68/1.46
MO	-.1179	-1.86	0.006	0.98/1.01
BIND	-.1521	-2.41	0.001	0.96/1.04
FSIZE	.0009	0.80	0.428	0.92/1.08
<b>R<sup>2</sup></b>			<b>0.3312</b>	
<b>F-Stat</b>			<b>3.78</b>	
<b>F-Sig</b>			<b>0.0000</b>	

**Source: Stata Output, 2020**

The cumulative explanatory power which is R<sup>2</sup> (0.3312) which is the multiple coefficient of determination gives the proportion or percentage of the total variation in the explained variable by the explanatory variables jointly. Hence, it signifies 33.12% of total variation in earnings management of listed banks is caused by the collective effort of audit firm tenure, audit independence, audit firm size,

managerial ownership and board independence. This further indicates that the model is good, adequately and well fitted in the model and indeed the explanatory variable are properly selected, combined and used. This can be confirmed by the F-Stat coefficient of 3.78 and F-sig of 0.0000 which is statistically significant at 1% level of significance. Therefore, this result can be relied upon.

Tolerance values and variance-inflation factors are two further steps to assess multi collinearity between independent variables. Using STATA, the variance inflation factors and tolerance values are computed and found to be consistently smaller than ten and one respectively indicating absence of multi collinearity (Neter, Kutner, Nachtasheim, & Wasserman, 1996) and (Cassey & Anderson, 1999). In addition, the tolerance values are consistently smaller than 1.00 thus further substantiates the fact that there is no multicollinearity between independent variables (Tobachnick & Fidell, 1996).

#### **Audit Firm Tenure and Earnings Management**

Again, the regression result revealed a negative and insignificant relationship (coefficient = -.006 and p=.12%) between audit firm tenure and earnings management of listed deposit money banks in Nigeria. The result signifies that the higher the number years of audit by a particular audit firm among the listed deposit money banks in Nigeria, the lower the earnings management. That is, audit firm tenure has no power to influence earnings management of public quoted deposit money banks in Nigeria but rather only an inverse relationship exists. The result implies that for every increase in the number of years of audit firm tenure of listed deposit money banks in Nigeria, there is possibility that earnings management will reduce but audit tenure does not have the power to determine earnings management of listed deposit money banks in Nigeria. The result is in line with priory expectation because it is expected that audit tenure of auditors of public quoted deposit money banks in Nigeria should have the power to constrain earnings management, because it is believed that higher audit firms tenure will give better insight to the auditors about the client operation as such quality audit should be achieve with higher audit tenure capable of constraining earnings management. The result of the study revealed an inverse though insignificant of audit firm tenure on earnings smoothing of quoted deposit money banks in Nigeria. The finding of the study is in line with previous studies of; Lin and Hwang (2010). Contrary to the findings of; Rad et al (2016), Okolie (2014), Ebrahim (2001), Reichelt and Wang (2010) and Okolie et al (2013).

#### **Audit independence and earnings Management**

The regression result in table revealed a negative and significant relationship (coefficient =  $-.0083$  and  $p=1\%$ ) of audit fees and earnings management of banks in Nigeria. This result signifies that the higher the fees paid to auditors of listed deposit money banks in Nigeria the lower the level of earnings management. That is, audit fees have the power to constrain earnings management of listed deposit money banks in Nigeria. The result implies that for every one percent or ₦1 increase in audit fees paid to audit firms of listed deposit money banks in Nigeria, earnings management will reduce by 0.8%. The result is in line with priory expectation because it is expected that audit fees paid to the audit firms of public quoted deposit money banks in Nigeria should constrain earnings management as high audit fees will make audit firms deploy their best audit staff in order to achieve a quality audit capable of constraining earnings management. The finding of the study is in line with studies of; Murya (2010), Okolie (2014) and Okolie et al (2013).

#### **Audit firm size and earnings management.**

Table 3 also revealed that there is a positive and insignificant relationship (coefficient =  $0.009$  and  $p= 27\%$ ) between audit firm size and earnings management of listed deposit money banks in Nigeria. The result signifies that that the Big-4 audit firms have a direct positive relationship with earnings management of public quoted deposit money banks in Nigeria. That is, audit by the Big-4 audit firms do not have the power to determine earnings management of listed deposit money banks in Nigeria but only direct relationship exist. The result implies that the more Nigeria listed deposit money banks are being audited by any of the Big-4 audit firms, the higher the earnings management in the sector. The result is not in line with priory expectation because it is expected that audit firm size should constrain earnings management, whereas, in this study a positive and insignificant relationship exist as revealed by the finding of the study. The result is true despite contrary to priory expectation and a good example is the Enron scandal of (2001), Pamalat in Italy (2003) Oceanic bank (2009). Chi (2011), Kim (2003), and Cohen and Zarowin (2010) also found that the presence of the Big-4 audit firms is associated with greater earnings management; this can also be possible due to entrenchment hypothesis. The finding of the study is in line with previous studies of; Chi (2011), Cohen and zarowin (2010), Mamis and Cetnac (2012) Khalil & Ozkan (2016) in Egypt, Hassan & Ibrahim (2014) in Nigeria, Roodposhti & Chashmi (2010) that audit firm size has positive relationship with earnings management and contrary to the findings of; Tijjani ( 2015) in Nigeria, Houqe et al (2015) in India, Solima and Ragab (2014) in Egypt, Nuryaman (2013) in

Indonesian, Okoli et al (2013), Inaam et al (2012) in Tunisain, Lin and Hwang (2010).

### **Managerial ownership and earnings management**

In addition, the regression result revealed a negative and significant relationship (coefficient =  $-0.117$  and  $p=10\%$ ) between managerial ownership and earnings management of public quoted deposit money banks in Nigeria. The result signifies that as share ownership by management of public quoted deposit money banks in Nigeria increases then earnings management practices by management will decrease, which mean managerial ownership has the power to influence earnings management of public quoted deposit money banks in Nigeria negatively. The result implies that for every one percent increase in ownership of shares by management of public quoted deposit money banks in Nigeria earnings management will reduce by 11%. The result is in line with priory expectation because it is expected that managerial ownership should reduce earnings management of public quoted deposit money banks in Nigeria, because interest will be aligning between owners and management as management become co-owners conflict of interest is expected to reduce. It is expected that managerial ownership should have the power to constrain earnings management of public quoted deposit money banks in Nigeria because of alignment of interest hypothesis. The finding of the study is in line with previous studies of; Murya (2010), Alves (2012), Ali et al (2008), Shen (2016), Warfield and Wild (1995), Jensen and Mecklin (1976). However, other studies found no relationship such as Spinos (2013), Abd Al Nassar (2012) and Hafiza and Susela (2005).

### **Board independent and earnings management**

The regression result revealed that there is a negative and significant relationship (coefficient =  $-0.152$  and  $p=1\%$ ) between board independence and earnings management of public quoted deposit money banks in Nigeria. The result signifies that as the number of board independent director's increases on the board, earnings management of public quoted deposit money banks in Nigeria decreases. That is, Board independent director has the power to influence earnings management of public quoted deposit money banks in Nigeria negatively. The result implies that for every one percent increase in the number of independent directors on the board of public quoted deposit money banks in Nigeria, earnings management will reduce by 15%. The result is in line with priory expectation because it is expected that independent directors on the board of public quoted deposit money banks in Nigeria should have the power to constrain earnings management due to their monitoring

role. The result is in line with reality because independent directors have no special interest in the bank with the management, which will enable them to monitor management to act in the best interest of the owners. The presence of independent directors on the board will reduce earnings management of listed deposit money banks in Nigeria. The finding of the study is in line with previous studies of; Khalil & Ozkan (2016), Hassan & Ibrahim (2014), Roodposhti & Chashmi (2010), Murya (2010), Lin and Wang (2011) and Oba (2014). Contrary to other findings such as; Nahandi, Baghbani & Bolouri (2011), Abdullahi & Ismail (2009), Nugroho and Eko (2011), Yan et al (2009), Saleh et al (2005).

## 5. Conclusion

The study concluded that audit independence, managerial ownership and board independence have significant negative impact on earnings management of listed deposit money banks in Nigeria while audit firm size and audit tenure are insignificant effect on earnings management of banks. It is therefore recommended that Nigeria listed deposit money banks should maintain the audit fees they are paying to the audit firm or increase it as any attempt to reduce the audit fees can increase earnings management. However managerial shareholding should be increase as it will reduce earnings management and also board independent directors on the board should be increased from minimum of two as it will reduce earnings management of listed deposit money banks in Nigeria on the other hand there is no significant impact between audit firm tenure and audit firm size on earnings management of listed deposit money banks in Nigeria. Audit firm size is recommended that local audit firms should be used instead of the Big 4 as the size have no any effect. Also, for audit tenure the bank should maintain its audit tenure as it does not have any influence on earnings management.

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## **CORPORATE BOARD QUALITIES AND DIVIDEND POLICY OF LISTED NON-FINANCIAL FIRMS IN NIGERIA**

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### **Abstract**

*This paper examines the effect of board qualities on dividend policy of listed non-financial firms in Nigeria. Board qualities are proxied by board composition, board size, and board diversity, while dividend policy was proxied by dividend pay-out ratio. Multiple regression technique was employed to analyse data obtained from the annual report and accounts of 39 non-financial firms over the period 2008-2018. The findings reveal that, board composition, and board size has a significant positive effect on dividend pay-out ratio of non-financial firms in Nigeria, while board diversity was found to have negative but insignificant effect on dividend pay-out ratio. Based on the findings, the study conclude that board composition and board size is associated with high dividend pay-out ratio, while board diversity has no association with dividend pay-out ratio.*

**Keywords:** Board characteristics, Dividend pay-out ratio, Listed companies

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### **1. Introduction**

The business activities of companies are very important for economic growth and development and providing the goods and services that are needed by the public for improving the welfare of the citizenry. (Kehinde & Olanrewaju, 2010). Investments in the listed companies are expected to yield good returns which in turn will benefit investors and the economy as a whole. According to Mallin (2007), corporations require growth and development in a bid to attract funding from investors and potential investors. Before the investors invest in a firm, they want to be sure that the business in which they will invest their money is financially stable, economically viable, and secured and has the ability to generate profit. For the success of any investment in Nigeria or any other economy, the government is expected to create a conducive business environment that guarantee safety, enables profit making and increase investor confidence (SEC, 2011).

Dividend policy is the determination of the amount of earnings to be distributed to shareholders and the amount to be retained (Kurfi, 2003). It is vital for investors, managers, lenders, and other stakeholders. It is important for investors because they consider dividends not only as a source of income but also a way to assess the firms' future prospect. It is also the way of assessing the ability of a company to generate positive cash flow (Al-Masum, 2014).

The separation of ownership from management creates conflict between managers and shareholders as managers can use their control over the firm to achieve personal objectives at the expense of the shareholders. Thus, the motive of managers is to retain resources for personal use instead of paying dividend to the shareholders (Jenson & Meckling, 1976; Easterbook, 1984; and Torabi, 2014).

Board structure has been identified as a mechanism that is employed to reduce the agency cost that arises as a result of the conflict of interest between managers' and shareholders. It is a mechanism and means of creating balance between shareholders and management in order to reduce agency problems, which will in turn reduce the probability that managers pursue sub-optimal, dividend policy (Fakhari & Yosofalitabar, 2010). Board characteristics refers to those attributes of the board that determine the effectiveness of the director's duties such as board composition, size, gender, ownership, tenure, nationality, age and social/cultural identities within a specific corporation (Farouk, 2018). Board characteristics with respect to board composition, board size, board gender, board ownership and board nationality have drawn scholars' attention in recent times due to its effect on dividend policy.

When board members are composed of more non-executive directors, companies would be willing to pay more dividends, because non-executive directors represent the shareholders effectively and ensure the protection of their right in the company (Belden, Fister & Knapp, 2005). While Kurawa and Ishaku (2014) find that board independence does not have a significant relationship with dividend policy in the listed deposit money banks in Nigeria.

Furthermore, previous researches have a conflicting view about the size of the board and its influence on dividend pay-out policy. Researchers such as Abdelsalam, El-masry and El-segini (2005) and Nuhu (2014) find that firms with more members on the board monitor management in a better way and ensure that shareholders interest are promoted, thus result in higher dividend pay-out. While

others such as Jensen (1993) and Homayoun and Rahman (2010) find that small board size of four to six members may be more effective since they are able to make effective communication and well-timed strategic decisions thereby enhancing performance and improving dividend payment.

Consequently, there is increasing advocacy for inclusion of women on the board, because it has a positive effect on corporate decision. Evidence from literature provides that, female directors play important role in influencing dividend decision (Carter, D'Souza, Simkins & Simpson, 2010). Similarly, Byoun, Chang & Kim (2013) find that a significantly larger portion of firms with female directors tend to pay higher dividend. However, Consuelo, Martinez and Bel-oms (n.d) find that the percentage of shares held by female directors on the board has no effect on the decision of the firm to pay or not to pay dividend. Hence, the needs to examine the effect of board gender on dividend pay-out policy of listed non-financial firms in Nigeria.

Failure of corporations to pay dividends to their shareholders has been evidenced amongst companies in Nigeria and this suggests that a return on investment is fast becoming a key challenge to shareholders in Nigeria. According to Bello (2018) quoting from the NSE report of 2017, eightyfour (84) companies listed on the Nigerian stock exchange have not paid dividend to their shareholders over the past five years, which represents 49 present of the 171 companies listed on the daily official list of the NSE as at March 2017.

The question is, despite the presence of the board of directors in the non-financial sector there are companies that have not been paying dividend to their shareholders for over five (5) years while directors emoluments and allowances were increased within the same period, as such it is important to examine the impact of board characteristics on dividend policy of listed non - financial firms in Nigeria. Hence, this study is embarked upon with the aim of finding out how board of directors will improve payment of dividend in the listed non - financial firms in Nigeria.

Empirically, studies on the relationship between board characteristics and dividend policy documented mixed results. Vafeas (1999); Daily and Dalton (2003); Vineeta (2011); Sharma (2011); Abor and Fiador (2013); Ranti (2013); Mansourinia et al (2013) and Uwalomwa, Olamide and Francis (2015) find that board characteristics are positively related with dividend policy of firms. While Agrawal and Knoeber (1996); Devi (2010); Asamoah (2011); Kurawa and Ishaku (2011); Bolboi (2012);

Boumosleh (2012); Ajanthan (2013); Nuhu (2014); McGuiness, Lam and Vieto (2015) and Tijjani and Ishaku (2015) documented that board characteristics do not have a significant positive impact on dividend policy of firms. Therefore, this study investigates the empirical relationship between corporate board characteristics and dividend policy of listed non-financial firms in Nigeria using agency theory. This study uses data of all listed non-financial firms in Nigeria for the period 2008-2017. The time frame would address enough changes in the economy. The study would contribute to the empirical literature on board characteristics and dividend policy in emerging markets, with particular reference to Nigeria thus adding fresh insights on the matter and extend the frontiers of knowledge.

The remainder of this paper consists of four sections. After the current section, section two is the literature, section three is methodology used in the study, section four is result and data analysis and finally, section five is conclusion of the study.

## **2. Literature Review and Hypotheses Development**

Board characteristics have a link to dividend policy in a way that the effective and active board of directors can play a vital role in enhancing dividend policy, hence protecting the interest of shareholders. This study reviewed studies that looked into the effectiveness of board structures (e.g. board composition, board size, and board gender diversity) and how they react to dividend decision.

### ***Board Composition and Dividend Policy***

The board with a significant proportion of independent directors is more effective in monitoring management and, therefore, they can mitigate the agency conflict and improve the dividend pay-out. Rozeff (1982) argues that independent non-executive directors may act as a monitoring device on the firm's managers, thus dampening in principle, the need for higher dividend pay-out. If independent directors are an effective monitoring device, then board independence and dividend policy should be substitutes in the monitoring of agency problems.

Opeyemi, Olusegun, Olukayode and Olusola (2018) examine the factors that influence the dividend policy in Nigeria deposit money banks. The research uses sample of 15 Nigerian deposit money banks listed in Nigerian stock exchange during 2006 until 2015. The sample selection is based on census sampling technique. The research uses panel data regression to hypothesis testing. The result of the research shows that board independence has positive impact on the dividend policy. On the other hand, empirical study's findings revealed that board

independence is negatively related with dividend policy. Pahi and Yadav (2018) empirically revealed that non-executive directors significantly and negatively determined the dividend pay-out ratio of 360 Indian non-financial and non-utility companies included in BSE 500 index from 2012 to 2016 using Tobit and Logit regression models. Similarly, Asmoah (2011) revealed that a negative relationship exists between board independence and dividend policy. The result implies that when the board is largely dominated by non-executive directors, it reduces the propensity of the firm to pay dividend. In the same vein, Abdelsalem, Elmasry & Elsegini (2008) investigation suggest that the relationship between board independence and dividend policy is negative and significant.

In addition, existing studies on the relationship between board independence and dividend policy have reported insignificant results. This is evidenced in the research conducted by Tahir, Aslam & Akhtar (2014) which do not provide any significant effect of board independence on dividend policy. Ajanthan (2012); and Mansourinia, Emamgholpour, Rekabdarkolei & Hozoori (2013) documented similar findings in which they provide no empirical support of independent directors in influencing boards to pay higher dividend. Also, Abdelsalam, *et al* (2008) does not find any significant impact of board independence on the dividend policy of 50 most active companies in Egypt.

**H01:** Board Composition has no effect on dividend policy of listed non-financial firms in Nigeria.

### ***Board Size and Dividend Policy***

Large boards are more effective in monitoring management action thereby improve the dividend pay-out. Pahi and Yadav (2018) examine the role of corporate governance in determining dividend policy of 360 Indian non-financial and non-utility companies for the period 2012-2016. A Tobit and Logit model was used to analyze data. It was found that board size significantly and positively affected the dividend pay-out ratio of the sampled firms.

Elmagrhi, Ntim, Crossley, Malagila, Fosu and Vu (2017) provide evidence that the level of dividend pay-out is positively related with size of the board which suggests that large boards are more effective in monitoring and encouraging managers to follow wealth maximizing policies, including paying shareholders larger dividends. Similar findings were recorded by AL-Najjar and Kilincarslan (2016) for board size in Turkey using a sample of 264 firms between the periods 2003-2012.

Adamu, Ishak and Hassan (2017) examine whether there is relationship between board structures and dividend policy of non-financial firms in Nigeria. Their evidence revealed that board size is significantly and positively associated with the decision to pay dividends. The study did not show evidence of normality and multicollinearity test to ascertain the correctness of the estimation and hence the validity of the findings.

On the other hand, empirical study's findings revealed that a negative relationship exist between board size and dividend pay-out policy. Opeyemi, Olusegun, Olukayode and Olusola (2018) found a negative relationship between board size and dividend policy of 15 Nigerian deposit money banks spanning 2006-2015. Bolbol, (2012) and Subramaniam & Susela (2011) empirically revealed that dividend is weaker for firms with a large board size. Abor and Fiador (2013) examine the effect of corporate governance on firms' dividend pay-out policy using 177 Nigerian firms 1997-2006. They found that there is a negative and significant association between board size and dividend pay-out and conclude that Nigerian firms pay low dividend in order to reduce cost of external finance.

From another dimension, other researchers documented that Board size has no significant influence on dividend pay-out policy (Yarram, 2010). In a similar vein, empirical studies on the relationship between board size and the dividend policy have reported insignificant findings. Such as a research conducted by Ajanthan (2013) Arshad, Akram, Amjad & Usman (2013) and Asamouh (2011). While Kurawa & Ishaku (2014), reveals that board size has insignificant effect on dividend policy. Tahir, Aslam & Akhtar (2014) and Alias, Yaacob, Rahim & Nor (2016) failed to find any significant relationship between board size and dividend policy. Also, Amina (2015) failed to find any significant relationship between board size and dividend level for non-Sharia compliant firms and Shariah compliant firms in Saudi Arabia between the periods 2007 to 2010. From the above review it can be concluded that if the number of directors will increase, it will also increase the dividend pay-outs.

**H0<sub>2</sub>:** Board Size has no effect on dividend policy of listed non-financial firms in Nigeria.

### ***Board Diversity and Dividend Policy***

Female Directors can increase effectiveness of board control, as they are presumed to be more strict and trustworthy than their male counterparts. Their participation

in board governance can help to avoid risky projects, as they are generally more financially risk-averse than men as most companies select female into board based on the resource to which they can provide (Hillman & Canella, 2007). Similarly, Daily and Dalton (2003) maintained that, the presence of female on board might add unique perspectives, experience and work styles compared with their male directors. They further suggested that, female on board room may have important signalling effects to stakeholders. Thus female on board have a positive effect on corporate decision. In line with these, the Alliance for Board Diversity (ADB) argued that female directors enhance corporate performance due to their provision of creative and fresh ideas. Also Carter et al (2010), argue that female directors play a role in influencing dividend decision.

In contrast, Mc Guinness, Lam and Vieto (2015) investigate the association of the gender of Chief Executive Officers and dividend policy using more than 9,000 firm observations in China. They found a little difference in the dividend distribution of female and male led Chinese firms implying that, female director has a limited association with dividend pay-out policy. Thus, the result is not consistent with a lingering perception in the investment literature that female are significantly more risk-averse than men. In the same vein, Consuelo, Martinez and Bel-oms (n.d) studied the relationship between gender diversity and dividend policy of non-financial firms listed on Madrid stock exchange for the period 2004 – 2012. The result shows that, the percentage of shares held by female directors on board of directors has no effect on the decision of paying dividend or not.

**H0<sub>3</sub>:** Female Director has no effect on dividend policy of listed non-financial firms in Nigeria.

### **3. Methodology and Models**

This study examines the relationship between board characteristics and dividend policy of listed non-financial firms in Nigeria. Data were obtained from the annual reports and accounts of the listed 39 non-financial firms in the Nigeria Stock Exchange (NSE) for the period of ten (10) years 2008-2018. Multiple regression technique using panel data methodology was found suitable and thus employed in the analysis of data. The study consists of the dependent and explanatory variables. The dependent variable is measures as follows.

DPR: This is dividend pay-out ratio and is measured using Dividend per share to earnings per share in accordance with the study of Kurawa & Ishaku (2014).

The explanatory variables include three independent variables and two control variables. The independent variables are: Board composition (BC) defined and measured as Ratio of non-executive director to total number of directors; Board size (BS), defined and measured as total number of board members; Board diversity (BD), measured as the number of female on board over the total number of board members. The two control variables are Dividend lag (DDL) measured as the previous year’s dividend and Leverage (LEV) measured as the ratio of total debts to total assets. Preceding year dividend was captured by the linter (1956) model as the most important determinant of a company’s dividend policy and has been proven by several empirical and survey researches such as Fama and Babiak (1968), Adelegan (2000), Fodio (2005) and Fodio (2019). This justifies the inclusion of this variable in the study. Leverage was introduced as control variable because it becomes difficult for firms to distribute dividends when they have high debt liquidity towards other firms and institutions. Based on these variables, the empirical results are thus based on the following regression model;

$$DPR_{it} = \beta_0 + \beta_1 BC_{it} + \beta_2 BS_{it} + \beta_3 BD_{it} + \beta_4 DDL_{it} + \beta_5 LEV_{it} + e_{it} \dots \dots \dots \text{equation. 1}$$

**Where:**

- DPR = Dividend Pay-out Ratio
- BC = Board Composition
- BS = Board Size
- BD = Female Director
- DDL = Preceding Year Dividend
- LEV = Leverage
- $\beta_0$  = Constant
- $\beta_1 - \beta_5$  = Coefficient of explanatory variables
- e = Error term
- it = Non-financial firms and time (Panel Indicator)

Data collected was first analysed using descriptive statistics where the correlation co-efficient is used to determine the strength and the direction of the variables under the study especially the correlation between the dependent and each of the explanatory variables. This is because, it will give an insight as to if multi-collinearity could exist even though Variance Inflation Factor (VIF) test will be conducted to ascertain the true nature of the collinearity of the variables (Wooldridge, 2011).

**4. Results and Discussion**

**Table 1: Correlation Matrix of the Variables**

Variables	DPR	BC	BS	BD	DDL	LEV
DPR	1.0000					
BC	-0.1098	1.0000				
BS	0.1726	-0.0041	1.0000			
BD	0.0700	-0.2966	-0.0533	1.0000		
DDL	0.1276	-0.3443	0.1335	0.2164	1.0000	
LEV	0.0015	0.1243	0.0769	0.0903	0.0348	1.000

**Source:** Author’s compilation generated using STATA, 2020

It should be noted that the value of correlation coefficient ranges from 1.0 to -1.0. The coefficient 1.0 on the matrix (diagonal) indicates that a variable has a perfect and strong positive linear relationship with its self, while -1.0 indicates the presence of a perfect strong and negative association. However, correlation coefficient value that lies between 1.0 and -1.0 depicts a moderate relationship and a weak relationship.

From table 1, the relationship between board composition and dividend pay-out ratio is negative and weak with correlation coefficient of -0.1098. There is a positive and weak relationship between board size and dividend pay-out ratio with a correlation coefficient of 0.1726. A positive and weak relationship exists between board diversity, and the dividend pay-out ratio with correlation coefficient of 0.0700. The relationship between dividend lag and dividend pay-out ratio is found positive with a coefficient of 0.1276 and lastly, the relationship between leverage and dividend pay-out ratio is also found to be positive and weak with a correlation coefficient of 0.0015.

**Robustness Tests**

The results are presented in Table 2 below.

**Table 2: Results of Robustness Tests**

Variables	VIF	1/VIF
BS	1.03	0.968626
LEV	1.05	0.968626
BD	1.14	0.876700
DDL	1.18	0.845215
BC	1.24	0.805188

Hettest	Chi2	5.61
	Prob>Chi2	0.0179
Hausman	Chi2	6.46
	Prob>Chi2	0.2674
Langrangian Mult.	Chi2	436.68
	Prob>Chi2	0.0000

**Source:** Author’s compilation generated using STATA, 2020

One of the key aspect of data analysis which improve the reliability of the result is the robustness tests. This is done to give the inferences more credibility. In addition, other post estimation test are also considered in this section. These post estimations include:

**Multicollinearity Test**

This test was conducted in order to check whether there is a high inter-correlation between the independent variables. If there is a presence of high multicollinearity in the data, then the statistical inferences made about the data may not be reliable and it becomes difficult to reject the null hypothesis of the study. The multicollinearity can be detected using Variance Inflation Factor (VIF). While some of the scholars are of the opinion that the range of VIF should be from 1 to 10, others are of the opinion that it should be a range of 1 to 5. For the purpose of this study, the range of 1 to 10 is considered for the VIF of the independent variables and inverse should be greater than 0.1. These independent variables include Board Composition (BC), Board Size (BS), and Board Diversity (BD). The VIF for these variables presented in table 2 above is less than 10 and the inverse VIF values are greater than 0.1.

**Heteroskedasticity Test**

This test was conducted to check whether the variability of the error terms is constant or not. If heteroskedasticity is present in the model Fixed or Random Effect regression in addition to Ordinary Least Square (OLS) may not be suitable for the analysis and could be considered insufficient to minimise variance estimator. The result presented in table 2 above reveals that there is a presence of heteroskedasticity because the probability of the chi square is statistically significant at 5% indicating that the model is not homoskedastic. This suggests that whichever model is chosen by Hausman Test be it Fixed Effect or Random Effect regression will not be suitable for this study. To overcome the shortcomings of either Fixed Effect or Random Effect in the presence of heteroskedasticity

therefore, this study could use Panel Corrected Standard Error (PCSE) or Generalize Least Square (GLS) model for Fixed Effect and Random Effect respectively.

**Hausman’s Specification Test**

The result of the Hausman’s test is presented in Table 2. This test was carried out to determine which model among random and fixed is appropriate. Hausman’s test is conducted to select between two models which considered by this study. The models include random effect and fixed where the hausman’s test will prove which model among the two is more appropriate thus, the parameters ( $\beta$ ) of the chosen model is said to be more reliable as compare to the other model. Going by the result obtained from the test on Table 2 the probability which is 0.01 shows is not statistically significant. Thus, this study failed to reject the null hypothesis that the random effect is an appropriate model.

**Lagrange Multiplier Test**

Since the random effect is selected based on the hausman’s test therefore, there need for more comparison between the random and pooled model which is done using the Lagrange Multiplier test. Considering the pooled as the null hypothesis where the random effect is the alternate hypothesis therefore, where Lagrange Multiplier test is significant the study will go for random and ignore pooled as seen in Table 2. Thus, the random is chosen as the Lagrange Multiplier test is significant. Meanwhile, the random effect regression results of estimation techniques are presented in Table 3 below.

**Table 3: Random-Effect GLS Regression Results**

Variables	Coefficient	Z Statistics	Z Sig
Constant	0.3935	9.05	0.000
BC	0.0733	0.60	0.049
BS	0.0030	0.33	0.002
BD	-0.0077	-0.20	0.984
DDL	0.0013	1.58	0.114
LEV	-0.2481	-2.50	0.012
<b>R<sup>2</sup></b>	<b>0.1762</b>		
<b>Wald Chi2</b>	<b>43.86</b>		
<b>Prob&gt;Chi2</b>	<b>0.0000</b>		

**Source:** Author’s compilation generated using STATA, 2020

Table 3 shows the Random effect regression result of dependent variable represented by dividend pay-out ratio and independent variables, which include board composition, board size, and board diversity. It is worthy of note that the wald  $\chi^2$  for F-statistics. The cumulative  $R^2$  of  $0.1762 \cong 17\%$  for the variables which is the multiple coefficient of determination, gave the proportion of the total variation in the dependent variable as explained by the independent variables jointly. Hence, it signified that 17% of the total variation in dividend pay-out ratio of listed non-financial firms in Nigeria is caused by the proportion of its composition in terms of ratio of non-executive director to the total number of board members, the size of board of directors, and female directors on the board (board diversity) used in the study.

Board composition recorded a Z-value of 0.60, while the coefficient in respect of Board composition is 0.0733 which is significant at 5% level of significance. This implies that board composition has a significant positive effect on dividend pay-out ratio of non-financial firms. This also signifies that that for every increase in the number of non-executive directors on board, the dividend pay-out ratio of non-financial firms' increases by the coefficient value. This is in line with the assumption that non-executive directors influence board to pay higher dividend. This finding is in line with those of Rozeff (1982), Opeyemi et al (2018) and Adamu et al (2017) but contrary to those of Tahir et al (2014), Ajathan (2014) and Masourinia et al (2013).

The result in respect of board size as shown on Table 3 has Z-value of 0.33, a coefficient value of 0.0030 and p-value of 0.002 which is significant at 1% therefore, board size has a significant positive relationship with dividend policy among non-financial firms in Nigeria. This indicates that board size has positive effect on dividend pay-out ratio of listed non-financial firms. This implies that for every increase in the number of board members, there is significant increase in the dividend pay-out ratio of listed non-financial firms. This may be as a result of the argument put forward by previous researchers that large board are more effective in monitoring and encouraging managers to follow wealth maximizing policies. This suggests that having larger boards increase performance and will in turn increase dividend payment. The finding of this study is in line with the studies of Pahi and Yaday (2018), Elmagrhi (2017) and Al-Najjar and Kilinarslan (2016) but dissimilar to those of Bolbol (2012).

Table 3 reveals that the Z-value for female director was -0.20, while the coefficient in respect of female director was -0.0077 with p-value of 0.984. This implies that female director has negative but insignificant effect on dividend pay-out ratio of non-financial firms. The finding of this study is in line with those of Lam and Vietor (2015), but contrary to the findings of Daily and Dalton (2003).

## 5. Conclusion

The expectation from this study in favour of the title is proved beyond reasonable doubt base on the evidence from listed non-financial firms in Nigeria for the period 2008-2017. Therefore, board characteristics (board composition and board size) influence dividend payment in Nigeria. Board composition has a significant positive effect on dividend pay-out ratio of non-financial firms in Nigeria. This implies that non-executive directors influence board to pay higher dividend. The study also provides evidence that a resultant increase in the number of board members will lead to an increase in the dividend pay-out ratio of listed non-financial firms in Nigeria. Increase in board diversity leads to an insignificant decrease in dividend pay-out ratio of listed non-financial firms in Nigeria. This implies that female director has negative but insignificant effect on dividend pay-out ratio. This could indicate that female directors have no impact on corporate decision.

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## FIRM ATTRIBUTES AND EXECUTIVE COMPENSATION OF CONGLOMERATES IN NIGERIA

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### **Abstract**

*Executive compensation, particularly in the western countries has over the years received intense media and research interest particularly from the occurrence of large corporate failures. This brought to the fore, the seemingly huge compensation been received by the Executive Directors irrespective of the nature of the performance of the companies they manage. This study examined the impact of firm attributes on executive compensation using panel data from a sample of six listed conglomerates in Nigeria for a period of nine years (2010-2018). Ordinary least square (OLS) was used as technique of data analysis. The findings revealed a positive and significant impact of firm financial performance (that is: return on asset and return on equity) on executive compensation while executive ownership had a negative and significant effect on executive compensation of listed conglomerates in Nigeria. The study concluded that firm financial performance and executive ownership impact on the quantum of compensation paid to the Executive Directors, while institutional ownership, board composition and board size does not significantly. Therefore, it is recommended that the listed conglomerates in Nigeria should improve the design of the compensation of the Executive Directors with financial incentives and stocks (equity) as it will enhance the maximization of the shareholders' wealth.*

**Keywords:** Executive compensation, ROA, ROE, Institutional ownership, Executive ownership, Board composition, Board size and Conglomerates firms

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### **1. Introduction**

Corporate governance is involved with methods in which all events interested in the well-being of a company try to make sure that managers and different insiders take measures or undertake mechanisms that safeguard the interests of shareholders. Such measures are necessitated because of the separation of ownership from management, which is an increasingly essential feature of the cutting-edge firm, mainly the conglomerate companies, in which the executive directors are involved in dealing with varied operations. When dealing with a firm,

Executive Directors may also act of their satisfactory interest rather than the interest of the company's owners (shareholders). For instance, the managers may take steps to increase the dimensions of the firm in conjunction with their pay, which won't necessarily increase the profitability of the company they manipulate (the primary problem of the shareholder). One of the methods to cope with the issues springing up from the foremost-agent relationship, is to see how some attributes of the company together with monetary overall performance, ownership structures and board characteristics influence the compensation been received with the aid of the Executive Directors (Ibrahim, 2011). Since firm commonly has various classes of shareholders and no longer all of them will either be targeted same records set or have the ability to monitor or look at perfectly the moves of Executive Directors, therefore it is paramount to offer them with incentives to take moves which are within the nice interest of the shareholders.

Several researchers like Gorre (2011) are of the view that executives' reimbursement plans ought to be designed in a way that it's going to align the pastimes of self-interested executive officers with those of shareholders. Thus, the plans must have incentive schemes that make executive compensation a feature of firm financial performance. The incentive schemes should additionally result in an extensive relation among executive repayment and firm monetary overall performance, which can be inspired with the aid of the mechanisms of corporate governance. However, in keeping with their perspectives, Conyon & Leech (1994) documented that the incapability for earlier studies to file a sizable pay-performance link can be attributed to the non-inclusion of ownership structures and board traits in studying executive compensation. For this reason, this study included Institutional and Executive ownership along with board composition and size as board characteristics.

The arguments concerning executive compensation/incentives are not the simplest manner to resolve the enterprise problems, however also wanted a scrutiny mechanism of corporate governance to address the leading controversies. Without corporate governance mechanisms, Executive Directors are able to freely carry out moves that pursue their non-public interest and such profits through the Executives are constantly detrimental to the shareholders' interest. In this context, governance mechanisms are needed to determine the quantity of executive reimbursement and overall performance tracking undertaken by way of management (Kim & Nofsinger, 2007).

Ownership structure and board of director characteristics play an essential position in addressing organization hassle. When business enterprise ownership is diverse, then ability for sub-most effective stage of tracking exists, since an individual shareholder is unable to absolutely appropriate the gains from the monitoring feature. The size and composition of board of directors also serve as a vital mechanism for setting executive compensation and act on behalf of the shareholders in representing their interest. But where Non-Executive Officers dominates the board, they are much more likely to bring more breadth of know-how to the firm, by monitoring and controlling the managers' action.

The obliging question for the average Scholars on firm financial performance, ownership structures, board characteristics and executive compensation studies, is whether the compensation of executive officers reflects economic performance of the company they manage. However, despite a large volume of researches that have been conducted by some notable researchers on this discourse, some of which include the work of Jensen & Murphy (1990), Conyon & Leech (1994), Ozkan (2007), Gregg, Jewell, & Tonks (2010) and Muhammed (2015), to find the answer to the question raised above, yet there is no real consensus on their findings.

In Nigeria, the study is also aware of a clear gap in the empirical research on this area. It is likewise discovered that to the quality of the researchers' understanding, few studies of the aforementioned area focused exclusively on banks, with Ayodele (2012) and Kurawa & Saidu (2014) discovering a direct and significant relationship between executive compensation and financial performance while Muhammed (2015) found no relationship. This necessitated this study to be carried out in the non-service firm with inclusion of corporate governance variables (ownership structure and board characteristics). This study focused on listed conglomerates in Nigeria, because the researcher identified a suitable context in which managers might take steps to increase the size of the firm along with their pay, which may not necessarily increase the profitability of the entity they manage. This is so, if one considers the inter-woven relationships between the mother corporations and their subsidiaries both of which can be indexed inside the stock exchange.

The foremost objective of this study is to examine the impact of firm attributes on executive compensation of indexed conglomerates in Nigeria, while the precise targets are to study the effect of:

- i. Return on asset on executive compensation of listed conglomerates in Nigeria.

- ii. Return on equity on executive compensation of listed conglomerates in Nigeria.
- iii. Institutional ownership on executive compensation of listed conglomerates in Nigeria.
- iv. Executive ownership on executive compensation of listed conglomerates in Nigeria.
- v. Board composition on executive compensation of listed conglomerates in Nigeria.
- vi. Board size on executive compensation of listed conglomerates in Nigeria.

In line with the targets of the study, the following null hypotheses were formulated:

- H<sub>01</sub>: Return on asset has no significant impact on executive compensation of listed conglomerates in Nigeria.
- H<sub>02</sub>: Return on equity has no significant impact on executive compensation of listed conglomerates in Nigeria.
- H<sub>03</sub>: Institutional ownership has no significant impact on executive compensation of listed conglomerates in Nigeria.
- H<sub>04</sub>: Executive ownership has no significant impact on executive compensation of listed conglomerates in Nigeria.
- H<sub>05</sub>: Board composition has no significant impact on executive compensation of listed conglomerates in Nigeria.
- H<sub>06</sub>: Board size has no significant impact on executive compensation of listed conglomerates in Nigeria.

It is believed that the empirical evidence of this study could enable the committee concerned with setting or designing the executives' compensation, in such a way that will align the interests of self-involved Executive Directors with those of shareholders. It will also enable the regulatory authority (SEC) to examine whether corporate firms are implementing the disclosure requirement of executive officers' full remuneration. Finally, in line with the findings of preceding research, findings of this studies work will certainly add to the growing frame of know-how and constitutes basically the contribution of the studies.

The remaining part of this study is prepared as follows: Section two provides the overview of the relevant literature concerning the subject matter and the theoretical framework. Section three dealt with the methodology adopted for the purpose of

this study. Section four centered on the discussion of the results. While conclusion and recommendations are presented in section five.

## **2. Theory and Practice**

### **Firm Financial Performance and Executive Compensation**

Early empirical study on top executive pay and performances is credited to Lewellen & Hunstain (1970). Their work found a high level of direct relationship between executive compensation and profits as well as stock value of firms. The key pitfall of this study lies in the fact that the study focused on profitability as against other performance parameters.

Jensen & Murphy (1990) explored CEO compensation and company overall performance for a duration of thirteen years ranging from 1974 – 1986. 1295 US firms were taken into consideration over the length of the study. The study utilized an all-inclusive estimate of the pay for overall performance sensitivity (PPS), and also took into consideration; compensation, dismissal and stockholdings. They used the PPS to measure the effect of total compensation which represents the proportion of the share of the CEO in wealth creation. Their findings discovered that, the relationship between pay and performance is not significant. The study found firm length to be an important determinant of the PPS. The study indicated that CEOs in small companies tend to acquire more stock and have more compensation based incentives, which will result to high PPS. They concluded that the discoveries are at variance with agency theory and optimal contracting. Even though a direct relationship between CEO pay and firm overall performance exists, the relationship is not significant to play an important role as a solution to the agency problem.

In a cross sectional study, Ruge-Murcia (2005) investigated the effect of CEO cash compensation and total compensation against distinctive performance measures (i.e. earnings per share, return on equity, return on assets, and net profit margin), in a collection of listed 168 Canadian companies in the course of 2003. The results of the study showed that EPS, ROE, ROA and NPM were all positive and statistically related to CEO compensation, at various levels of significance. The major setback with this cross sectional study is the exclusion of time period (panel data) that could have enabled the researcher in observing changes in level of executive compensation in line with the performance measures.

Hojen (2007) moved away from using salary or cash compensation or total compensation in measuring executive compensation, but based this study on equity-based compensation and firm performance, within 1998-2006 for the sample of listed Danish companies. Return on Assets (ROA), Return on Equity (ROE) and Tobin's Q were applied in measuring performance, while stock options, warrants and employee shares were used for equity-based compensation. The empirical investigation of ROA, ROE and Tobin's Q as overall performance proxies, showed that there are no significant effects from compensation program adoption on an entity operational performance, when comparing pre-adoption performance with post-adoption performance for the sample of listed Danish companies. By differentiating the time period for measuring performance proxies from security price analysis and reporting of the findings as a whole could be deceptive but rather individual model should be formulated and tested.

Duffhues & Kabir (2008) found a significant negative relationship between total pay and company performance. The study was based on the compensation of the entire board of directors that was collected from 135 sampled Dutch firms during the period 1998-2001. Both accounting and market-based performance measures were used (ROA, ROS and annual stock return), while executive compensation was measured as cash and total compensation. A lagged performance degree was used to account for the executive compensation on the premise that the executive pay in one year is usually determined by previous year's company performance; but this may not capture the total performance effect as the executive directors are extra worried with lengthy-run interest of concerned company.

Aduda (2011) examined the relationship between executive compensation and firm performance on indexed banks at the Nairobi Stock Exchange. The study considered practical form relationship between the level of executive remuneration and accounting performance measures through using a regression model that relates pay and performance. A non-significant indirect relationship was obtained between ROA, ROE in opposition to executive compensation and that accounting measures of performance are not key considerations in determining executive compensation among the banks in Kenya and that size is a key criterion in determining executive compensation because it was significantly but negatively related to compensation. The negative relationship suggested the capping of executive compensation to ensure maximization of returns to shareholders.

In a structured questionnaire consisting of 25 items as tool for statistics collection and analyzing the data using chi-square technique, Ayodele (2012) examined the effect of executive compensation structure and ownership on firm performance. The findings of the analysis revealed that there is a strong relationship between management ownership and bank's market value. Although, the finding shows that executive compensation structures do not affect bank's market value. The study also revealed that among larger commercial banks, size is a key factor in determining executive compensation as reported by Jensen & Murphy (1990) who found it to be significantly but indirectly related to compensation. Therefore, there is need to reign in the executive compensation inclination in smaller banks to favour bigger shareholders who equal as bank directors to the detriment of returns and smaller owners of the bank. The study relied solely on primary data which could be subjective when compared to secondary data that has a level of validity, reliability and objectivity as used by this study.

Kurawa & Saidu (2014) in their study examined the impact of top executive compensation on financial performance of Nigerian banks using causal research design, where they quantified board remuneration as a function of capital adequacy ratio, profit before tax, return on assets and return on equity. The study found a direct and significant link between executive compensation (excluding non-executive directors) and the profit before tax of the sampled banks. That study is one of the few published studies on executive compensation and firm performance in Nigeria, but it assumed not to include any corporate governance variables like board's composition, audit committees size, duality of board, that the study believed to have significant influence on compensation contract.

Muhammed (2015) investigated the controversy as to whether executive compensation in Nigerian Money Deposit Banks (MDBs) can be explained by the underlying performance of the banks they are managing and thus a reflection of optimal contracting or managerial power. The study sampled nine deposit money banks over the period 2006-2012, and the findings of the study showed that ROA, board size, board independence, and other board members' percentage stock ownership are not significantly related to pay and it reaffirms that CEO pay in Nigerian MDBs is not based on performance, but favored a managerial power view of CEO pay. The study assumed the highest pay disclosure to represent its CEO pay which could not be so but to other directors, which can be due to executive characteristics such as tenure or gender.

### **Institutional Ownership and Executive Compensation**

Ownership structures play a great role in changing the executive pay-for-performance relationship. Institutional ownership has both the motivation and power to compel managers to act in consonant with value maximization objective of a firm. Noe (2002) suggested that massive shareholders have incentives to monitor activities of managers, resulting in a higher firm value. While Ozkan (2007) is of the view that large shareholdings can allow institutional investors to exert greater impact on corporate issues.

Hartzell & Starks (2003) found that institutional ownership concentration is positively related to the pay-for-performance sensitivity of executive compensation and negatively related to the level of compensation of non-banking firms; this suggests that institutional ownership might serve as monitors that mitigate the agency problem. Conclusions were drawn that firms with more concentrated institutional owners pay executives less and make this pay more sensitive to performance (i.e. lower cash-based pay, and lower direct compensation).

Shehu (2011) noted that institutional ownership emerged as an important tool for protecting minority interest. This is because large institutions have the opportunity, resources and ability to constrain managers' behaviour and they also represent ownership concentration in some cases because of their ability to make bulk purchases of the firm's equity shares.

In a broader study, Suherman, Rahmawati & Buchdadi (2011) investigated on the question of whether firm performance and corporate governance mechanisms are determinants of executive compensation. The research employed panel data and sampled 13 financial companies listed during the period 2007-2009 on Indonesian Stock Exchange. The result showed that firm performance measured by ROA and institutional ownership significantly affects the executive compensation. In furthering the study of Hartzell & Starks (2003), Smith & Swan (2013) critiqued the aforementioned researchers' results, as so sensitive with respect to the use of firm size as a control variable, because they measured institutional holdings as a fraction of institutional share ownership, and managerial option grants as a fraction of total market capitalization. Smith & Swan (2013) study covered nineteen years (1992 to 2010) and found that institutional concentration has no such effects when firm size is controlled for with a logarithmically transformed market capitalization, instead of Hartzell & Starks (2003) raw market capitalization. They concluded that institutional shareholdings are not associated with executive pay, which the

researchers ascribed to other factors such as, firms been perfect in monitoring the executives by paying them correctly, or because of heterogeneity in monitoring (e.g., the corporate board), or because firms are never able to monitor effectively (and overpay) although the researchers were not consistent as of their justification to their findings.

It is evidenced that prior study's findings on the impact of institutional ownership and executive compensation are inconclusive, as differences were recorded from their findings and focus were exclusively on financial firms but the focus of the present study is on non-financial firm.

### **Executive Ownership and Executive Compensation**

Agency costs arise where managers exploit their superior facts to maximize their own utility. Where the CEO has a tangible investment in the company, the separation between owners and managers is minimized and should, in theory, lead to a reduction in agency problems and they essentially become management-controlled-and-owned companies, and therefore are less subject to moral hazard problems (Antle & Smith, 1986).

Canyon & Leech (1994) are of the notion that director ownership can assist in aligning the interests of directors with those of shareholders. That is, with higher director ownership, directors would be likely not to divert resources away from value maximization, as they bear part of the costs of their actions. Thus, one would expect higher director shareholdings might limit excessive CEO compensation packages leading to an indirect relationship between director ownership and CEO compensation (i.e. incentive alignment effect). Hence, the relationship between directors' ownership and the alignment of shareholder and directors' interests can be non-monotonic, meaning that the marginal effect of increased directors' share ownership depends on the current level. At higher levels of directors' ownership, outside investors might find it difficult to monitor the directors' behavior since higher ownership gives directors more direct control over the company, increasing their ability to resist outside investors' pressures. Increased director ownership can also give directors greater voting power and control, which could lead to their entrenchment. Also, higher director shareholdings might inhibit the external corporate control market and, in so doing reduce the effectiveness of internal monitoring.

In another development, Nulla (2013) investigated the connection between CEO cash compensation and CEO power, which was defined as CEO: age, shares

outstanding, shares value, tenure, turnover, 5 percent management ownership, and 5 percent individual/institutional, of 120 companies of NYSE index companies covering the period 2005 to 2010. The result showed that CEO turnover, 5 percent management-controlled and 5 percent owner-managed, had an indirect group firm-sized effect on CEO cash compensation. In contrary, CEO shares, CEO shares value, and CEO tenure had a direct group firm-sized effect on CEO cash compensation. However, CEO age had a mixed group firm-sized effect on CEO cash compensation, but the study excluded non-cash components such as stock options and long-term benefits

From the above reviewed studies, the researchers' views were just on the shares held by the CEOs but this study included all the shares held by the executive directors as they are also involved in the management of the firm.

### **Board Composition and Executive Compensation**

Board composition is one of board characteristics which might be anticipated to play a critical role in synchronizing the interest of the managers and that of the shareholders. Corporate governance structure in Nigeria requires that number of non-executive officers on the board should be more than that of the executive officers. Also, the non-executive officers must comprise of independent directors appointed on the basis of experience and competence. Since the outside directors do not possess any interest regarding the shareholding of a firm, in order to maintain their reputation, they are expected to act in such a manner that maximizes the value of the organization.

Core & Guay (2001) reported a direct relationship between CEO compensation and structure of the board of directors. The study reported that when board composition consists of independent directors (non-executive directors), CEOs have the advantage of receiving a higher compensation. This can be due to the fact that the CEO has some form of affiliation or relationship with nonexecutive directors, which can align compensation advantaged for the CEO.

Fernandes (2005) investigated the determinants of managerial compensation, with emphasis on the relation between compensation and firm performance, along with analyzing the role of non-executive board members in mediating shareholders' and managers' relations and interests. The study sampled 58 companies that were listed in Euro next Lisbon from 2002-2004. The result showed that firms with more non-executive board members pay higher wages to their executives. Furthermore, it also

shows that firms with zero non-executive board members actually have a stronger relationship between executive compensation and firm performance and have a better alignment of shareholders', although the study found no relation between compensation and shareholder's wealth thereby contradicting the finding of Komari & Faisal (2007), who reported no relationship between independent directors and executive compensation.

Suherman *et al* (2011) investigated on the question of whether firm performance and corporate governance mechanisms are determinants of executive compensation. The research employed panel data and sampled 13 financial companies listed during the period 2007-2009 on Indonesian Stock Exchange. The result showed that firm overall performance measured by ROA and the proportion of independent commissioner (independent officers) affect the executive compensation. The period of study is relatively small and the corporate governance mechanisms could have included more variables like remuneration committee and audit committee to examine any possible management of the company's earning.

Muhammed (2015) reported a non-significant relationship between board independence and CEO pay in a study of Nigerian Money Deposit Banks (MDBs) in order to investigate the controversy as to whether executive compensation can be explained by the underlying performance of the banks they are managing and thus a reflection of optimal contracting or managerial power. The study sampled nine deposit money banks over the period 2006-2012. The result of the study was consistence with Core, Holthausen & Larcker (1999) and contradicts Seok, Lee & Kang (2012), because it reported that the more independent a board is, the greater the total, incentive, and fixed pay to the CEO.

### **Board Size and Executive Compensation**

Seok *et al* (2012) investigated the correlation between the quality of boards, and pay allocation of executive teams. Data were collected from Risk Metrics consisting largely of S&P major index firms about the directors from 1996-2006. Their findings showed that board size is negatively related to executive compensation, which is consistent with the study of Faleye, Hoitash & Hoitash (2011), but in contrast to Core *et al* (1999) who reported a direct correlation between board size and CEO compensation with a sample from 1982 to 1984.

In a study of CEO compensation in money deposit banks in Nigeria: optimal contracting or managerial power carried out by Muhammed (2015) to examine

whether CEO compensations are a reflection of the bank's financial performance. Among the results reported, board size was found not to be related to CEO compensation, despite the overall result favouring managerial power to CEO pay. This result contradicts the findings of Gregg *et al* (2011) and Sigler (2011) that found size to be positively associated with CEO compensation, which of course portray the point made by Jensen (1993) that larger boards are ineffective.

The theoretical framework that best explained the relationship among the variables of study is Optimal Contracting Approach of Agency Theory. This theory views executive compensation as a means for enforcing the agency contract between a principal and an agent, and thereby solving agency problems between shareholders and executives, notably through a process of alignment managers' interests with shareholders' interests (Grabke-Rundell & Gomez-Mejia, 2002). In order to motivate executives to perform as effectively as possible and according to the interests of shareholders, risks are transferred to risk-averse executives through incentive-based compensation packages. Consequently, the optimal contract theory considers determination of compensation as a question of "pay design" which will, in the optimal case minimize agency costs. It integrates the agency theory perspective of Jensen and Meckling (1976) that proper incentivization (bonus) of the agent (executive directors) through pay together with appropriate monitoring (ownership structure and board of director characteristics) will make him act in utmost interest of the owners. Thereby, the optimal contracting theory implies that executive compensation contracts are usually bargained at arms' length between the board of directors and the executives; compensation levels would be the output on market forces; and the structure of executive compensation would reflect the intention to provide executives an incentive to act as efficiently as possible from the perspective of the shareholders. In this context, the board of directors is of major importance as it is responsible for structuring the executive compensation packages in the interest of the shareholders and making sure that the executives serve shareholders' interest.

### **3. Methodology and Specification of Model**

The research design employed in this study is correlation design. The preference of the design was informed by the effectiveness of the design in revealing the association of two or more variables and the impact of one variable on another. Data was collected from secondary sources through the use of Nigeria Stock Exchange fact book and financial statement for duration of nine (9) years (2010 – 2018). The population of this study comprises of all six (6) conglomerate firms

listed in the Nigerian stock exchange as at 31<sup>st</sup> December, 2014. The data was empirically analyzed using Ordinary Least Square (OLS) multiple regression techniques with the help of Stata 11.

The model used to test the hypotheses formulated for this study is presented below.

$$EXECOMP_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 INSTOWNS_{it} + \beta_4 EXECOWNS_{it} + \beta_5 BCOM_{it} + \beta_6 BSIZE_{it} + \beta_7 FSIZE_{it} + \varepsilon_{it}$$

Where:

$\beta_0$  = intercept

$\beta_1$ -  $\beta_5$ = Coefficient of the independent variables

*EXECOMP* = Executive Compensation (log of cash compensation of firm ‘i’ in period ‘t’).

*ROA* = Return on Asset (Ratio of net income before interest and tax to total asset value of firm ‘i’ in period ‘t’)

*ROE* = Return on Equity (Ratio of equity value to total asset value of firm ‘i’ in period ‘t’).

*INSTOWNS* = Institutional Ownership (Proportion of share owned by institutional investors to total number of shares of firm ‘i’ in period ‘t’)

*EXECOWNS*= Executive Ownership (Proportion of share owned by the executives to total number of shares of firm ‘i’ in period ‘t’)

*BCOM*=Board Composition (Number of non-executive directors divided by total board size of firm ‘i’ in period ‘t’)

*BSIZE* = Board Size (Number of board members of firm ‘i’ in period ‘t’)

*FSIZE* = Firm Size (Natural logarithm of total assets of firm ‘i’ in period ‘t’)

$\varepsilon_{it}$  = Residual or error term of firm ‘i’ in period ‘t’

#### 4. Result and Discussions

This section dealt with empirical presentation, discussion of data extracted from the annual reports and accounts of the sampled firms as well as the tests of hypotheses formulated earlier in the first section.

**Table 1: Descriptive Statistics**

Variables	Min	Max	Mean	Std. Dev.
EXECOMP	8.22	12.76	10.41	1.22

ROA	-.32	.63	.09	.16
ROE	.02	1.88	.20	.29
INSTOWN	.05	.87	.30	.30
EXECOWN	.00	.40	.06	.12
BCOMP	.5	.91	.67	.11
BFSIZE	5	11	8.52	1.46
FSIZE	14.24	18.24	16.09	.93

**Source:** Author’s compilation generated using STATA, 2020

Table 1 reports the descriptive statistics for the dependent and independent variables respectively (EXECOMP= Executive compensation, ROA= Return on Asset, ROE= Return on Equity, INSTOWN= Institutional Ownership, EXECOWN= Executive Ownership, BCOM= Board Composition, BFSIZE= Board Size, FSIZE= Firm Size). From the table, it can be seen that the executive compensation for the sample of the study was on average of #69 million. The range was however wide as is evidenced by a minimum pay of #3.9 million and a maximum pay of #405 million. However, it may not be possible to infer anything from this range because analyzing the large variation without taking into context issues such as inflation would be misleading. The financial performance of the sampled conglomerate firms as proxied by ROA and ROE averaged .09 and .20 respectively. The maximum and minimum return on equity is 1.88 and .02 which is higher than the return on asset of .63 and -.32.

Institutional ownership represents 30% of shareholders on average. This indicates that majority of the shareholders representing 70% in the conglomerate firms in Nigeria are individuals. Although, the executive ownership could held up to the maximum of 40% shares in the sampled conglomerate firms under study and with a minimum and average of .00 and .06 respectively. The highest number of board size in the listed conglomerates in Nigeria is 11, average of 9 and minimum of 5, which indicates that on average board size, was neither too large nor too small. The non-executive directors have an average of 67% of the board of directors. It also shows that 91% of the directors are non-executive directors while 9% are executive directors, as supported by the standard deviation (.11) of the board composition for the firms. Furthermore, the size of the conglomerate firms in terms of total asset for the sample averaged #143 billion and a maximum of #824 billion.

**Table 2: Correlation Matrix**

<b>Variables</b>	<b>EXECOMP</b>	<b>ROA</b>	<b>ROE</b>	<b>INSTOWN</b>	<b>EXECOWN</b>	<b>BCOM</b>	<b>BSIZE</b>	<b>FSIZE</b>
<b>EXECOMP</b>	1.000							
<b>ROA</b>	.160	1.00						
<b>ROE</b>	.307**	.114	1.00					
<b>INSTOWN</b>	-.157	-.109	-.232	1.000				
<b>EXECOWN</b>	-.560*	-.139	-.267	.426*	1.000			
<b>BCOM</b>	.347**	-.000	.053	-.347**	-.276**	1.000		
<b>BSIZE</b>	.480*	-.007	.446*	-.182	-.546*	-.259	1.000	
<b>FSIZE</b>	.375*	-.258	-.178	.266	-.007	.390*	.122	1.000

**Source:** Author's compilation generated using STATA, 2020

\*Correlation is significant at 1% \*\*Correlation is significant at 5%

Table 2 shows the correlation matrix with the correlation coefficient between all pairs of variables along with their significances. The result shows that ROA is 16% positively related with executive compensation of listed conglomerates in Nigeria, although not significant when compared to the positive correlation of ROE (31%), board composition (35%) and board size (48%) with executive compensation at 5% and 1% significant level respectively. But institutional and executive ownership are negatively related to executive compensation. The table also revealed an insignificant relationship between the explanatory variables themselves except for board size that was negatively and strongly correlated with executive ownership of the sampled firms under study to about 55%. However, this may not be enough evidence to strongly justify the presence or existence of multicollinearity and autocorrelation problems among the independent variables under study before computing the tolerance value and VIF. Where the result obtained from the tolerance value and VIF was above the expected limits and inconsistent with the rule of thumb of less than 1 and 10 then the problems of multicollinearity exist among the independent variables. The tolerance value and VIF were computed to assess the presence of multicollinearity using Stata 11, and the result found was consistently less than 1 and 10 respectively. This is indicating that multicollinearity is not posing a hitch and the appropriateness and fitness of the model of study.

**Table 3: Regression Results**

Variables	Coefficients	T-Statistics	T-Sig	VIF	Tolerance
CONS	.177	.07	.942		
ROA	1.477	1.84	.072	1.12	.895
ROE	.851	1.76	.085	1.36	.734
INSTOWN	-.005	-.01	.993	1.58	.632
EXECOWN	-4.316	-3.14	.003	1.74	.576
BCOMP	.271	.20	.843	1.64	.610
BSIZE	.089	.80	.427	1.79	.558
FSIZE	.574	3.40	.001	1.67	.599
<b>R2</b>			<b>.547</b>		
<b>Adj R2</b>			<b>.478</b>		
<b>F. Statistics</b>			<b>7.94</b>		
<b>Significance</b>			<b>0.000</b>		

**Source: Output STATA, 2020**

The multiple coefficient of determination (R<sup>2</sup>) gives the ratio of total variation in the dependent variable explicated by the explanatory variable jointly. It signifies that 55% of the whole variation in executive compensation of listed conglomerates in Nigeria is caused by their return on asset, return on equity, proportion of shares held by institutions, proportion of shares held by executive directors, proportion of non-executive directors, board size and firm size, while 45% is caused by factors outside the model. The F-Statistics is 7.94, which shows that the model is ok and the explanatory variable are properly chosen, combined and adopted.

### **ROA and Executive Compensation**

Firm financial performance measured by ROA is found to be significant and positively correlated with executive compensation at 10% level of significance, indicating that the higher the return on asset of listed conglomerates in Nigeria, the higher the compensation received by its executive directors. It also shows that at every one percent (1%) increase in ROA, the compensation received by the executive directors of listed conglomerates in Nigeria increases by #1.84k. Therefore, this provides reason of not accepting hypothesis one of the study, which stated that return on asset has no significant impact on executive compensation of listed conglomerates in Nigeria. This result is consistent with the findings of Jensen & Murphy (1990), Conyon & Leech (1994), Wallsten (2000), Kato & Kubo (2004), Gregg *et al* (2005), Ruge-Murcia (2005), Ozkan (2007), Boostman (2009), Gorre (2011), Ayodele (2012), Scholtz and Smit (2012), Givas (2013) and Kurawa & Saidu (2014), but contrary to the reported results of Hojen (2007), Duffhues & Kabir (2008), Tariq (2010), Aduda (2011) and Erick *et al* (2014).

### **ROE and Executive Compensation**

ROE is also found to be significant and positively associated with executive pay at 10% level of significance, indicating that, the higher the return on equity of listed conglomerates in Nigeria, the higher the compensation received by its executive directors. This shows that at every one percent (1%) increase in ROE, the compensation received by the executive directors of listed conglomerates in Nigeria increases by #1.76k. This implies that ROE is significantly affecting the compensation received by the executive directors, which could be due to benefits in form of bonuses attached to the compensation of the executives in relation to the performances of the firms they manage and could help in aligning the interest of shareholders and the interest of the executives. Therefore, this provides evidence for rejecting hypothesis two of the study, which stated that Return on equity has no significant impact on executive compensation of listed conglomerates in Nigeria.

The result is consistent with the findings of Jensen & Murphy (1990), Conyon & Leech (1994), Hall & Liebman (1998), Wallsten (2000), Kato & Kubo (2004), Gregg *et al* (2005), Ruge-Murcia (2005), Ozkan (2007), Boostman (2009), Gorre (2011), Sigler (2011), Ayodele (2012), Scholtz and Smit (2012), Givas (2013) and Kurawa & Saidu (2014), which showed that ROE is also found to be significant and positively associated with executive compensation but contrary to the reported results of Tariq (2010), Aduda (2011) and Erick *et al* (2014).

### **Institutional Ownership and Executive Compensation**

Looking at the relationship between institutional ownership and executive compensation, a negative relation is observed with a coefficient of -0.005 and t-value of -0.1 but not statistically significant. This association indicates that for every increase in shares held by institutions, the compensation to be received by the executive directors of listed conglomerates in Nigeria will decrease by #0.1k. The negative association between institutional ownership and executive compensation might serve as monitors that mitigate the agency problem and also can effectively limit the amount of executive pay. It provides evidence but not good enough (because it is in line with agency theory expectation) of failing to reject hypothesis three of the study, which states that institutional ownership has no significant impact on executive compensation of listed conglomerates in Nigeria. Consistent with this finding is the work of Noe (2002), Hartzell & Starks (2003), and Gan *et al* (2012), where institutional investors are negatively associated with total executive compensation but contrary to Ozkan (2007) and Suherman *et al* (2011) findings, as shown that institutional ownership promotes higher total executive compensation. However, relationship between institutional ownership and executive compensation as reported by Smith & Swan (2013).

### **Executive Ownership and Executive Compensation**

The regression result in respect of the association between executive ownership and executive compensation shows that executive ownership is inversely related with executive compensation at 1% level of significance with a coefficient of -4.316 and t-value of -3.14. This result shows that for every increase in shares held by executive directors of listed conglomerates in Nigeria, the compensation to be received by them will reduce by #3.14k. It further revealed that the higher the shareholding held by the executives, the lower the compensation they earn. This could be ascribed to the reduction of agency problem because the division between owners and managers is minimized to the extent that the executives are not just managers but also owners. In line with the result reported, it provides evidence of

rejecting hypothesis four for the study, which states that executive ownership has no significant impact on executive compensation of listed conglomerates in Nigeria. This finding is consistent with Conyon & Leech (1994) and contrary to Nulla (2013).

### **Board Composition and Executive Compensation**

The regression result revealed that non-executive directors as measured by the proportion of non-executive directors on the board are positively related with executive compensation with a coefficient of 0.271 and t-value of 0.20. This shows that for every increase in the number of non-executive in the board, the executive compensation of listed conglomerates in Nigeria will increase by #0.20k. It implies that the non-executive directors of listed conglomerates in Nigeria are unable to align the interest of the shareholders and the managers, evidenced by the regression result which shows that the executive compensation of listed conglomerates increases as the number of non-executive directors increases. This provides evidence of failing to reject hypothesis five of the study, which states that board composition has no significant impact on executive compensation of listed conglomerates in Nigeria. In support of this result is the work of Core, Holthausen & Larcker (1999), Ozkan (2007), Muhammed (2015) and contrary to Core & Guay (2001), Fernandes (2005) and Suherman *et al* (2011).

### **Board Size and Executive Compensation**

The expectation is that firms with relatively small size are more effective in terms of decision making and implementation. However, the result in respect of board size and executive compensation is positively related and shows that board size has a coefficient of 0.089 and t-value of .80. This shows that as the number of members on board increases, the compensation to be received by the executive directors of listed conglomerates in Nigeria will increase by #0.80k. This result further explained the positive relationship between the non-executive directors and executive compensation, as their large number only further increases the level of pay of the executives. The reported result in respect of board size provides an evidence of failing to reject hypothesis six of the study, which states that board size has no significant impact on executive compensation of listed conglomerates in Nigeria. This finding is consistent with those of Core *et al* (1999) Gregg *et al* (2011) and Sigler (2011) but contradicts the findings of Faleye *et al* (2011) Seok *et al* (2012) and Muhammed (2015).

### **5.1 Conclusion and Recommendations**

The study draws its conclusions based on the empirical and statistical evidence provided, that ROA and ROE that were used as proxy for financial performance have a positive and significant impact on executive compensation of listed conglomerates in Nigeria, which could be attributed to benefits in form of incentives (bonuses) attached to the compensation of the executive directors in relation to the performances of the firms they manage. While board composition and institutional ownership were positively and negatively but not significantly associated with executive compensation respectively. The association between executive ownership and executive compensation within the listed conglomerates in Nigeria was found to be negative and significantly influencing the compensation received by its executives.

The study recommended that listed conglomerates in Nigeria should improve the design of the compensation package of the executive directors with financial incentives that will enhance the maximization of shareholders' wealth, as it is empirically proven that it reduces agency cost. Furthermore, they should be mandated as required by law to fully disclose, individually, all the components of the compensation of the executive directors as this will not only benefit the users of the financial reports and accounts but also will aid researchers in their quests. Also, compensation of the Executive Directors of listed conglomerates in Nigeria can be strengthened with the use of long term pay (equity), which will encourage them to be part of the owners of the firms they manage.

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## MONITORING ATTRIBUTES AND EARNINGS QUALITY OF LISTED CONGLOMERATE FIRMS IN NIGERIA

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### Abstract

*This paper examines the effect of monitoring characteristics on earnings quality of listed conglomerate firms in Nigeria for the period of ten years from 2010-2019. As at 31<sup>st</sup> December, 2019, there were six (6) listed conglomerate firms in Nigeria and all were selected to serve as the sample using census approach. Three variables independent directors, audit committee and institutional ownership were used to represent monitoring characteristics. The Francis et al (2005) model was used as measure of earnings quality. Multiple panel regression was used to test the model of the study using Ordinary Least Square OLS regression and data was collected from the annual reports and accounts of the sampled firms. The findings of the paper revealed that two of the monitoring characteristics variables (IND and INST) positively and significantly affect earnings quality while AC has a significant but negative effect on earnings quality of listed conglomerate firms in Nigeria. It is therefore recommended that, board of directors of listed conglomerate firms should compose more of independent directors as it was found to have a significant positive influence on earnings quality, also their ownership structure should comprise more institutional shareholders as it has been found to improve earnings quality positively.*

**Keywords:** Monitoring characteristics, Earnings quality, Conglomerates firms, Nigeria.

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### 1. Introduction

The sole responsibility for the preparation of accurate and timely financial statements rests with management of a company. However, financial statements should disclose relevant, reliable, comparable and understandable information (Kamaruzaman, et al 2009). This is because when these earnings are accurate and

reliable, users of these financial reports will be able to make reasonable and informed decisions. However, it has been argued by Johnson (2005) that financial statement cannot be entirely accurate and unbiased because some economic activities reported are measured under the condition of uncertainty. Therefore, as a result country round the globe Nigeria inclusive reviewed and or enacted policies to ensure the safety of shareholders' funds and to prevent future reoccurrences of corporate failures. Amongst the policies is the review of the harmonized corporate governance code of best practices to cover all entities in Nigeria. These corporate governance codes serve as a watchdog that is charged with the responsibility of checkmating managers opportunistic tendencies while preparing financial statements.

Several corporate scandals around the world has created doubt and mistrust in the eyes of investors and also destroyed investor confidence on corporate financial statement. For example, Enron, WorldCom, Xerox, Oceanic Bank and Skye Bank were involved in planned fraud and scandal in developed nations and Nigeria alike that left investors with loss of part or full investment. Therefore, in order to curtail managers' opportunistic behaviors and regain investors trust, international organizations for example, World Bank, the Organization for Economic Cooperation and Development (OECD) etc campaigned for the establishment of supervisory mechanisms to enhance effectiveness of corporate governance. This has however gained the attention of researchers around the world whom has given their quota of contribution to the literatures on corporate governance.

Supervisory mechanisms like the presence of independent directors on the board of a company will improve its capability to detect problems in financial statement. Strengthening the audit committee and presence of institutional investors can serve as a means of enhancing monitoring practices and quality of earnings reported. Therefore, monitoring characteristics are there to serve as check for the quality of the earnings reported by company managers. The importance of these monitoring characteristics on the quality of firms' earnings cannot be over emphasized, this is due to the fact that some of the managers tend to use the loopholes found in accounting principles to manipulate earnings and when these earnings are not reliable and verifiable, investors tend to make decisions that will be at their own detriment.

According to Shehu (2012), there are various obvious reasons that could result to smoothening of financial statements that ranges from demand for higher returns on

investment by shareholders, the desire to be seen as a well to do firm in the eyes of competitors, also the need to satisfy the desire of others stakeholders. Managers usually get involved in smoothening of financial statement to overstate the profits in order to achieve a target(s). Manager's incentives are based on targets and they use earnings management to manipulate results in order to achieve the required targets (Leuz et al., 2016). However, the Nigerian regulatory agencies have shown less interest and pro-activeness in this uprising and are been lackadaisical by leaving problems regarding earnings management in the disguise of business ethics.

The relation between earnings quality and good corporate governance has been examined by previous studies using a variety of research designs and in various contexts. There are several researches that provided empirical evidence that there is a positive and significant relationship between some elements of monitoring and earnings quality Shehu (2013). Similarly, Bushman *et al* (2004), Karamanou and Vafeas (2005) argued that earnings quality increases as the number of independent directors increases. This means that, the higher the number of independent director on the board of a firm, the higher will be the quality of earnings to be reported. This is because the independent directors are watch dogs to the financial reports making sure that the reports presented by managers are true representation of the company's operation for a given period.

This paper aimed to determine the effect of monitoring characteristics on earnings quality of listed conglomerate firms in Nigeria. Amongst the monitoring characteristics examined by this study are; Independent directors, audit committee independence and Institutional ownership. In line with the objective of the study, the following hypotheses are formulated in null form:

**H<sub>01</sub>**. Independent directors have no significant influence on earnings quality of listed conglomerate firms in Nigeria.

**H<sub>02</sub>**. Audit committee independence has no significant impact on earnings quality of listed conglomerate firms in Nigeria.

**H<sub>03</sub>**. Institutional shareholders have no significant impact on earnings quality of listed conglomerate firms in Nigeria.

The findings of this research will help directors of the company since they form part of the monitoring mechanism to enhance their frontiers of responsibility by

been more vigilant and provide stronger and effective policies that can help reduce the opportunistic behavior of managers of a company. The government can use the findings of the study in its policy making and strategic decision making in area of business. These policies or strategic decisions can be provision of additional codes in the corporate governance code or any law, or standard that can foster development of businesses in the country and reduce opportunistic behaviors. This study will also add to the existing literatures in the field of monitoring characteristics and earnings quality by enabling researchers utilize the gap they find in other to develop new studies.

The remainder of this paper has the following organization; literature reviews and theoretical framework, research methodology, analysis and discussion of results, conclusion and recommendations.

## **2. Literature Review and Theoretical Framework**

Earnings quality is quite a vague concept in financial reporting which is yet to have a formal definition and a generally accepted measure. However, Dechow *et al.* (2010) used the terms from the draft of Financial Accounting Standard Board to define earnings quality as: “Higher quality earnings provide more information about the features of a firm’s financial performance that are relevant to a specific decision made by a specific decision maker”. The research foundation of Certified Financial Analyst institution sees high-quality earnings as that which accurately shows the current operating performance of a firm, an indicator of future prospect of the firm, and a useful summary for measuring the value of a firm. Earnings quality is an honest expression of a company’s activities by revealing the true picture of the company and its ability to strive in the future. There are various models developed by researchers to measure earnings quality and this is to fulfill a specific need of the researcher. However, the most used measures are; absolute value of discretionary accruals, earnings persistence, asymmetric or recognition, size of accruals etc.

The concept of Independent director is also a vague concept which has no universally accepted definition. The definitions available are those given by different people to satisfy their peculiar need. The code of corporate governance for private sector requires all companies listed in the floor of the Nigerian Stock Exchange to have a board which shall comprise of executive and non-executive directors and two-third members of the non-executive directors shall be Independent non-executive directors. These independent non-executive directors

are required to have an insignificant holding in the company which should not exceed 0.1% of the total paid up capital of the company. This is done so that the interests they have in the company do not affect their independent judgment. Sandra (2014) believed that the presence of Independent directors on the board of a company can help improve the quality of earnings reported by mitigating managerial opportunistic tendencies in preparation of company's financial statements. According to her, there is high possibility of increase in earnings quality of company whose board comprises more of independent directors than executive directors. This is due to their ability to control and monitor the activities of those officers saddled with the responsibility of managing the affairs of the company.

Shehu (2013) in his paper - financial reporting quality, does monitoring characteristics matter? using 32 manufacturing firms listed on the Nigerian stock exchange covering five years (2007-2011) found that there is a significant positive association between monitoring characteristics and financial reporting quality. In his study, six independent variables (leverage, independent directors, audit committee independence, institutional investors, block shareholding, management shareholding) and the residuals of Dichev and Dechow (2002) was used to measure of the dependent variable financial reporting quality. The study is however restricted to only activities between 2007-2011, and therefore making it deficient and not all encompassing. So many activities have taken place after the study period that needs to be taken into account. Also the study used the residuals of Dichev and Dechow (2002) as the model to measure earnings quality, while there are better and new models like Francis *et al* (2005), Roychowdhury (2006) and so forth.

Hussaini and Idris (2014) examined monitoring characteristics and financial reporting quality of listed conglomerates firms in Nigeria where they looked at the association between monitoring characteristic and earnings quality. Their paper used all the nine listed conglomerate firms as its population and selected eight to form its sample. The study also covers a period of six years (2009-2014). They found that there exist a positive relationship between board independence, board meetings, audit committee independence, audit committee meetings and financial reporting quality of Listed Conglomerates Firms in Nigeria. While Board financial expertise, audit committee financial expertise and firm sizes are negatively significantly related to financial reporting quality of Listed Conglomerates Firms in Nigeria.

Shehu and Jibril (2012) studied audit firm characteristics and financial reporting quality of listed building materials firms in Nigeria using seven listed building materials firms in Nigeria covering a period of ten years (2001-2010) found that there is a significantly positive relationship between audit firm characteristics and financial reporting quality of listed building materials firms in Nigeria and concluded that for a firm to engage in a quality financial reporting, its audit firm characteristics is to be of stringent importance.

Again, Shehu and Saifullahi (2016) in their study titled “monitoring characteristics and financial reporting quality of Nigerian listed consumer goods firms”. They used purposive sampling technique to arrive at a sample of ten (10) firms out of a population of twenty-seven (27) listed consumer goods firms in Nigeria covering a period of nine (9) years (2007-2015). The findings of their study reveals that all the monitoring characteristics variables used in their study significantly affect the financial reporting quality of Nigerian listed consumer goods firms.

Omar (2017) investigated impact of audit committee characteristics on earnings management in the Pre- and Post- Bahraini Corporate Governance Code 2011”. His study covers only two years which are pre (2010) and post (2012) Bahraini corporate governance code 2011. He used a sample of 31 companies listed in the Bahraini Bourse. The findings of his study show that earnings management is not significantly associated with any of the audit committee characteristics and control variables used in the study.

Shehu & Musa (2014) examined firm attributes and earnings quality of listed Oil and Gas Companies in Nigeria using a sample of seven companies listed in the oil and gas industry covering five years’ period (2007-2011). Their findings reveal that, leverage, liquidity and firm growth significantly and positive affects earnings quality. However, institutional ownership, firm size, and profitability significantly but negatively influence earnings quality of listed oil and gas companies in Nigeria.

Mohammad & Ramezanali (2012) conducted an empirical study in Iran using a sample of 165 firms listed in Tehran stock exchange covering a period of six years (2005-2010) found that the number of non-executive directors on the board of the sampled firms will increase earnings quality. Also, the presence of executive directors on the board tends to improve earnings quality by lesser proportion. Firm size was also found to improve quality of earnings reported. However, they found a significant negative relationship between leverage and earnings quality.

This study is underpinned using the stakeholder theory because of the obvious significance of the theory. The theory seems to look at all individuals that are been affected by the operation of a company. This is followed by the corporate governance requirement that every company is to be accountable to the environment in which it operates, this environment includes all stakeholders of the company such as employees, shareholders, investors, customers, suppliers, creditors, competitors, government, the society and all those that are directly or indirectly affected by the decisions of the company.

### 3. Research methodology and Model Specification

This paper examines the effect of monitoring characteristics on earnings quality of listed conglomerate firms in Nigeria. In doing this, a correlational research design was adopted for the research because it is more appropriate in establishing the relationship and the extent to which monitoring characteristics affect earnings quality of listed conglomerate firms in Nigeria. The population of the study covers all six conglomerate firms listed on the Nigerian Stock Exchange for a period from 2010-2019. A census sampling approach was adopted which adopts six conglomerates companies listed on the Nigerian Stock Exchange as at 31<sup>st</sup> December, 2019 as sample. Multiple regressions was used for the analysis with STATA as tool. The data used in this paper were obtained specifically from the annual reports and accounts of the sampled conglomerate firms obtained from the website and NSE Facts Books covering the years of study.

#### Model Specification

To ascertain the effect of monitoring characteristics on earnings quality of listed conglomerate firms in Nigeria, a multiple regression model was built. The model captures the impact of independent directors, audit committee independence, and institutional ownership on earnings quality. This paper employs the Francis *et al* (2005) model which estimates earnings quality as prediction error or residuals from OLS regression as follows.

$$DAA_{it} = \beta_0 + \beta_1CFO_{it-1} + \beta_2CFO_{it} + \beta_3CFO_{it+1} + \beta_4\Delta REV_{it} + \beta_5PPE_{it} + \varepsilon$$

Where:

$DAA_{it}$ = Discretionary Accounting Accruals,

$\beta_0$ - $\beta_5$ = Constant,

$\beta_1$ - $\beta_5$ = coefficients

CFO<sub>it-1</sub>= Previous Cash Flow from Operating activities,  
 CFO<sub>it</sub>= Present Cash Flow from Operating activities,  
 CFO<sub>it+1</sub>= Future Cash from Operating activities,  
 ΔREV<sub>it</sub>=Change in Revenue at time t,  
 PPE<sub>it</sub> = Plant Property and Equipment  
 and ε. = Error term/residuals.

The regression model for testing the relationship between the explanatory variables and earnings quality is presented as follows:

$$EQ_{it} = \beta_0 + \beta_1 IND_{it} + \beta_2 AC_{it} + \beta_3 INST_{it} + \varepsilon$$

EQ=Earnings quality measured as residuals from the regression of Francis *et al* (2005) model

IND = Independent Directors measured as % of independent directors on the board  
 AC= Audit committee independence measured as % of non-executive directors on the audit committee

INST= Institutional Shareholders measured as proportion of shares held by institutions

β<sub>0</sub>= Constant

β<sub>1</sub> – β<sub>3</sub>= coefficients

ε= Error term.

#### 4. Analysis and Discussion of Result

The results and the interpretations are presented under Descriptive statistics, Correlation matrix, and Regression result.

**Table 1: Descriptive statistics**

Variables	Min	Max	Mean	Standard Dev.
EQ	0.005	0.50976	0.083431	0.1018829
IND	0.111111	0.3	0.2108559	0.0639977
AC	0.333333	0.666667	0.445555	0.0979964
INST	0.4228	0.8795	0.6264027	0.1360577

**Source: STATA output, 2020**

The mean value of earnings quality of the sampled firms as shown above is 0.083431, while the explanatory variables IND, AC, INST have the average values of 0.2108559, 0.445555, and 0.6264027 respectively. The 63% average value for institutional shareholding indicates that over half of the shareholdings of conglomerate firms in Nigeria are held by institutional investors, while the remaining 37% is held by other class of investors. Since the mean value of the

endogenous is relatively high, it therefore means low earnings quality. But this could be a result of the disclosure useful information. It is however observed that, amongst the explanatory variables, institutional ownership indicated a high standard deviation meaning that it contributes less to earnings quality.

**Table 2: Correlation Matrix Table**

<b>Variables</b>	<b>EQ</b>	<b>IND</b>	<b>AC</b>	<b>INST</b>
<b>EQ</b>	1.0000			
<b>IND</b>	0.1955	1.0000		
<b>AC</b>	-0.3846	0.2560	1.0000	
<b>INST</b>	0.1764	0.2260	0.2259	1.0000

**Source:** STATA output, 2020

The table above presents the correlation matrix of the dependent and independent variables as well the relationship among the explanatory variables themselves. The values were gotten from the Pearson correlation of two-tailed significance. From table 2 above, AC is negatively and significantly correlated to earnings quality of listed conglomerate firms in Nigeria. However, IND and INST are positive but insignificantly correlated to earnings quality of listed conglomerate firms in Nigeria. It can also be seen that all the independent variables are positively correlated and there is a very weak relationship amongst the independent variables themselves, indicating that colinearity isn't a problem. However, this may not be a result enough to conclude that multicollinearity exists until the variance inflation factor and tolerance values exceed their expected limits. Therefore, the tolerance value and the variance inflation factor (VIF) are two advanced measures of determining the existence of multicollinearity between the independent variables of the study. The VIF and tolerance as computed using Stata are found to be consistently lower than the standard level of ten and one respectively, indicating that multicollinearity isn't a problem.

**Regression result**

**Table3: Summary of regression result**

<b>Variables</b>	<b>Coefficient</b>	<b>t-values</b>	<b>p-values</b>	<b>Tolerance</b>	<b>VIF</b>
Constant	0.1187929	1.69	0.097		
IND	0.4352237	2.31	0.025	0.904673	1.11
AC	-0.5264097	-4.27	0.000	0.904709	1.11
INST	0.1714764	1.95	0.057	0.918713	1.09

R <sup>2</sup>	0.2886
Adj. R <sup>2</sup>	0.2505
F-stat.	7.57
F-sig.	0.0002

**Source: STATA output, 2020**

The cumulative R<sup>2</sup> (0.2886) which is the multiple coefficient of determination, gives the proportion of the total variation in the dependent variable (EQ) explained by the independent variables all together. Hence, it signifies that about 29% of the total variation in earnings quality of listed conglomerate firms in Nigeria is caused by independent directors on their board, audit committee independence, and institutional ownership. This indicates the fitness of the model and that the independent variables are selected properly and combined accordingly. This can be confirmed by the value of F- statistics of 7.57 significant at 1% level of significance.

**Independent Directors and Earnings Quality**

The regression result reveals that the independent directors as depicted in table 3 have a coefficient of 0.4352237, t-value of 2.31 and a P-value of 0.025. This indicates that the existence of independent directors on the board of listed conglomerate firms in Nigeria is positively and statistically related to their earnings quality at 5% level of significance. This implies that the independent directors are not under the influence of the management of the company, and hence help to monitor the opportunistic behaviors of this management and also help improve the quality of financial information conveyed to user of financial statements of listed conglomerate firms in Nigeria. This also shows that any increase in the percentage of independent directors on the board of listed conglomerate firms will help improve their earnings quality as well as the reliability of their financial report. Another important reason for this finding may be as a result of the fact that, independent directors’ do not in any way participate in the management of a corporation, this may serve an efficient and effective mechanisms of monitoring the activities of managers and hence, provide some high quality earnings reported. The above findings are however consistent with the findings of; Shehu (2013), Saifullahi & Shehu (2016), Sandra (2014), Hussaini & Idris (2014) but contrary to those of; Firth *et al.* (2007), Ahmad and Mansor (2009), Dimitropoulos & Asteriou (2010) who did not find any significant relationship between independent directors and earnings quality.

### **Audit committee and Earnings Quality**

The result of audit committee as a monitoring tool reveals that, audit committee has a significant effect on earnings quality of listed conglomerate firms in Nigeria. Table 3 depicts that audit committee independence has a coefficient of -0.5264097 with t-value of -4.27 and a P-value of 0.000. This implies that number of non-executive directors on the audit committee strongly, significantly and negatively affects the quality of earnings of listed conglomerate firms in Nigeria. This means that, any increase in the number of non-executive directors on the audit committee will lead to a significant decrease in the quality of earnings reported by these firms. The reason for this result could be that the independence that some members of the committee have been jeopardized and it's rather in form, not in execution. This could be as a result financial or family connection they have with some members of the committee responsible for their appointment (Hamdan, Mushtapha & Al-Sartawi 2013). This finding is contrary to the findings of Shehu (2013), Klein (2002), Bédard *et al* (2004) and Anderson *et al.* (2004) who found a positive relationship between audit committee independence and financial reporting integrity.

### **Institutional ownership and Earnings Quality**

Further, the regression result reveals that institutional shareholding has a t-value of 1.95, a regression coefficient of 0.1714764 and a P-value of 0.057. This implies that institutional ownership positively and significantly affects earnings quality of listed conglomerate firms in Nigeria at 5% level of significance. Therefore, any increase in number of shares held by institutional shareholders of listed conglomerate firms in Nigeria will significantly improve the quality of earnings reported by those firms. This result is not surprising because, institutional investors are effective in curtailing managers' opportunistic behavior of earnings management through abusive accounting, income manipulations and smoothening. The result of significant effect of institutional ownership on earnings quality found in this study is consistent with the findings of Shehu (2013), and inconsistent with the findings of Wahal and McConnell (2000), Eng and Shackell (2001), and Ahmad and Mansor (2009).

## **5. Conclusion and Recommendations**

This paper investigated the impact of monitoring characteristics on earnings quality of listed conglomerate firms in Nigeria. The study used three variables (IND, AC, and INST) to represent monitoring characteristics and used the absolute values of residuals from Francis *et al* (2005) model to proxy the dependent variable (EQ) of

the study. The findings of the study revealed that independent directors and institutional ownership positively and significantly affects earnings quality of listed conglomerate firms in Nigeria. However, audit committee independence depicted a significant but negative impact on earnings quality of listed conglomerate firms in Nigeria. Therefore, it can be concluded that, monitoring characteristics proxy by IND, AC and INST significantly affected the earnings quality of listed conglomerate firms in Nigeria.

Based on the findings of this paper, it is recommended that the number of independent directors on the board of conglomerate firms in Nigeria should be increase because it was found that any increase in the number will as well improve earnings quality tremendously. Similarly, the ownership structure of the firms should comprise more of institutional investors because of the watchful eyes they put on the management of companies which usually help reduce income smoothening by managers. Also precautionary measures should be taken in selecting the non-executive directors to the audit committee because the independence that come of the members of the committee has is by form than execution.

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## **AUDIT QUALITY AND EARNING MANAGEMENT OF LISTED INSURANCE COMPANIES IN NIGERIA**

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### **Abstract**

*This study examines audit quality and earnings management of listed Insurance companies in Nigeria over the period of 5 years (2015-2019). The study used simple random sampling technique to arrive at sample size of ten (10) insurance companies listed the floor of Nigerian Stock Exchange as at 2019. Secondary data extracted from annual reports and accounts of the sampled firms was analyzed using multiple regression. The regression result shows that audit firm size has a positive and significant impact on earnings management of the sampled firms, while joint audit service has a negative and significant impact on earnings management. However, auditor independence has negative and insignificant impact on earnings management. Therefore, the study recommends that regulators especially Security and Exchange Commission should encourage or make it as part of law to listed insurance companies in Nigeria to employ the service of both Big 4 audit firm and the local audit firm for audit assignment in order to safeguard firm's earnings from management manipulation.*

**Keywords:** Audit Firm size, Independence, Joint Audit, Earnings Management, Insurance Companies.

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### **1. Introduction**

Earnings management is a widely researched area in the field of accounting for over two decades. Earnings management is generally regarded as a negative factor that affects the quality of financial report. In accounting literature, there are different terms that are identical with earnings management such as creative accounting,

cooking the books, earnings manipulation, accounts manipulation, income smoothing to mention but a few. Apart from using accounting measures to manipulate earnings, managers also resort to real transactions. While showing that managers maneuver sales, overproduce inventory and reduce optional expenses to avoid incurring losses or missing analyst forecasts (Eriabie & Dabor 2017). Moreover, Bens, Hassan (2013), opined that firms also manipulate research and development costs to smooth reported earnings or avoid earnings per share dilution.

Audit Quality is among the factors that have an effect on the reliability of accounting information. This can be inspiration for more research on audit quality and the other factors that may influence it. Audit quality is defined as the possibility that an auditor would find out break in the owners accounting system and report the violated. The findings of misstatement measures quality in terms of the auditor's knowledge and ability, while the reporting of a misstatement is dependent on the auditor's incentives to disclose (Ozkan, 2018). Thus, the auditors should give a professional judgment concerning the creditability and reliability of accounting information enclosed in the annual reports and accounts for a particular period of time. However, the assessment carry out by auditors is vague ((Iwiyisi & Ifeanyi, 2018). Therefore, the audit process is not mostly assessable and the appraisal of the quality of audit services must be indirect indication. (Francis & Yu, 2009) have paying attention on either factor that influences audit quality or consequences of audit quality. This study considers the factors that will improve audit quality: auditor-specific attributes such as audit firm size, joint audit and auditor's independence.

Considerably several studies were conducted in different parts of the world to identify the impact of audit quality on earning management. Audit Quality proxies such as; Audit firm size, auditor's independence and joint audit service, However, many others were tested to measure earning management by using discretionary accruals. Some of these studies include but not limited to (Inaam, Khmoussi & Zehri 2012; Iwiyisi & Ifeanyi 2018; Jayeola, Taofeek & Toluwalase 2017; Ajekwe & Ibiamke 2017; Eriabie & Dabor 2017; Hassan & Faruk 2014). None of the previous studies focused on the listed insurance companies in Nigeria. This study therefore fills the identified gap in the previous studies.

The Financial industry in Nigeria has remained one of the pivots of the economy because of its vast capital base and lending capacity. Aside the federal government, the financial sector has the highest employer of labor and therefore needs

transparent, reliable and efficient audit to control earnings manipulation, this encouraged for this research as many studies have done on banking sector without considering the exposure risk covered by the insurance companies. Therefore, aims at examine the impact of audit quality on earnings management of listed insurance firms in Nigeria.

## **2. Review of Related Studies**

In this section, related literatures on audit quality and earnings management are reviewed and the theoretical framework for the study is presented.

### **Audit Firm Size and Earnings Management**

There are inconclusive findings with respect to the relationships between audit quality and earnings management in the literature. For instance, with regard to audit firm size and experience Big 4 has been the common and a subject of audit quality studies (Ozkan (2018). Lobo, Paugam, Zhang and Casta (2016) documented that firms audited by Big 4-non-Big 4 auditor pair (BS) are more likely to book an impairment and book a larger impairment than firms audited by a Big 4-Big 4 auditor pair (BB) when low-performance indicators suggest a greater likelihood of impairment. Moreover, firms audited by a BB pair reduce impairment disclosures when they book impairments, while firms audited by a BS pair do not, suggesting lower transparency for firms audited by a BB pair.

Almarayeh, Aibar-Guzmán, and Abdullatif (2020) consolidated past studies in Jordan by a renewed investigation into the association between two auditor characteristics, namely auditor size and audit fees as well as earnings management. With a final 251 firm's/year observations, similar to past Jordanian studies, over a 5-year period, the results depict no significant influence of these two proxies of audit quality and restriction on earnings manipulations in Jordan. Further, the results based upon a generalized least square regression (GLS) show a positive and significant influence of all control variables (firm size, growth and ROA), except leverage, though positive but insignificantly related to accrual earnings management. In addition, a relatively low value (18%) was reported as the adjusted R2 indicative that the totality of the explanatory variable explains only 18 percent differences in earnings management. Similar study by Alzoubi (2016) examined the effect of disclosure quality on the magnitude of earnings management among 86 industrial companies quoted on the Amman Stock Exchange for four years between 2007 and 2010. Using a GLS regression in order to surmount the heteroskedasticity problems of OLS, the findings from the study show disclosure

quality exerting a negative influence on incidence of earning management, accounting for 45 percent variations therein, thereby improve the quality of accounting information. Of note are size of the audit firm (measured by Big4 versus non-Big4 dichotomy), client's size (natural log of total assets) and clients' profitability (proxied with ROA). As expected, all displayed a negative and significant relationship with earnings management.

Ajekwe and Ibiamke (2017) examined the association between audit quality and earnings management of listed firms in Nigeria from 2009-2014. The study used OLS in analyzing the data. The study measures audit quality by audit firm size and earnings management by the absolute abnormal discretionary accruals using the modified Jones model. The study was carried out in two parts, the first part is the comparative study using independent sample t-test and the Wilcoxon signed ranked test. The second part is the multivariate analysis where the association between audit quality and earnings management was examined. Based on our analysis, we found that auditor size has restrained earnings management but the decrease is not statistically significant. This study adds to the literature on audit quality by showing that Big-Four auditors (proxy for audit quality) may not constrain earnings management of client firms in certain regulatory and institutional environments.

#### **Auditor Independence and Earnings management**

Martinez and Moraes (2016) investigated effect of audit fees on earnings management in Brazilian market using a sample of 300 firms listed on the BM&F Bovespa for which it was possible to identify the amount paid to the auditors, using data gathered from the Economatica database and the website of the Brazilian Securities Commission. The study analyzed the data using multiple regressions and the findings revealed a negative and significant relationship between audit fee and earnings management meaning that audit firms that charge less for their service tend to be more relaxed regarding earnings management by their client companies.

Similarly, Nawaish (2016) examined the prediction that external audit quality is positively associated with earnings management in Jordanian banking firms listed in Amman Stock Exchange (ASE). Findings revealed that audit tenure, audit fees, and auditor specialization have significant relations with earnings management. It means, future earnings management forecast is predictable based on audit quality leading indicators (audit tenure, audit fees, and auditor specialization).

Aliyu, Musa and Zachariah (2015) examined the impact of audit quality on earning management of listed deposit money banks in Nigeria for the period of 2006-2013. The study used the Ordinary Least Squares (OLS) regression technique of data analysis; the results show that audit quality has significant impact on the Earnings Management of listed deposit money banks in Nigeria during the period under the study. The results also show that audit firm size and joint audit services have significant negative impact on the Earnings Management of listed deposit money banks in Nigeria. While auditor financial dependence has a significant positive impact on Earnings Management of listed deposit money banks in Nigeria.

### **Joint Audit Service and Earnings Management**

Empirical studies on joint audit also reported mixed results. Deangelo (1981) opined that recent literatures have encouraged joint auditors approach in ensuring objective financial reporting. That is the appointment of joint auditors to a firm will enhance its financial reports quality by minimizing earnings management.

A study by Francis et al. (2009) analyzed the consequences of France's joint audit requirement on earnings quality and find that Big 4 auditor-pairs are associated with lower levels of income-increasing abnormal accruals. They found that in France firms with one or two Big 4 auditors are less likely to have income increasing abnormal accruals than other firms. Firms audited by two Big 4 auditors were even less likely to have income-increasing accruals. Big 4 auditors paired with non-Big 4 auditors are also associated with lower levels of income increasing abnormal accruals however to a lesser extent and concluded that a pecking order explains this with regards to earnings quality and auditor-pair choice.

Marmousez (2009) examined the impact of joint auditor pairs in France on financial reporting quality, measured by the degree of Earnings conservatism. He provides evidence that Big 4–Big 4 auditor pairs are not associated with earnings conservatism whereas Big 4–non-Big 4 auditor pairs are associated with conservatism. Jayeola *et. al* (2017) examined the relationship between audit quality and earning management in Nigeria deposit money banks. The study adopted a longitudinal research design and secondary data covering a period of 2005-2014 were collected. Panel data technique was employed, while fixed and random effects model were used for estimation. Descriptive Statistics, Pearson correlation coefficient and simple pooled OLS regression analysis were used for analysis to determine possible link between the variables identified. The results showed that joint audit has a significant positive relationship with earnings management, which

implies that a change to joint audit from single audit increases earnings management. Moreover, results reveal that audit specialization has a significant negative relationship with earnings management, which implies that every unit increase in audit specialization decreases earnings management.

Mandour, File and Kwak (2018) examined the effect of joint audit and dual audits on earning management practices during the period 2010-2014. The purpose of the paper is to determine the impact of the voluntary adoption of the joint external audit approach in reducing earnings management practices through accruals and real operations compared with the adoption of the dual external audit approach. The study used multiple regressions to analyze the data. The research follows a quantitative approach to collect and analyze data from companies listed on the Egyptian stock exchange. The findings of the empirical studies show that there are consistent earnings management practices in the studied sample regardless of the type of audit (Joint or Dual audit). There is a negative association between joint audit and discretionary accruals compared to dual audit. This means that firms with joint audit are less engaged in accrual earnings management practices. In addition, large firms that adopt joint audit are less engaged in accrual earnings management. However, there is no effect of joint audit on real earnings management practices compared to dual audit. Our result is consistent for firm size, profitability, and leverage. Both firm profitability and leverage show positive association with earnings management practices while size did not have a significant effect on either type of practice. Finally, the study recommends that, firms with high (low) profitability that adopts joint audits are less (more) likely to engage in real earnings management practices.

### **3. Methodology and Model Specification**

This study adopted a quantitative research approach where data was gathered through secondary approach. The population is made up of entirely twenty-eight listed insurance companies whose shares are traded in the Nigerian Stock Exchange (NSE). Simple Random samples were used to arrive at samples of 10 Insurance companies where Sunu Assurances Nigeria plc, Unic Insurance, Veritas Kapital Assurance Plc, Universal Insurance Company Plc and Regency Alliance Insurance Plc were eliminated as a result of unavailable data during the period of the study. Data were extracted from annual reports and account of 10 listed insurance companies in Nigeria for the period of 5 years 2015 to 2019. Statistical tools such as descriptive, correlation and regressions were employed to analyze the results of the study.

**Table 1 Variables and their Measurement**

Variables	Proxies	Variables Measurement	Source
Dependent	Discretionary Accruals	CFO-PAT/TA	Lisar, Lisar and Zadeh (2016)
Independent	Audit firm size	Dummy variable: 1= external auditor is 1 of the Big4, 0 otherwise.	Basiruddin (2011), Lisar, Lisar and Zadeh (2016)
	Auditors independent	Non-audit fees divided by total audit fees	Lin and Hwang (2010)
	Joint audit	Dummy variable 1= if the firm make use of joint audit 0 otherwise.	Hassan (2011)
Control Variables	Firm size	Natural log of total asset	Hassan and Bello, (2013) Hamid and Abubakar (2019)
	Firm Age	Years of listing	Hamid and Abubakar (2019) Das (2014)

Sources: Developed by the researcher, 2020

**Model Specification**

The multiple regression model for this study is specified as follows: -

$$DA_{it} = \beta_0 + \beta_1 AFS_{it} + \beta_2 AI_{it} + \beta_3 JA_{it} + \beta_4 FSIZE_{it} + \beta_5 FAGE_{it} + \mu$$

Where:

DA = Discretionary Accruals

AFS = Audit firm size

AI = Auditors independence

JA = Joint audit

FSIZE = Firm size

FAGE = Firm age

$\beta_0$  = Fixed intercept/constant

$\beta_{1-5}$  = Coefficient of the explanatory variables

$\mu$  = Error term

I = Insurance

t = Time

#### 4. Results and Discussion

##### Descriptive Statistics

The descriptive statistics of variables under study were analyzed as contained in the table 2 below:

**Table 2: Descriptive Statistics**

Variable	Mean	Std. Dev	Min	Max
CFO	0.044	0.121	-0.218	0.646
AFS	0.640	0.484	0.000	1.000
AI	0.452	0.104	0.160	0.500
JA	0.440	0.501	0.000	1.000
FSIZE	23.65	0.918	22.00	25.60
FAGE	19.40	8.957	6.000	29.00

**Source:** STATA OUTPUT, 2020

Table 2 shows that the measure of earnings management (CFO) of listed insurance firms in Nigerian has a mean value of 0.044 with standard deviation of 0.121, and minimum and maximum values of -0.218 and 0.646 respectively. This shows that the data move away from average value by 0.121. This suggests that the dispersion of the data from the mean is wide because the mean value is greater than the standard deviation. The Table 2 also indicates audit firm size (AFS) has an average value of 0.64 with standard deviation of 0.484, and the minimum and maximum values are 0.000 and 1.000 respectively. This shows that 48% of listed insurance companies in Nigeria were audited by large audit firm (Big 4) during the period of the study. The table 2 also shows that audit independence (AI) has a mean value of 0.452 with standard deviation of 0.104367, the minimum and maximum values of 0.16 and 0.5 respectively. Moreover, Table 2 shows that on average 44% of the samples firms utilized the services of joint audit (AJ) during the period under the study, from the mean value of 0.440 with standard deviation of 0.501. The minimum and maximum values of joint audit as measured by dichotomous variables are 0 and 1 respectively. Finally, the results in Table 2 indicated that firm size and age has a mean value of 23.658 and 19.4 with standard deviation of 0.918759, and 8.957952 and minimum and maximum values of 22, 6 and 25.6 and 20 respectively.

**Correlation Matrix**

The correlation matrix is used to find out the degree of association between the dependent variable and Independent variables used in the study.

**Table 3: Correlation Matrix**

Variable	CFO	AFS	AI	JA	FSIZE	FAGE
CFO	1.000					
AFS	0.124	1.000				
AI	0.075	0.509	1.000			
JA	-0.076	-0.510	-0.008	1.000		
FSIZE	-0.163	0.217	0.202	-0.539	1.000	
FAGE	-0.148	0.033	0.412	0.4412	-0.098	1.000

**Source: STATA OUTPUT, 2020**

From the correlation results presented in table 3, the relationship between earnings management with the independent variables (i.e. audit firm size, auditor’s independence, joint audit firm Size and Age) indicated that audit firm size and audit independence are positively but weak associated with earnings management, while joint audit, firm size and firm age are negatively and also association with earnings management in the listed insurance companies in Nigeria. From table 3 it can be observed that audit firm size (AFS) has appositive strong association with other explanatory variable with exception of joint audit. However, auditor independence has a weak and positive relationship firm size and firm age. From table 3 joint audits shows a negative but strong relationship with firm age while firm sizes have a negative but strong relationships with joint audit.

**Regression Results**

This constitutes the summary of the multiple regression results obtained from the model using ordinary least square regression. The results show individual impact between the independent variables (audit firm size, audit independence and joint audit) and finally the overall impact between the dependent variable and the independent variables. This is presented in table 4 below.

**Table 4 : Summary of Regression Result**

<b>Variable</b>	<b>Coefficient</b>	<b>T-value</b>	<b>P-value</b>
Constant	0.138	1.010	0.318
AFS	0.049	2.250	0.029
AI	-0.002	-1.100	0.279
JA	-0.031	-2.130	0.039
FSIZE	-0.002	-0.210	0.835
FAGE	-0.035	-0.660	0.514
<b>F-Statistics</b>			<b>2.96</b>
<b>F-Sig</b>			<b>0.022</b>
<b>R square</b>			<b>0.252</b>
<b>Adjusted R Square</b>			<b>0.167</b>

**Source:** STATA OUTPUT, 2020

From table 4 above, the results show an overall R square of (0.17), that is the coefficient of determination which represents the percentage of change in earnings management as explain by explanatory variables. This indicate that 17% changes in the earnings management is explain by explanatory variables used in the model; this signifies that the explanatory variables cumulatively bring about 17% changes in Nigerian listed insurance and 83% is explained by other factors not accounted for by the model. This implies that the model is fit and the variables are appropriately selected. In evaluating the model based on the regression results audit firm size as indicate in table 4.3 has a positive and significant impact on earnings management of listed insurance companies in Nigeria considering the coefficient value of 0.049 and a p-value of 0.029 which significant at 5%. This suggests that as listed insurance companies continue use of big 4 audit firm lead to increase of earnings management by 5k.

Table 4 above also shows that joint audit services has a negative significant impact on earnings management of listed insurance companies in Nigeria from the coefficient of -0.031 which is significance at 5% level of significance (P- value of 0.039). This suggests that as listed insurance companies continues to employs the joint audit services, the earning management decrease by 31k.

Similarly, the table shows that auditor independence has a negative and insignificant effect on earnings management of listed insurance companies in Nigeria. This signifies that auditor's independence does not have any impact of

earnings management of listed insurance companies during the period under review.

## 5. Conclusion and Recommendations

This study has empirically provided evidence on the relationship between audit quality attributes proxies by audit firm size, auditor independence and joint audit on earnings management of listed Insurance firms in Nigeria. Based on the findings, it is concluded that audit firm size and joint audit service has significant impact on earning management of listed insurance company in Nigeria. However, study concludes that auditor's independence has negative insignificant impact on earning management of listed insurance companies during the period under review.

In line with findings and conclusions drawn from the study, therefore, the study recommends that the supervisory body especially Security and Exchange Commission have to encourage or make it as part of law to listed insurance firms in Nigeria to employs the service of both Big 4 audit firm and the local audit firm for audit assignment in order to safeguard firm's earnings from unwanted management manipulation.

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## WORKING CAPITAL MANAGEMENT AND FIRM PROFITABILITY OF LISTED CONGLOMERATES COMPANIES IN NIGERIA

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### Abstract

*This study examines impact of working capital management on firm's profitability. The study focus on six (6) conglomerates firms listed on Nigeria Stock Exchange. Using the panel data set for the period 2012-2017, the impact of aggressive working capital investment and financing policies has been evaluated using return on asset. Random effect regression model was adopted for the study. The study reveals that Total Current Assets to Total Assets (TCA/TA) and size of the study firm have a positive and significant impact on firm profitability. The result further found that Total Current Liabilities/Total Assets (TCL/TA) has a negative significant impact on firm profitability. Though, the sales growth revealed an insignificant negative effect on the profitability of the firms. The study concluded that managers can create value if they adopt a conservative approach towards working capital investment and working capital financing policies since aggressive approach has been found to have a negative impact on return on asset. The study recommends that conglomerate companies in Nigeria adopt the conservative approach to working capital management so as to experience an increase in profitability for business sustainability.*

**Keywords:** Working Capital Management, Firm Profitability, Conglomerates Firms & Nigeria

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### 1. Introduction

Working capital management has been an essential company's decision on the structuring and sustaining of current assets and liabilities (Olarewaju, Doorasamy & Oladejo 2017). As indicated by Nazir and Afza, (2009), the management of short term assets and liabilities warrants a cautious examination since effective management of working capital is a principal part of corporate policy in creating the shareholders' value and firm's profitability. Thus, mismanagement of working capital will prompt voluminous business failure (Safiah & Nizam, 2015). Working capital management is said to have critical role in clarifying firm degree of financial

profitability (Mazlan & Leng, 2018, Ponsian, 2018 and Ngendakumana, Jagero, & Gondo, 2015).

Firm profitability denotes the capacity of the business companies to sustain its profit perpetually and it is a desired aim of all profit making organizations. Profitability can be depicted as the assessment of organization's profitability and how effective a firm utilizes wealth from its operating activities to generate revenue. To Klapper and Love (2004), Return on Asset (ROA) is one of the best measures used in assessing firm profitability. Hence, this study adopts ROA as proxy of firm profitability in order to examine the effect of working capital management on firm profitability, this is in line with the works of; Altaf and Shah, 2017 and Olarewaju et al, 2017. This study measures ROA as a percentage of profit before interest and taxes divided by total assets.

The stimulus of this investigation is in line with the concerns raised by the government and the general public about the poor profitability of firms in Nigeria. Thus demanding a clearer comprehension of the issues that play major roles in the enhancement of their profitability. The study on Conglomerates firms in Nigeria is significant as a result of the important role these firms play in Africa's economic and social growth, which helps in enhancing growth in Nigeria. Additionally, the factors that determines profitability are significant issues in short term corporate finance which requires an intensive investigation (Frederiek & Cynthia 2003). Due to the above reasons, it is pertinent to find out which factors are associated with firms' profitability.

Existing literature on working capital management and profitability have been conducted in developed and developing countries; the greater part of which have not been in the conglomerates sector. Most studies focused on other industries, for instance Mazlan and Leng, (2018), Iqbala and Zhuquan (2018), Ngendakumana et al. (2015), Iqbal, Ahmad, and Riaz (2014) focused on manufacturing companies. Olarewaju et al. (2017), Muhammad, Saminu Jibril, Wambai, Ibrahim, and Ahmad (2015) investigated the food and beverage sector, and Chowdhury, Alam, Sabiha, and Kaysher (2013) studied Pharmaceutical companies. While Nazir and Afza (2009) examined Industrial firms. Further, Dauda (2015) focused on financial sectors among others.

Moreover, according to Kaleem (2015) as cited in Nabi (2018) who noticed that working-capital-management problems are the key causes of business failure and

that at least 60% of business fail in the fourth year due to working capital issues. This research will also seek to know how the study variables will affect the profitability of conglomerate companies which is an active sector of the economy in Nigeria. The above challenges motivated the researcher to undertake this study of examining the impact of working capital management on firm profitability of conglomerates companies in Nigeria.

The aim of this study is to examine the impact of working capital management on firm profitability of listed conglomerates companies in Nigeria. To achieve these aims, the following null hypothesis were formulated.

Ho<sub>1</sub>: Total current assets to total assets ratio has no significant impact on firm profitability

Ho<sub>2</sub>: Total current liabilities to total assets ratio has no significant impact on firm profitability

Ho<sub>3</sub>: Sales growth has no significant impact on firm profitability

Ho<sub>4</sub>: Firm size has no significant impact on firm profitability

## **2. Review of related Studies**

Binti Mohammad and Binti mohd saad (2010) examined the impact of working capital management on profitability and evaluation of companies listed on the Malaysia Stock Exchange. The sample size of the study comprised of 172 companies covering the period of 7 years, 2003 to 2009. The results revealed a negative and significant relationship between variables of working capital with market value and profitability of company, and stated that Malaysian companies for maximizing profits are correlated to current assets.

Weinraub and Visscher (1998) and Nazir and Afza, (2009) adopted aggressive investment policy, and they analyzed working capital policies in the US market and Pakistan market separately. Aggressive Investment Policy (AIP) results in minimal level of investment in current assets over fixed assets. Conversely, a conservative investment policy places a huge proportion of capital in liquid assets with an opportunity cost of less profitability. When the level of current assets increases in proportion to the total assets of the firm, the management is said to be more conservative in dealing with the current assets of the firm. To quantify the level of aggressiveness of working capital investment policy, the following ratio was utilized:

Current liabilities are the financial burdens that are due within the next year or within the usual period if it would be longer than a year. Total assets ratio can be referred to the percentage of a firm's total assets that have been financed by creditors, which can also be seen as the total amount of a firm's assets. Dong and Su (2010) in a study that performed in direction with the Gill, Biger and Mathurs' study (2010) investigated 130 companies in Vietnam during 2006 and 2008. In this study they use cash conversion cycle, receivables collection period, inventory turnover period and the creditors' settlement period as working capital management criteria, and gross profit to total assets ratio as a measure of company profitability and also firm size, total debts to total assets ratio and financial assets to total assets ratio as control variables. Research results that were performed based on Pearson correlation and multiple regression analysis indicates that there is a significant inverse relationship between the cash conversion cycle and its components with profitability of companies.

Profitability is the capacity of a firm to create an excess of revenue over expenses in order to attract and sustain investment capital over time. Vishnani and Shah, (2007) describe profitability as the rate of return on company's investment. Working capital management is focused on issues that emerges in the process of dealing with the current assets, the current liabilities of firms and the interrelationship that exists between them. Daniya, Alhaji, Fatima, and Abdulrahman, (2018) described the concept of working capital management as an effort to oversee and control the current assets and the current liabilities in order to maximize profitability in business. As indicated by Lasisi, Dikki, and Okpanachi, (2017) sales growth means an expansion in sales over a specific period of time, and the sum a firm has close by or can generate rapidly uncovers how sound the firm is monetarily. Current assets are those assets that firms can easily convert into cash within a year without encountering a dwindling in value and upsetting the operations of the business (Azeez, 2015). Additionally, current liabilities are financial obligations of firms that are due and payable within a year. Moreover, current assets are utilized in settling current liabilities, such as cash, or by creating a new current liability.

Waheed and Nabi (2018) examined the impact of working capital management on financial profitability of Lucky cement and Attock cement companies. This research demonstrated that working capital has huge effect on the financial profitability of these companies. Also, Mazlan and Leng, (2018) analyzed working capital management moderating role on the relationship between the key

determinants of working capital and firm profitability among 282 public-listed manufacturing firms in Malaysia. Data covering the period of 2010 to 2014 were extracted from the annual reports of these firms. The study classified working capital management components into working capital requirement and net liquid balance. The study found that critical determinants of working capital and financial profitability is moderated by both working capital requirement and net liquid balance.

Iqbala and Zhuquan (2018) investigated the impact of working capital management on the profitability of manufacturing firms listed on Karachi Stock Exchange in Pakistan for the period of 2008 to 2014. The findings of the study discovered that paying full attention to cash conversion cycle has great impact on working capital of firms in Pakistan. It further concluded that approving on short periodic payments, invoicing and regular examination of credit rating enhances working capital management. Also, a study conducted by Yakubu, Alhassan, and Fuseini, (2017), empirically examined the effect of working capital management on the profitability of five non-financial firms listed on the Nigerian stock exchange covering the while average collection period, inventory turnover and cash conversion cycle negatively affects firm profitability. However, only average collection period, average payment period, cash conversion cycle, and current ratio are found to have a significant impact on firm profitability.

Sarwat, Iqbal, Durrani, Shaikh, and Liaquat (2017) investigated the effect of working capital management on the profitability of 18 firms in the Pakistan's cement sector from 2007 to 2011. The researchers adopted the Panel Least square method in analyzing the data and the results revealed that assets turnover ratio (ATO), current ratio (CR) and size of the firm (SLS) have positive and significant effect on return on assets (ROA). While Inventory, account receivable and payable, the most important elements of working capital, had insignificant effect. The study concluded that the efficiency of working capital management does not play a significant role in enhancing the profitability of firms. Additionally, Nortey, Darkwah, Asare-Kumi, and Iddi, (2016) studied the determinants of working capital management on profitability of Ghanaian manufacturing and industrial firms listed on the Ghana Stock Exchange for Fifteen (15) years. The study revealed that short term liquidity, convertibility and operational factors are significant determinants of working capital management.

Muhammad, Saminu, Wambai, Ibrahim and Ahmad (2015) analyzed the impact of working capital management on corporate profitability of seven firms listed on Nigerian Stock Exchange covering the period of 5 years, 2008 to 2012. Descriptive statistics and GLS regression was used in analyzing the data with the aid of STATA. The results revealed a positive relationship between current ratio (CR), firm size (LOGSIZE) and profitability. Moreover, Fahim, Kaviani, and Fashtali (2015), investigated on a New Model for Assessment of Working Capital Management of 90 companies listed on Tehran Stock Exchange. The study covered a period of 5 years, 2008 to 2012 and the results found an insignificant inverse relationship between cash conversion cycle (CCC) and net working capital to total assets (NWC/TA) as predictors of working capital with return on assets (ROA). Additionally, it also revealed that current ratio and quick ratio significantly indicate an inverse relationship with return on assets (ROA).

Kandpal and Kavidayal (2013) examined the implication of working capital management on the profitability of ONGC Ltd in India. The study extracted secondary data from the annual reports of the firm for the period of 13 years, 2000 to 2012. The result revealed that working capital management significantly impacted profitability. Also Lotfinia, Mousavi, and Jari, (2012), examined the relationship between working capital management and firm characteristics of 80 companies listed on the Tehran Stock Exchange. The model of the study was analyzed using stepwise regression analysis and it was found that there is no relationship between working capital management and Tobin Q.

Owolabi and Alayemi (2010) examined indicators of working capital management as a financial strategy as its impacts on liquidity and profit of Nestle Nigeria Plc for a period of 5 years, 2004 to 2009. The study was analyzed using regression technique of data analysis. It was found that there exists a negative relationship between current ratio and profitability. More so, Nazir and Afza, (2009) explored the impact of aggressive working capital management policy on firms' profitability. Panel data set for the period of 8 years, 1998 to 2005 was extracted from the annual reports of Pakistani firms. Using regression analysis, the study found a negative relationship between profitability measures of firms and degree of aggressiveness of working capital investment and financing strategies.

### **3. Methodology and Data**

This study adopts the longitudinal research design. This is because the research is aimed at testing expected relationships between variables and making of

predictions regarding these relationships. The data was obtained from secondary sources through the firm’s audited annual reports. The population of the study consists of the six (6) Conglomerates firms listed on Nigeria Stock Exchange as at 31st December 2017, while the sample size is six (6) which are A.G Leventis Plc, Chellarams Plc, John Holt Plc, SCOA Plc, Transactional Corporation Plc and UAC Plc. The study used census sampling techniques which is based on the adoption of the study firm. Multiple regression techniques were used for the analysis through the use of STATA 13. Multiple regressions were considered appropriate in view of the fact that it helps in assessing the effect of working capital management on firm profitability of listed conglomerates companies using a strategy approach.

An aggressive Financing Policy (AFP) uses higher levels of current liabilities and less long term debt. Conversely, a conservative financing policy utilizes more long term debt and capital and less current liabilities. The firms are more aggressive in terms of management of current liabilities thereby putting their liquidity at risk. The degree of aggressiveness of a financing policy adopted by a firm is measured by working capital financing policy, and the following ratio is used:

$$AFP = \frac{\text{Total Current Liabilities (TCL)}}{\text{Total Assets (TA)}}$$

Where a higher ratio implies a generally aggressive policy.

The impact of working capital management on the profitability has been analyzed using return on assets (ROA), which was calculated as:

$$ROA = \frac{\text{Profit before Taxes}}{\text{Total Assets}}$$

The impact of working capital management on the profitability of the conglomerates firms is examined using the panel data regression analysis. The profitability variable is proxy by ROA and working capital management which is the independent variables are proxy by TCA/TA and TCL/TA alongside the control variables, sales growth and firm size was analyzed using the STATA software. The econometric model employed in this study is a linear model which is specified as follows:

$$ROA = a_0 + \beta_1 TCA/TA_{it} + \beta_2 TCL/TA_{it} + \beta_3 SG_{it} + \beta_4 FMSZ_{it} + \epsilon$$

From the model, the subscript ‘i’ represents individual firms ‘t’ denotes the sample period from 2013 to 2017, and the symbol ‘a’ refers to the intercept while ROA, a proxy of firm profitability is the dependent variable. Total current asset to Total asset, Total current liability to Total asset, leverage and firm size are represented by AIP= (TCA/TA), AFP= (TCL/TA), Sales growth, and FMSIZE respectively.  $\epsilon$  refers to the error term, and  $\beta_1$  to  $\beta_4$  represent the model coefficients.

**4. Result and Discussions**

**Descriptive Statistics**

Table 1 presents the descriptive statistics of the data.

**Table 1: Descriptive Statistics**

Variables	Obs	Minimum	Maximum	Mean	Standard Dev.
ROA	36	-0.21	0.11	-0.0072222	0.0836186
TCA/TA	36	0	0.82	0.4236111	0.2289997
TCL/TA	36	0	0.81	0.405	0.2295026
SGrowth	36	-0.53	1.2	0.0244444	0.3144550
Firm Size	36	16.1423	26.37759	23.73605	2.179838

**Sources: Stata output, 2020**

From the descriptive statistics in table 1, it shows that firm profitability of conglomerate companies is 21% negative return on asset during the period of the study with a maximum of 11% and an average decrease of 0.72%. This could mean that during the period of the study, conglomerate companies in Nigeria experienced dwindling firm profitability. On the average, total current asset to total asset ratio stood at 42% indicating that some conglomerate companies engaged in aggressive current asset investment policy since the mean the mean value is below 50%.

Additionally, total current liability to total asset has an average value of 40% with a minimum value of 0% and a maximum value of 81% suggesting that some conglomerate companies were conservative in their approach to working capital management. Also, during the period under study, sales growth and on the average, firm size of conglomerates in Nigeria stood at ₦23.7 billion with a maximum of ₦26.4 billion and a minimum of ₦16.1 billion during the period of the study.

**Correlation Matrix**

Table 2 presents the correlation results of the data. It reveals the relationship between the dependent variable and the independent variables as well as the relationship among the independent variable themselves.

<b>Variables</b>	<b>ROA</b>	<b>TCA/TA</b>	<b>TCL/TA</b>	<b>Salesgrw</b>	<b>Firmsz</b>	<b>VIF</b>
<b>ROA</b>	1					
<b>TCA/TA</b>	-0.0026	1				5.00
<b>TCL/TA</b>	-0.3082	0.8807	1			5.19
<b>Sales grw</b>		-0.0418	-0.1963	1		1.27
<b>Firm sz</b>	0.3003				1	1.13
	0.4243	-0.0515	-0.0183	0.2978		

**Sources: Stata output, 2020**

The results of Pearson correlation coefficient of all the variables included in the study is presented in table 2. From the table, on the minimum, there exists a -0.26% inverse relationship between total current asset ratio and return on assets which reflects a weak relationship between the dependent variable and a maximum of 88% positive relationship between total current liability ratio and total current asset ratio. Although depicting multicollinearity, the variance inflation factor (VIF) test results of 5.19 which is less than 10 indicates absence of multicollinearity. The table also explains relationship among the independent variables respectively. Additionally, the table shows an inverse relationship between firm profitability and TCA/TA and TCL/TA respectively. Meaning that an increase in TCA/TA and TCL/TA will cause a decrease in the profitability of conglomerate companies in Nigeria.

**The regression result**

The combined and overall effect of the independent variables which includes TCA/TA and TCL/TA on firm profitability of listed conglomerates in Nigeria is shown in the model of the regression result. Also, the F- statistics, which signifies the adequacy and fitness of the model of the study is significant at (0.0000) level. The coefficient of determination represented by R<sup>2</sup> stood at 64%. Meaning that 64% of the changes in the dependent variable is caused by the independent variables, while the remaining 36% is caused by other factors outside the model.

**Table 3 Regression Result**

<b>Variables</b>	<b>Coefficient</b>	<b>Z-value</b>	<b>P-value</b>
Constant	-0.3773316	-2.57	0.010
TCA/TA	0.5243489	5.91	0.000
TCL/TA	-0.5751923	-6.51	0.000
Sales growth	-0.0217663	-0.71	0.478
Firm size	0.0160715	2.86	0.004
<b>R<sup>2</sup></b>			<b>0.6360</b>
<b>Adjusted R<sup>2</sup></b>			<b>0.5891</b>
<b>F. Statistics</b>			<b>0.0000</b>

**Source:** Output STATA, 2020

The regression results revealed that total current asset to total asset with a beta coefficient of 0.5243 (p-value 0.000) is significant and positively affecting the profitability of conglomerates in Nigeria at 1% level of significance. Deducing that for every one percent increase in level of working capital conservatism, profits of conglomerates companies in Nigeria will increase by 52kobo. This means that the more working capital management using the conservative approach, the higher the profitability of conglomerate firms. Thus on the basis of this analysis, the null hypothesis which states that total current assets to total assets ratio has no significant impact on firm profitability is hereby rejected. This study is in support of the work of Kandpal and Kavidayal, (2013) examined the implication of working capital management on the profitability of ONGC ltd in India.

Additionally, total current liability to total asset ratio has a beta coefficient of -0.5752 (p- value 0.000) indicating a negative but significant relationship between TCL/TA and firm profitability of conglomerate companies in Nigeria at 1% level of significance. This result implies that, the higher the aggressiveness of working capital management, the lower the profitability of conglomerates firms in Nigeria. This could be due to risk averseness of investors. On this note, the second null hypothesis which states that total current liabilities to total asset has no significant impact on firm profitability is hereby rejected.

Further, sales growth which is a control variable has a beta coefficient of -0.2178 (p-value 0.478) is positively affecting firm profitability of conglomerates in Nigeria although insignificantly. This indicates that, the higher the level of sales, the lesser the profitability of conglomerates in Nigeria. This could be due to improper management of receivables. Hence the null hypothesis which state that there is no

significant impact of sales growth on the profitability of conglomerates in Nigeria, is hereby accepted.

More so, the model revealed firm size has a beta coefficient of 0.016 (p-value 0.004) implying a significant and positive relationship with firm profitability and meaning that the bigger a conglomerate firm, the bigger its profitability during the period of the study. This is because bigger firms have more volume transactions, better management and higher liquidity. Based on this, the null hypothesis which states that firm size has no significant impact on firm profitability is also rejected. This work is in line with the work of Owolabi and Alayemi, (2010) examined indicators of working capital management as a financial strategy as its impacts on liquidity and profit of Nestle Nigeria Plc for a period of 5 years, 2004 to 2009.

## **5. Conclusions and Recommendation**

This study examined the impact of working capital management on the profitability of conglomerates firms listed on the Nigerian stock exchange. It can be concluded from the analysis that when conglomerate companies practice conservative approach to working capital management, their profitability increased. To further corroborate this assertion is the inverse finding that indicated a negative significant relationship between aggressive working capital management and firm profitability of conglomerate companies in Nigeria. The study found out that the conservative approach to working capital has a positive and significant impact on profitability.

Based on this conclusion, it is recommended that conglomerate companies in Nigeria adopt the conservative approach to working capital management so as to experience an increase in profitability for business sustainability. The study suggests that more firms should embrace the conservative approach to operate efficiently in the emerging market of Nigeria as firms with more aggressive policy towards working capital may not be able to generate more profit.

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## EXTENT OF SUSTAINABILITY DISCLOSURE IN LISTED NIGERIAN OIL AND GAS COMPANIES

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### Abstract

*Global reporting initiatives (GRI) guidelines has received wide spread acceptance across the globe in the area of sustainability reporting. Several studies conducted in developed countries proved the effectiveness of the GRI index. In order to enjoy the benefits attributable to sustainability reporting, many developing nations claim compliance with the GRI index. However, the extent of compliance with the index remain sketchy. The objective of this research is to discuss this challenge by measuring the extent of sustainability disclosure in the Nigerian oil and gas companies using the Global Reporting Initiatives (GRI) framework as yardstick. The study used secondary data collected from the annual report and accounts of eight (8) selected oil and gas companies listed on Nigerian Stock Exchange (NSE). Weighted disclosure index was used to measure the level of compliance with sustainability disclosure among these companies. T-test was used to find the means difference of the selected companies using company characteristics. The findings reveal that there is significance level of compliance with sustainability disclosure requirement by the companies. It also reveals yearly improvement in the means compliance across the study period. In addition, companies complied more with the requirement under strategy and analyses than other categories of the disclosure requirement. It also shows that big companies complied more with the disclosure requirement than small companies. However, profitability and audit quality of the companies have no significance difference in influencing level of disclosure. The study further suggests for future research the assessment of value relevance of this level of compliance.*

**Keywords:** Sustainability Disclosure, GRI, Disclosure Index, Oil & Gas

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### 1. Introduction

Recently, global warming and climate change are the most challenging issues facing the world that attracts attention of government, corporations, and nongovernmental organizations, among other stakeholders. It is the negative reactions of the environment as a result of our day to day activities. These have become increasingly emergent problems that threaten the future of the world. Many stakeholders urging action and proposing several solutions in relation with its

consequences (Prado-Lorenzo, Rodríguez-Domínguez, Gallego-Álvarez & García-Sánchez, 2009).

There is an inevitable adverse effect of decline in environmental quality as a result of the rapid growth of industries, mainly due to the effect of their activities, which directly affect climate. Consequently, the need for companies to be accountable for and disclose effects of their activities on the overall society and environment in which they operate. This call for concern to government and non-governmental organizations as to measures that will remedy this effect. One of the trending issues that attract the concerns of government, professionals, academic researchers and other stakeholders is the issue of climate change. This issue is what triggered the call for sustainability reporting which is a supplement of non-financial reporting. Sustainability reporting is receiving much considerations even with current methodological problems and information gaps (Hahn & Kühnen 2013).

Sustainability reporting has been considered as one of the important concepts addressing this issue. Global Reporting Initiative (GRI) defined sustainability reporting as incorporating non-financial report that disclose the activities of an entity with regard to economic, social and environmental cost and benefit. It is a report prepared by an organization about economic, environmental and social cost and benefit of its activities. The report is used as tool for meeting the non-financial information need of the different stakeholders.

There have been numerous efforts to render sustainable development down into a few definitional words or sentences in the context of few industries, such as mining and the likes. These frequently result in a reductionist approach that fails to capture complexity and scale. For example, sustainability has often been defined in the context of a mine location or community where such activity is taking place. Nevertheless, it cuts across all industries, though some organizations are more environmentally sensitive than others, there is no organization that has no impact on environment.

The concept of sustainability is often used to refer to corporate non-financial reports. Several experts, however, claim that such reports overlook fundamental tenets of sustainable development (Mudd, 2009). Consequently, there is an increasing call for greater approaches to reporting, in which companies use extra all-inclusive and integrative frameworks to measure contributions to sustainability (Henriques & Richardson, 2004).

Historically, continuing to focus on sustainability-related reporting has witnessed many changes. In the 1970s, the financial reporting in Western countries was sometimes supplemented by additional social reports. In the 1980s, the focus was on environmental issues such as air and waste which often replaced the previous report. In the late 1990s, research and practice reports began to take a closer look at social and environmental issues at the same time in a joint report that was often published with a traditional financial report.

This advancement can be directly connected to the development of voluntary standards through the Global Reporting Initiative (GRI) (Kolk, 2010). GRI is today the de facto global standard (KPMG, 2011) for sustainability reporting. It is currently the most widely used standard for sustainability reporting worldwide (Marimon, Alonso-Almeida, Rodriguez, & Alejandro, 2012). It has evolved since its inception to adapt to the requirements of stakeholders and the market and to continue to build transparency and trust. However, despite standardization efforts, there are still significant differences between companies from different institutional environments regarding the content and quality of sustainability reports (Fortanier et al., 2011), which implies differences in global academic interest as well.

Marimon et al. (2012) opined that, the objective of GRI is to guide prefers in producing report that present and properly disclose a clearer vision of the human and ecological impacts of an organization or its activities. Additionally, one of the GRI's main functions is to enable shareholders and other stakeholders make knowledgeable decisions regarding investments and other relationship with the company. Thus, the GRI is a framework that can be serve as benchmark that judge records of sustainability. In addition, the GRI framework provides the opportunity to make information comparison and benchmarking among different organizations easier. Ioannou and Serafeim (2011) also noted that the GRI uplifts sustainability reporting to the same thoroughness as financial reporting.

Stakeholders' concerns accompanied the increase in sustainability reports based on the GRI regarding their limitations and possible negative consequences. Some analysts say that the introduction of non-integrated sustainability reporting frameworks, such as the GRI, was important in that it helped organizations increase transparency and accountability for a range of social and environmental issues.

Many studies were being conducted in the area of sustainability reporting due to the ongoing weight attached to green consciousness. These produced a lot of literature in the area. Nevertheless, in emerging economies, the literature is still

limited in quantity and no major reviews of the latest developments have been presented so far. In African countries, only few researches were conducted to bridge this gap. This research aimed to fill this gap by assessing the level of compliance with sustainability disclosure requirement among the listed Nigerian Oil and Gas Companies.

## **2. Literature Review**

GRI is an autonomous international organization that first championed the founding of sustainability reporting guidelines. They are established in 1997 by group of companies who were members of the Coalition for Environmentally Responsible Economies (CERES) to assist stakeholders worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social comfort (GRI 2018).

Since from their inception, they have been undergoing serious improvement to accommodate global dynamic environment. GRI Standards are issued to symbolize global best practice in reporting sustainability for companies or organizations that want report its contribution towards achieving sustainable development.

Availability of effective sustainability reporting by organization is considered one of the keys for successful strategic management (Perrini & Tencati, 2006). This gives all the stakeholders window to see what exactly the activities of organization are. Currently GRI is the most suitable framework for reporting such activities as it incorporates all the sustainability dimensions in their guideline.

Prior studies conducted on sustainability reporting shows mixed results. Some findings show significant level of compliance while others reveal otherwise. In a studied conducted by Daizy & Das (2014) where they examined the level of compliance with sustainability disclosure by Indian mining sector, the finding shows that, the level of compliance with the requirement of GRI framework was insignificant. Another study conducted in Sweden by Hedberg & Von Malmborg (2003) investigated the compliance with corporate sustainability reporting (CSR) specifically the requirement of GRI guidelines. The finding shows that even though sustainability disclosure increases organizational legitimacy and credibility of organizations, the level of compliance is still insignificant. In the same way, Folashade, Akinwumi, Dorcas, & Uwalomwa (2016) in their study assessed the level of sustainability disclosure by listed Nigerian Industrial Goods companies. The study was based on GRI framework and used content analysis in collecting the data from annual report of the sampled companies. The result shows insignificant level of compliance with sustainability disclosure requirement. In the study, no

disclosure was found in human rights in social dimension of the disclosure and only 3% under environmental dimension. Sustainability reporting by listed Nigerian food and beverages companies, concluded that there is significant level of disclosure. Where environmental activities represent 20.40% of the total disclosures follow by product 19.75% and the least, human rights with 12.84% level of disclosure (Isa, 2014).

### **3. Methodology**

This study used secondary data extracted from the annual reports of the sampled companies. The population of the study comprises the entire companies listed on Oil and gas sector of the main board of Nigerian stock exchange (NSE). Two-point filter criteria were used to select the sampled companies used in the study. First, the company must have been listed on the market prior to 2012. Second, the company must prepare and present its annual report to the market throughout the period under review. This is to enable the study to collect the necessary data to permit the generalization of the findings of the study. The period covered in the study is 2012 to 2016. The selection of 2012 as starting period was based on the fact that there are number of changes in reporting regime that have occurred in the year.

For the purpose of this study, data were collected from the annual reports of eight (8) selected companies listed in Oil and Gas Sector of NSE for the period of five years (2012 – 2016), this based on the importance this sector in the development of Nigerian economy and how sensitive this sector is in relation to environmental and social impact. Secondly, the 2012 to 2016 are the period in which financial reporting atmosphere has underwent important regulatory changes. These development range from the mandatory compliance with code of corporate governance in 2011 as well as mandatory adoption of international financial reporting standard in 2012.

The study used content analysis in collecting the data related to GRI disclosure and weighted disclosure approach was adopted to capture the extent of disclosure among the selected companies. In this method the level of disclosure of a particular item was ranked 0, 1 and 2 points. Two points was given to companies that fully disclosed an item of disclosure, one point was given for partial disclosure, while zero was given to companies that did not disclose an item of disclosure in their annual report and accounts.

Therefore, the score for each company is the proportion of the points scored to the total points essential to meet the voluntary disclosure requirement as stated in the formula below:

$$CS_J = \frac{T \sum_{i=1}^m di}{M = \sum_{i=1}^n di}$$

Where:

CS<sub>J</sub> = total compliance scored by a company.

T = Total number of points scored.

J = Company under study.

M = Total points essential to meet the disclosure requirements.

To test the level of compliance based on firm characteristics, the companies were portioned according to size, profitability and quality of audit. Total assets were used to partition the companies into large and small. Companies with the total assets above mean were considered large, while those with total assets below the mean were considered small. Return on Assets (ROA) was used to partition the companies into high profitable and low profitable companies. Companies with the ROA above average were considered high profitable companies, while those with ROA below the average were considered low profitable companies. Regarding the quality of the audit, companies are considered as companies with high audit quality if been audited by Big-4 auditing firms, while those audited by firms that are not Big-4 are considered companies with low audit quality.

#### **4. Empirical Results**

In this segment, data analyses and discussions related to the objective of the study were presented.

##### **Descriptive Statistics**

This study was aimed at assessing the level of compliance with the sustainability disclosure requirement by oil and gas listed Companies in Nigeria. Table 2 presents descriptive analysis of sustainability disclosure compliance by the sampled companies for the period of the study (2012 – 2016). The result shows that the minimum compliance was 0.500, while average and maximum compliance 0.996 and 1.417 respectively.

**Table1: Descriptive Statistics of the Sustainability disclosure compliance**

GRI	2012	2013	2014	2015	2016	All
Mean	0.948	1.000	1.000	1.000	1.031	0.996
Std. Dev.	0.302	0.321	0.299	0.295	0.305	0.290
Min	0.500	0.500	0.500	0.583	0.583	0.500
Max	1.250	1.250	1.250	1.417	1.417	1.417

**Source: Authors compilation, 2020**

The yearly analyses of summary statistics reveal continuous improvement in the mean compliance for the period of study. The average compliance level with GRI was 0.948 in 2012, 1.000 in 2013, 2014, 2015, and 1.031 for 2016. The average compliance level with GRI for the period under review was 0.996. The maximum level of compliance with GRI stands at 1.417 while the weakest level of compliance was 0.500. The standard deviation of 0.290 indicates lower variation of compliance across study period.

**Table 2 Compliance based on disclosure type**

Disclosure Type	N	Mean	Std. Dev.	Min	Max	t-stat	P-value
Category A	40	1.188	0.563	0.00 0	1.50 0	3.757 8	0.0006
Category B	40	0.958	0.250	0.60 0	1.40 0		

Category A = Strategy and Analysis based disclosure

Category B = Company Profile based disclosure

Table 2 presents the summary statistics analyses on extant of compliance with GRI when the requirements are partitioned into Strategy and Analysis (category A) and Organizational Profile (Category B). The results presented shows higher compliance with Category A requirements than that of Category B. that is to say, the average compliance of Category A companies is 1.188, while that of Category B is 0.958. The mean comparison test (t-test) conducted on the two categories reveals a significant difference in the level of compliance of the two categories.

**Table 3: Compliance based on company characteristics**

<b>Firm Characteristics</b>	<b>N=40</b>	<b>Mean</b>	<b>t-stat</b>	<b>P-value</b>
Size				
Big	20	0.846	-3.793**	0.0005
Small	20	1.146		
Profitability				
Higher	20	1.025	0.631	0.532
Lower	20	0.967		
Auditor Type				
Big 4	29	0.902	1.278	0.209
Non-Big 4	11	1.032		

**Source: STATA OUTPUT, 2020**

The extent of compliance with sustainability disclosure based on companies' characteristics was tested and the result is presented in the Table 4 above. The result of the means t-test reveals significant differences, at 1% statistical level of significance, in compliance between large and small companies. This means that there is significance difference in the level of compliance between big small companies. Conversely, the result of the means t-test reveals insignificant differences in compliance between high profitable and low profitable companies. Although the level of compliance of companies with high profitability is slightly high than that of companies with low profitability. Similarly, the result of the means t-test reveals insignificant differences in compliance between companies with high quality audit and those with low quality audit.

**5. Conclusion**

The study was aimed at assessing the level of sustainability disclosure by listed oil and gas companies in Nigeria from 2012 to 2016. The findings reveal that there is significance level of compliance with sustainability disclosure requirement by the companies. It also reveals yearly improvement in the means compliance across the study period. In addition, companies complied with the requirement under strategy and analyses than other categories of the disclosure requirement. It also shows that big companies complied more with the disclosure requirement than small companies. However, profitability and audit quality of the companies have no

significance difference in influencing level of disclosure. The findings of this study will add to the existing literature in the area of sustainability reporting. It will also guide regulators in Nigeria in shaping the future of accounting reporting environment. The study suggested for future research examining the economic, environmental and social dimensions of the sustainability disclosure requirement in Nigeria as well as determinants and value relevance of this disclosure.

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## CORPORATE OWNERSHIP STRUCTURE AND INVESTORS' CONFIDENCE OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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### Abstract

*This paper investigates the effect of corporate ownership structure on investors' confidence of listed deposit money banks in Nigeria. The study adopted correlational research design using panel data collected from annual reports and accounts of 14 deposit money banks in Nigeria that form the whole population of the study for the period of 10 years (2010-2019). Descriptive statistics was used to analyze data in order to provide summary statistics for the variables. Pearson's correlation technique was employed in order to analyze and ascertain the extent of the relationship between the dependent and independent variables. The fixed effect regression results revealed that institutional investors have a positive and significant relationship with investors' confidence. The result further shows that insider and block ownership has a negative and statistically significant relationship with investors' confidence. And on the contrary foreign ownership has no significant relationship hence did not play any role in influencing investors' confidence of listed deposit money banks in Nigeria. Based on the findings, the study recommends managers of listed deposit money banks in Nigeria should give more room to institutional investors to own more shares so that the higher their interest, the more they will be willing to monitor the activities of the firms. This will enable investors to have more confidence in the firms. Insider ownership should be monitored and reduced by the Securities and Exchange Commission; this will prevent insiders from owning a substantial amount of equity which give them the freedom to act in their best interests at the detriment of other shareholders. The study further recommends managers of listed deposit money banks should ensure that their firms desist from higher levels of block holder ownerships in order to reduce ownership concentration.*

**Keywords:** Corporate Ownership, Investors' Confidence, Listed Deposit Money Banks.

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### 1. Introduction

The formation of joint stock companies coupled with industrial revolution has brought about different issues of trust and accountability in the modern business

environment as ownership and control of corporations are separated. In the modern corporations, monetary resources pooled by investors are managed by a decision making body referred to as board of directors or as management committees. The management is expected to act in a fiduciary capacity, handle, direct, oversee and supervise the judicious usage of the joint resources of the investors to ensure quality decision making which will enable maximum shareholder wealth creation.

One of the critical drivers of every economy, its financial markets and business cycle is the confidence investors have in the economy and the capital markets. Investors are confident when the news about the future is appealing and the share prices in the stock market are rising. When investors' confidence in an economy increases, investors will want to buy more consumer goods as well as invest in stocks and shares. On the other hand, when investors' confidence decreases, consumer spending and investment tend to fall. Therefore, investor's confidence is a reflection of good firm performance and stock market price appreciation, which are summed up to shareholder wealth maximization. According to Kumar and Zattoni (2014), upholding this confidence is important for public firms because their growth and survival depend on the resources and funds provided by outside investors. In view of the strength of investors' confidence, capital markets researches strongly maintain that lack of transparency and accountability as well as the problem of information asymmetry is responsible for the apparent loss of confidence in stock values (Ann 2006). Investments are always risky and managers and inside owners apparently have a well-versed view of which projects are likely to thrive or flop, while outside investors have no access to such information and therefore cannot differentiate between good and bad investments.

One of the prerequisites for a strong capital market according to Black (2001) is ensuring that minority shareholders have access to 'reliable' information about the value of a company's business and also have confidence that insiders will not appropriate most or all of the value of their investment. Hence, Shleifer and Vishny, (1997) and Claessens, (2002) opined that corporate governance has a significant influence on investors' confidence by making it difficult for self-interested managers and controlling shareholders to divert the firm's resources to non-productive investments. While stressing the significance for studying investor confidence, Li, Lai and Tang (2016) pointed that investor confidence is connected with the steady and strong development of capital markets, the researchers further stressed that the formation mechanism of investor confidence is relatively complex. The seminal work of Shleifer and Vishny (1997) concluded that corporate

governance relates to the ways in which the shareholders of corporations guarantee themselves being paid a return on their investment. While in the same vein Hansmann (2000) added that ownership structure is the hard core of corporate governance in which a firm's "owners," is those persons who share two prescribed rights: the right has control over the firm and the right to have a share in the firm's profits. The ownership structure is defined by the distribution of equity with regard to votes and capital as well as the identity of the equity owners (Raji 2012).

Furthermore, Lins (2020) argued that corporate governance could assist in aligning the interest of shareholders, managers and other stakeholders via a constitutive ethical basis which will enable organizations achieve their long term strategic objectives as well as build a strong shareholder value and lay foundation for a commanding market share. Based on the preceding arguments, good corporate governance will lead to a better financial performance and increase in corporate value and hence lead to an increase in investors' confidence (Newell & Wilson, 2002). From these theoretical postulates on investor confidence, existing empirical studies have investigated different aspects of corporate governance in relation to investor confidence. For example, Li, Lai and Tang (2016) found that corporate governance is positively correlated with investors' confidence and the corporate governance level of varying industries has diverse level of impact on their investor' confidence. Additionally, there is lagged effect in investors' confidence meaning, investors' confidence in the previous year has a positive impact on the current year investors' confidence.

This study is motivated by many factors, one, the study is motivated by the recent needs by capital markets to enhance and improve the corporate governance status of listed companies. Hence, this study focuses on the effect of corporate ownership structure on investor confidence in the deposit money banks in Nigeria. The study is also motivated by the recent crises of failures and defaults in the Nigerian banking industry, which eroded the confidence of investors and the general public. For instance, historical trend of Nigerian banking sector revealed a series of credit and liquidity problem as well as failures of banks, which according to Emeka (1997) was first started in 1930. Moreover, the industry also witnessed crises in the 1990s and makes the first bail-out of 13 banks necessary by the Nigerian Deposits Insurance Corporation (NDIC) and CBN. Recently, Nigerian banks suffered wide spread of financial crises which led to declaration of many banks as distress, and takeovers and mergers including the rescue of 8 banks through capital and liquidity injections, as well as prosecution of the banks' Chief Executives (Sunusi, 2012).

These problems according to Soludo (2004) are as a result of poor corporate governance. This therefore call for investigation of different corporate governance aspect in order to find a lasting solution to issues of confidence in the banking sector, this study is an effort towards that.

This study therefore assumes that since corporate ownership structure as one of the mechanisms of corporate governance improves the confidence of investors in a particular firm, bring about corporate accountability, strengthen the quality and reliability of public financial information as well as augment the efficiency and integrity of the stock market. The study is an attempt to find out how ownerships by institutions, insiders (managers and directors), foreigners and block-holders affect the confidence of investors in the Nigerian capital markets. These forms of ownership were examined by previous literature such as Lauterbach and Tolkowsky (2004), Achleitner, Kaserer and Moldenhauer (2005), Mueller and Spitz (2006), Cornett, Marcus, Saunders, & Tehranian (2007), Karami (2008), Numazu and Kerman (2008), Ezazi, Sadeghisharif, Alipour, and Amjad (2011), Li et al (2016), McGraw, Larsen, Kahneman and Schkade (2010), Lee and Shailer (2008), Alnaser, Shaban and Al-Zubi (2014), Wu, Xu and Phan (2011), and Du (2014) and the findings are conflicting and inconclusive, necessitating further researches on the topic.

The main objective of the study is to examine the effect of corporate ownership structure on the investor confidence of listed deposit money banks in Nigeria. The specific objectives of the study are;

- i. To evaluate the effect of institutional ownership on the investors' confidence of listed deposit money banks in Nigeria.
- ii. To assess the effect of insider ownership on the investors' confidence of listed deposit money banks in Nigeria.
- iii. To determine the effect of foreign ownership on the investors' confidence of listed deposit money banks in Nigeria.
- iv. To examine the effects of block ownership on the investors' confidence of listed deposit money banks in Nigeria.

Consequently, the following hypotheses are formulated in null form:

**H<sub>01</sub>:** Institutional ownership has no significant effect on the investors' confidence of listed deposit money banks in Nigeria.

- H<sub>02</sub>:** Insider ownership has no significant effect on the investors' confidence of listed deposit money banks in Nigeria.
- H<sub>03</sub>:** Foreign ownership has no significant effect on the investors' confidence of listed deposit money banks in Nigeria.
- H<sub>04</sub>:** Block ownership has no significant effect on the investors' confidence of listed deposit money banks in Nigeria.

The study focuses on the ownership aspect of corporate governance of banks in relation to investor confidence in Nigeria. The study therefore is restricted to deposit money banks listed on the floor of the Nigerian Stock Exchange (NSE) market during the accounting period 2010 to 2019. Investor confidence in the context of this work refers to the aggregate investor confidence examinable in the market prices. While ownership mechanisms considered in this study are the insider ownership (managerial and directors ownership), institutional ownership, foreign ownership and block-holders. The study covers a period of 10 years (2010-2019). This study is significant and timely looking at the current growing need of solution to crises of confidence in Nigerian stock market, which is associated to some corporate failures in recent times.

Therefore, the reminder of this paper consists of four sections. After the current section, section two is the literature review, section three is the methodology used in the study, section four is the findings and finally, section five is summary and conclusions of the study.

## **2. Literature Review and Theoretical Framework**

Several empirical studies were conducted using different proxy for investor confidence, like firm performance, and market values to examine the effectiveness of corporate governance and its control mechanisms. The findings from the studies are conflicting and inconclusive necessitating the need for more studies on the topic. Ho and Wong (2001) carried out a study and discovered that impact of corporate governance structure could warrant effective accountability mechanism and intensify the reliability and high standard of governance information and increase nobility and efficiency of the capital market in order to enhance the confidence of investors. Leora and Inessa (2004) depended on governance rate of 14 emanating companies to analyze and found out the relationship between corporate governance rate and information variation. Mitra and Cready (2005) in addition to previous studies that examined the effect earnings management and corporate governance mechanisms found that checks by the institutional investors

also assist to avert managerial exploiting reporting attitude and enhance the value of governance. Their study concluded that institutional shareholders intercede and minimize the self-serving behaviour of corporate managers in financial reporting based on a sample of 136 companies belong to the S&P 500 group and 237 belong to non- S&P 500 category for the period (1991-1998).

In Malaysia, Abdullah (2006a) studied the effect of management and non-executives interest on the financial irritation of firms on 86 comparable samples of distressed and non-distressed companies for a period of 1999-2001. Though the study was unable to detect empirical data on the link between board independence and CEO duality on firm value, the work found significant effect of management interests on firm value at the lower and higher level of ownership. Thus, Abdullah (2006b) broadens Abdullah (2004) work on financial performance by examining the extent to which firm's performance, internal governance of board of directors and ownership structure determine the remuneration of directors of public listed companies in Malaysian. Even though the study did not discover a relationship between performance and directors' remuneration, he finds negatively significant evidence between board independence and the extent of non-executive director's interest with directors' remuneration levels and put forward that the extant of these two governance mechanisms are effective in restricting the level of directors' remuneration in Malaysia.

According to him Malaysian institutional investors prefer short-term investment rather than long-term achievement that that make their decision to dispose their substantial shareholdings inevitably depress the market share price dramatically that support 'myopic investor' hypothesis. However, finding by Abdullah (1999) may be arguable for recent capital market development that shows greater institutional investors' participation as corporate monitoring. Institutional investors in Malaysia nowadays have become a substantial and influential constitution that plays a huge remarkable part in corporate governance to protect minority shareholder's interest.

A study by Wahab, How and Verhoeven (2008) discovered an evidence of a negative and significant mono-directional causality that occur from institutional ownership to performance which indicates that institutional shareholding is a determinant of poor performance in of firms but on the contrary poor performance is not a determinant of institutional ownership. Furthermore, the study found that use corporate governance practice is used by institutional investors to gauge the

investment decisions they take which suggest that good corporate governance practices in firms entice more institutional ownership.

Chung and Zhang (2011) discover that when their huge amount of excess free cash flow that affects significantly level of corroboration that exist in the role institutional shareholder play in reducing the discretionary accrual and surplus free cash flow. The existence of institutional investors with sizeable number of shareholdings prevent managers from undertaking in income growing discretionary accruals when companies are having excess free cash flow, nonetheless, in the absence of free cash flow agency problems, the institutional investors do not constructively compel the management's utilization of earnings increasing discretionary accrual. Also, Lauterbach and Tolkowsky (2004) discover taking 144 firms as sample in Israel, that Tobin's Q is optimized the moment votes of control group reaches 67%. This proof holds water when ownership structure is regarded as exogenous and feeble when it is regarded endogenous. Kaserer and Moldenhauer (2005) examine the existence of correlation between performance of firms and insider ownership. The work studies in 2003 a data of 245 firms in Germany where they established a significant positive relationship between firm performance, as gauged by performance of stock price in relation to insider ownership and Tobin's Q.

In Germany also, Mueller and Spitz (2006) find the impact of managerial ownership on financial outlook of Small and Medium Enterprises with motivational hypothesis testing, in the study. For the period 1997 to 2000, a sample data of 356 firms was examined in services industry that have link with business-oriented research. The study finds a positive impact on performance of firms with managerial ownership rate, above 40 percent. Cornett et al (2007) in their study examined the impact of institutional shareholders on performance using the rate of operating cashflow as a yardstick of performance big firms. The study established a positive significant impact on the ratio of operating cash flow to sales as a measure of performance by the level of institutional shareholders.

Karami (2008) examined the impact of institutional ownership on informational content of profit. His study assessed and gathered date in respect of supervisory role of institutional investors from the view point of how much can the informational content of reported earnings be caused by institutional ownership. In this research, the different were assessed regarding institutional owners. In an attempt examine the impact of institutional ownership on informational content

firm profit two models of multiple linear regression were employed. From the outcome of date examined from of this study, the rate of ownership held by institutions reduce the information content of the reported returns on profit, thus the rate of information of profit is increased by the extent of institutional ownership structure on one hand.

Numazu and Kerman (2008) examined the relationship between ownership structure and performance of companied listed on Stock Exchange in Tehran. The major theorem of the studied laid emphasis on impact of ownership structure on performance of the studied companies. Panel data was examined to assess the evidence. They separated ownership structure institutional and private as two different classes of ownership where the private ownership is further slatted into three classes which managerial, corporate and outsider ownership. Results from this work show that there is no positive relation between institutional ownership and firm performance on one hand and significantly positive relationship between the companies' performance and ownership structure. It further shows a negative impact on the level of performance by the Managerial shareholding in respect of private ownership. From the sample of companies, they studied, there was no empirical data showing the impact outsider investors. The 34 investors in the private ownership on the other hand proved more meaningful corporate investors possessing the major ownership in the companies. The study indicated majorly that the ownership structure and performance of the companies have a significant relation.

Ahmadpour and Krdtbar (2008) investigate the level of impact on behavior of corporate earnings management examined by the role of monitoring tools of corporate governance in attitude of corporate earnings by management inactive members of institutional investors and that of board of directors. The data indicated that institutional shareholders and inactive managers have no meaningful part to lessen the uncommon contractual records. Sadeghi Sharif and Bahadori (2009) study the relationship between Dividend Pay-out Ratio and ownership structure of firms in Tehran listed on the floor of Stock Exchange. Analyses from the study indicate the existence of a positive influence on the Dividend Pay-out Ratio (DPR) by the extent of the ownership of the greatest shareholder and also the extent of ownership of five greatest shareholders of the firm, i.e. the firms that have greater level of ownership possessed by a shareholder or by its five greater shareholders, have a more DPR, in relation to the companies whose ownership is dispersed and concentration in ownership expands the firm's DPR. Also the relevance of being

more institutional ownership in company's DPR was proved. Hence, at the time company's institutional ownership grows it increases DPR. On the contrary, the DPR decreases when the individual shareholders ownership in a company grows.

Ezazi et al (2011) analyzed impact on share price volatility caused by ownership structure on in Tehran. The results of this research indicate that the price of shares of the companies whose more percentage of shares are held by their greatest shareholders may have more volatility and the share price volatility of the companies that the more percentage of their shares is hold by individual shareholders is lower. It needs to be observed that the yardstick of members of the board of directors and institutional shareholders and that of ownership of five greater shareholders might not indicate any reason for investors interested in share price volatility.

Lee and Shailer (2008) show that disclosure of corporate governance information might increase independence of board of directors to enhance the role of management layer and board of directors and strengthen the integrity of financial statement and in lead to an increase in the investors' confidence. McGraw et al. (2010) believed that the confidence in investor confidence originated from their assessment and vision of what the future holds and was as a result of bias thought that makes them positive in the anticipation of favorable return of the ventures and convinced outcome in the future and had no fear of misfortune and uncertainties of the future.

Li, et al (2016) select the factors of corporate governance rate to analyze and assess the impact corporate governance extent on retaining and expanding investors' confidence from likely interested investors. The study evaluates the impact of confidence of in investors' and the extent to which corporate governance appreciates. They selected a sample A-share companies listed in Shanghai Stock Exchange of China from 2011-2013 is selected as the sample to analyze the panel data. The study revealed that a greater level of corporate governance leads to more confidence of investors. On the same vein, investors' confidence is also motivated by the broader level of the market arena comes with multiple opportunities which explains the peculiarities of the market therefore, the level of meaningfulness of corporate governance extent varies by industries in respect of the perception of investors' and their extent of confidence. However, the findings indicate a positive lag effect in the confidence of investors.

Li et al. (2005) also held that corporate governance with high quality could improve corporate value and bring abundant return to investors. Higher corporate governance level could produce better consistency and stability for corporate operation strategy and better guarantee the investment in the future and make investors more confident. Li et al. (2012) believed from his evaluation, huge rate corporate governance was influential for reducing the dissymmetry degree of information and assisting investors to appreciate the worth of firm and reduce investment uncertainty by means of useful information disclosure. Lei, Wang and Jin (2012) suggested that investor confidence was the product of market factors and corporate factors and the empirical result showed that stronger investor confidence was associated with higher governance quality.

Wu et al. (2011) examined corporate governance, investor emotion and excessive portfolio investment. The findings reveal that listed companies of our country generally participated in portfolio investment and face the challenges of excessive portfolio investment to some extent. The reason was investors in high spirit instead of imperfect corporate governance structure. Part of literatures took investor confidence as an intermediate target. Nabil et al. (2014) study how effective corporate governance structure improves investor confidence, it ensures corporate accountability, improves the reliability and quality of public financial information, and enhances the integrity and efficiency of the capital market. The study has covered 10 public companies in Jordan. The study concluded that corporate governance in public companies is effective in Jordan because it is complying with state and federal statutes, complying with listing standards, and implementing best practices suggested by investor's activists and professional organizations. Further recommendations by the research include maintaining the current level of investors' confidence and to work on developing the legal framework for corporate governance in the light of the proposed development of a conceptual framework.

Güner, Malmendier and Tate (2008) studied the benefits of having financial expertise at the organizational level of directors. The research concluded that the existence of director's expert in financial control could affect the confidentiality of companies through the creation of more accurate information and better audited financial states. Haniffa and Cooke (2002) reported that firms with a higher proportion of board members with accounting and finance expertise tend to disclose more voluntary information to reflect their credibility and reputation. Wagner (2008) added that during the composition of a board, a compromise must exist between independence and competence in order to create an optimally efficient

group. Thus, the existence of qualified directors is an indicator of the quality of published information.

Analysis of corporate ownership as a control mechanism can be conducted on different theoretical assumptions. One of these theories is the property right hypotheses which according to Alchian (1965), firms operating in the private sector arena ought to perform better and more profitably than firms in the public sector. Because in the case of government-owned firms, as Shleifer and Vishny (1997), point out that while they are technically controlled by the public, they are run by bureaucrats who can be thought of as having extremely concentrated control rights, but no significant cash flow rights. The property rights theorem has been tested else-where. Majumdar (1998) has tested the property right theory by comparing the financial performance of state owned, private owned, and mixed state-private ownership firms and found that the most profitable firms were the private owned, followed by mixed ownership. State owned enterprises had the worst performance. Many other studies like Shleifer and Vishny (1997), and Shleifer (1998) Ramaswamy (2001) have drawn similar conclusions. However, Demsetz and Villalonga (2001) argued that the ownership structure of a corporation should be thought of as an endogenous outcome of decisions that reflect the influence of shareholders.

Another theory that explains the role of ownership in corporate governance monitoring and control is the institutional theory. This theory emphasizes the influence of socio-cultural norms, beliefs and values, regulatory and judicial systems on organizational structure and behavior. According to North (1990) institutions regulate economic activities through formal and informal rules as a basis for production, exchange and distribution. In addition to these features, emerging economies are characterized by greater imperfections in the markets for capital, products and managerial talent. Accordingly, the concept of ownership concentration was discovered by Morck, Shleifer and Vishny (1988) and Shleifer and Vishny (1986). Apparently, this has steered to the foundation of the agency theory in corporate governance, which La Porta, Lopez-de-Silanes, and Shleifer (1999) described in the formulation of ultimate controller; they consider voting power to be the definition of firm ownership, rooting out that most of controlling shareholders of listed firms control the firms by through pyramid structure approach and cross holding, which in most cases could lead to central agency problem. In contrary, the perception of Berle and Means (1932) described that spreading ownership indicates that ownership is separate from management, which, as Jensen

and Meckling (1976) stressed, may lead to agency problems between managers and other stakeholders like shareholders and debtors. These two theories serve as theoretical frameworks that underpin the variables of the study.

### **3. Methodology, Variables and Model**

The study employed correlational research design. The reason for employing a correlational research design is that it is perfect in establishing cause and effect relation among variables. The population of this study consists of all the 14 listed deposit money banks listed on the floor of the Nigerian Stock Exchange (NSE) as at 31<sup>st</sup> December, 2019. Therefore, this work examines the whole population of the study. The study adopts secondary data; financial statements of all the sampled firms for the period of 10 years (2010 – 2019) was be used to compute ratios that will be used for the variables of the study. This study employed panel multiple regression technique for data analysis. This is because regression technique analysis is effective and efficient in providing statistical estimate of the relationship or impact of one variable(s) on another variable. Hence, this is in agreement with the objectives of the study which is to examine the effects of corporate ownership structure on investors' confidence in the deposit money banks in Nigeria.

The study employed appropriate robustness tests which include test for Heteroskedasticity, autocorrelation and multicollinearity to ensure fitness and validity of the results. Hausman Specification Test and Breusch and Pagan Lagrangian Multiplier Test for Random Effects were also conducted to decide between fixed and random effect results as to which is more appropriate and suitable for interpretation. In addition, data normality test has been applied; in essence, the study in this regard ensured that the results produced estimators that are best linear unbiased estimators (BLUE).

The measurement of the variables of the study is presented in this section, as indicated by Table 1 as follows;

**Table 1: Variables Definition and Measurement**

<b>Variables</b>	<b>Definition/Measurements</b>
<b>Dependent Variable</b>	
Investor Confidence (INVC)	Is defined as the price-to-book (P/B) ratio consistent with Li et al., (2016)
<b>Independent Variables</b>	
Institutional Ownership (INSOW)	Is measured by the proportion of equity capital own by institutions at the end of the accounting year.
Insider Ownership (INDOW)	Is measured by the proportion of equity shares own by insiders (directors and managers) at the end of accounting period.
Foreign Ownership (FRNOW)	Is measured by the proportion of equity capital own by non-Nigerian Citizens and institutions at the end of the accounting year.
Block ownership (BLCOW)	Is measured by the proportion of 5% and above equity capital ownership at the end of the accounting year.
<b>Control Variables</b>	
Board independence (BIND)	Is measured by the proportion of outside/non-executive/independent directors to total directors at the end of accounting period.

**Source: Authors compilation, 2020**

In order to estimate the effect of ownership structure on investor confidence, the following econometric models will be used:

$$INVC_{it} = \beta_0 + \beta_1INSOW_{it} + \beta_2INDOW_{it} + \beta_3FRNOW_{it} + \beta_4BLCOW_{it} + \beta_5BIND_{it} + \epsilon_{it}$$

Where:

- INVC<sub>it</sub> = the P/B ratio of bank I in year t.
- INSOW<sub>it</sub> = institutional ownership in bank I in year t.
- INDOW<sub>it</sub> = insider ownership of bank I in year t.
- FRNOW<sub>it</sub> = foreign ownership of bank I in year t.
- BLCOW<sub>it</sub> = block ownership of bank I in year t.
- BIND<sub>it</sub> = board independence of bank I in year t.

Intercept =  $\beta_0$ ;  $\beta_1$ , -  $\beta_7$  = Coefficients

$\epsilon_{it}$  = stochastic error term/residual

**4. Findings**

Table 2 below presents the summary of the descriptive statistics which is the minimum, maximum, mean and standard deviation of the variables.

**Table 2: Descriptive Statistics**

<b>Variable</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>INVC</b>	0.3619	0.8540	0.1202	0.0514
<b>INSOW</b>	0.0000	4.2155	1.1432	0.4625
<b>INDOW</b>	0.1504	15.4455	3.3421	2.2394
<b>FRNOW</b>	0.0383	0.8214	0.1274	0.7322
<b>BLCOW</b>	0.0000	4.4342	0.7392	0.5288
<b>BIND</b>	0.0000	1.0000	0.6863	0.3012

**Source: Output of STATA, 2020**

Table 2 above presents the detailed account of the descriptive statistics of the dependent and independent variables. From the table, investors’ confidence has a minimum value of 0.3619 and 0.8540 as maximum value. The variable also has a mean value of 0.1202 and a standard deviation of 0.0514 that showed that there is relative discrepancy in investors’ confidence in different years in the sampled deposit money banks. It can also be seen from the minimum value that a lot of investors have lower confidence. This may be because of the corporate failures that rocked the banking industry in recent times and that have damaged investor interests.

The table also showed that the minimum and maximum values of institutional ownership are 0.0000 and 4.2155 respectively, and the variable has 1.1432 as mean and 0.46.32 as standard deviation. The mean indicates that on average, institutional ownership in listed deposit money banks in Nigeria is 1.1432% of the equity and the standard deviation shows that the data deviate from the mean by 46.25%. The minimum value of insider ownership is 0.1504 and the maximum value 15.4455 while the mean and the standard deviation is 3.3431 and 2.2394. The mean value indicates that on average, 3.3421% of the shares of listed deposit money banks in Nigeria is held by insider owners with a maximum of 15.4455%.

Foreign ownership has a minimum value of 0.0383 and a maximum value of 0.8214. The mean percentage of the variable is 0.1274 implying that 12.74% of the share ownership in the listed deposit money banks in Nigeria is held by shareholders and the standard deviation shows that the data deviate from the mean

by 73.22%. The mean value of block holder ownership is 73.92% with minimum and maximum values of 0.0000 and 4.4342 respectively. The standard deviation of 0.5288 showed that the data deviate from the mean by 52.88%. Lastly, the minimum and maximum values of board independence are 0.0000 and 1.0000 respectively and the mean value is 0.6863 while the standard deviation is 0.3012.

**Correlation Results**

Table 3 below presents the result of the Pearson correlation analysis which was carried out to estimate the nature of the relationship between the variables and to also determine the existence if there is of any multi collinearity among the variables.

**Table 3: Correlation Matrix**

<b>Variables</b>	<b>INVC</b>	<b>INSOW</b>	<b>INDOW</b>	<b>FRNOW</b>	<b>BLCOW</b>	<b>BIND</b>
<b>INVC</b>	1.0000					
<b>INSOW</b>	0.2239	1.0000				
<b>INDOW</b>	-0.3287	-0.0393	1.0000			
<b>FRNOW</b>	0.0728	-0.0066	-0.0091	1.0000		
<b>BLCOW</b>	-0.3862	-0.0786	0.0201	0.0290	1.0000	
<b>BIND</b>	0.0789	0.1020	-0.0544	-0.0381	-0.1248	1.0000

**Source: Output of STATA, 2020**

Table 3 presents the results of the correlation between ownership structure (institutional ownership, insider ownership, foreign ownership, block holder ownership, and board independence) and investors’ confidence of listed deposit money banks in Nigeria. The table shows that there is a positive relationship between institutional ownership and investors’ confidence from the correlation coefficient of 0.2239. The table also shows that investors’ confidence is negatively correlated with insider ownership and block holder ownership from the correlation coefficient of -0.3287 and -0.3862 respectively. Foreign ownership has a positive relationship with the investors’ confidence of listed deposit money banks in Nigeria as shown by the coefficient of 0.0728. Also, the relationship between board independence and investors’ confidence proved to be positive as indicated by the correlation coefficient of 0.0789.

However, the relationship amongst the variables themselves is not found to be significant to the extent that one can conclude that there is multicollinearity unless

the variance inflation factor and tolerance values are comparatively beyond the established rule of thumb. Also, the correlation coefficients of the independent variables did not exceed 50% which suggests the absence of multi-collinearity among the explanatory variables. It is however not safe to conclude that there is no multi-collinearity issue unless the variance inflation factor (VIF) and tolerance values are tested. Thus, the variance inflation factor (VIF) and tolerance value are advanced measures for assessing multicollinearity among the regressors. The variance inflation factor (VIF) and the tolerance values were found to be concurrently smaller than ten and one respectively, indicating the absence of multicollinearity.

### **Post Estimation Test**

The results also reveal that there is a presence of heteroscedasticity in the data because the probability of the chi-square is less than 5% ( $\text{Prob} > \chi^2 = 0.0000$ ). This result implies that there is a violation of assumption number four of the classical linear regression model which states that there must be constant variance in the error term that is the disturbance  $U_i$  appearing in the population regression function are homoscedastic. Hausman specification test was then conducted to decide between the two models, so as to select the preferred one. The Hausman test detects violation of the random effects modeling assumption that the explanatory variables are orthogonal to the unit effects. If correlation does not exist between the independent variables and the unit effects, then the estimates of  $\beta$  in the fixed effects model should be similar to estimates of  $\beta$  in the random effects model. The result obtained from the test on Table 4.3 returned a  $\chi^2$  value of 39.72 that is statistically significant. This shows that the dataset has met the asymptotic assumption of the Hausman specification test. As a result, fixed effect model was preferred.

### **Summary of Regression Result**

The summary of the regression results obtained from the fixed effects model is presented in Table 4 below:

**Table 4: Fixed Effects Regression Results**

<b>Variables</b>	<b>Coefficient</b>	<b>Z Statistics</b>	<b>Z Sig</b>
CONSTANT	0.0567	3.62	0.000
INSOW	0.0142	1.66	0.099
INDOW	-0.0126	-5.02	0.000
FRNOW	0.0041	0.83	0.407
BLCOW	-0.0213	-2.84	0.005
BIND	-0.0054	-0.44	0.000
R <sup>2</sup>	0.2541		
F	8.24		
Prob>Chi2	0.0000		

**Source: Generated using STATA, 2020**

The cumulative R<sup>2</sup> (0.2541) which is the multiple coefficient of determination gives the proportion of the total variation in the dependent variable explained by the independent variables jointly. Hence, it signifies that 25.41% of the total variation in investors’ confidence of listed deposit money banks in Nigeria is caused by their ownership structure: institutional ownership, insider ownership, foreign ownership, block holder ownership and board independence. Similarly, the result of the F statistics (8.24) shows that the explanatory variables in the model are significant and that they added value to the model as confirmed by the Prob>Chi2 (0.0000). This indicates that the model is fit and the regressors are properly selected, combined and used. This further implies that for any changes in the ownership structure of listed deposit money banks in Nigeria, their investors’ confidence will be directly affected.

The F-Statistics or Wald chi-squared statistics are really the same thing in that, after normalization of the chi-squared and the limiting distribution of the F as the denominator, degrees of freedom goes to infinity. So the F statistics of 8.24 which is significant at 1% indicates that the ownership structure and investors’ confidence model is fit. The coefficient of insider ownership is -0.0126 while the Z statistics is significant at 1% (0.000) and the coefficient of block holder ownership is -0.0213 while the Z significance is 0.000. This indicates a negative relationship between insider ownership, block holder ownership on one hand and investors’ confidence on the other hand that is significant at 1% level of significance.

The significant negative relationship between insider ownership and investors' confidence implies that an increase in insider ownership decreases investors' confidence because when insiders have large ownership stake, they might be powerful and as a result, they do not consider other shareholders. For every point increase in insider ownership, investors' confidence will decrease by the coefficient value. Also the significant negative relationship between block holder ownership and investors' confidence implies that an increase in block holder ownership decrease investors' confidence.

Institutional ownership is positively related to investors' confidence as indicated by the coefficient of 0.0142 which is statistically significant at 10% level of significance. This implies that for every point increase in institutional ownership, investors' confidence increase by the coefficient value. The coefficient of foreign ownership is 0.0041 which indicates that it has a positive association with investors' confidence with a Z significance value of 0.407 which is not statistically significant. Therefore, the variable did not play any significant role in influencing investors' confidence of listed deposit money banks in Nigeria. The coefficient of board independence is -0.0054 which indicates that the variable has a negative and significant association with investors' confidence.

## **5. Conclusion**

This study contends that ownership structure through institutions, insiders, block-holders, and foreigners could bring fairness, transparency, accountability, and responsibility to both shareholders and improve investors' confidence in the Nigerian banks. It is therefore concluded that institutional ownership played a significant role in influencing investors' confidence. For institutional owners, there are more incentives to monitor and influence the management, because they will be more affected by decisions of the management. Insider ownership and block holder ownership have a negative and statistically significant relationship with investors' confidence. When insiders have a large ownership stake, they often might be so powerful and do not consider other shareholders. Insiders owning a substantial fraction of a firms' equity give them greater freedom to pursue their own best interests and they become entrenched. Block holder ownership and investors'

confidence are found to have a negative and statistically significant relationship. The result of the study implies that investors' confidence of listed deposit money banks in Nigeria declines as block holder ownership increases.

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## MODERATING EFFECT OF FOREIGN-DOMESTIC OWNERSHIP RATIO ON FIRM ATTRIBUTES AND ENVIRONMENTAL DISCLOSURE IN NIGERIAN OIL AND GAS QUOTED COMPANIES

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### Abstract

*The focus of this study is on the assessment of environmental disclosure: the moderating effect of firm attributes and foreign-domestic ownership ratio with specific interest on the role of firm size, leverage and profitability. Secondary data retrieved from the annual reports of oil and gas quoted companies on the stock exchange of Nigeria was employed in the study. The study period spans from 2010-2018 and the Generalized Least Squares (GLS) regression was used for the estimation of the specified models. The findings of the study show that profitability has a significant impact on environmental reporting of oil and gas quoted companies in Nigeria while leverage and company size have no significant impact on environmental reporting of oil and gas quoted companies in Nigeria. The study further revealed a significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, Profitability and environmental reporting. The study recommends that firms that are well to do financially should pay more attention to environmental reporting and firms should improve their environmental performance irrespective of their leverage. The study further recommends that both small and big firms need to improve their environmental performance and the presence of more foreign-domestic ownership should lead to more robust disclosures of environmental issues.*

**Keywords:** Company size, Environmental disclosure, Profitability, Foreign-domestic ownership ratio, Nigeria.

**JEL Classification:** M490

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### 1. Introduction

The environment is a vital concern in today 's ecological, social and economic set up and environmental accounting disclosure has emerged extensively in response to issues of global concern, such as gas flaring, greenhouse warming effects, water pollution and other negative environmental impacts. Corporate activities are increasingly becoming a key threat to the environment and this has gone to a point where a lot of attention is now been directed to the roles of corporations and the initiatives put in place to tackle the growing environmental challenge (Anderson, 2009). The way corporate entities have responded and are still responding to the environmental concerns are not the same across firms and among countries. The

concern for the environment has evolved to a mainstream issue. Prior studies opined that the environmental threat that is being faced globally is coming as an opportunity cost to economic growth. There have been various initiatives and frameworks put in place to address environmental challenges at a global stage or level, the accounting profession on one end of the spectrum has evolved as a disclosing approach that can make organisation responsible for the environment in which they carry out their operations. Consequently, a segment of accounting known as environmental accounting and disclosure has now emerged in order to capture the link between corporate impacts on the environment.

In the views of Howes (2002), environmental accounting is concerns with the identification, measurement and the monetization of information that is of environmental concerns and disclose such to achieve the broad goals of the organisation with focal interest on both environmental and financials. In environmental and social reporting, corporations are not expected to disclose just financial information, they are expected to also disclose the non-financial information about the effects of the way they operate on the immediate community as well. Environmental reporting consists of information that relates with the operations of companies, aspirations and the image of public in the community (Haider, 2010). The main aim of social reporting is to ensure that various stakeholders are communicated with what is being carried out in the environment. This can determine the relationship a company has with the stakeholders. A lot of advantages are involved in assisting companies to define their responsibility to the community and render assistant to management in carrying out proper assessment of environmental impact. With the risk of investors moving from fossil to green investments, environmental reporting aid to attract foreign investments. Environmental reporting likewise face some challenges as well, and the obvious one is the lack of internationally acceptable reporting standards and guidelines. This coupled with the shortage of environmental professionals and experts to report on environmental issues making it expensive venture. Now, it is evidence that the relatively nascent field of environmental disclosure has grown in prominence with data to test its influence on firm's broad objectives. Following a global trend, corporations are now paying more attention to environmental disclosures (Halme, Roome & Dobers, 2009). However, one key issue is that environmental disclosing is a rather voluntary activity and this implies that companies are not compulsorily required to make environmental disclosures. This has created a scenario where environmental disclosure practices have evolved in a very much unstandardized context though several global institutions such as the Global Reporting Institute

(GRI) amongst others which are not necessarily accounting standard setters have tried to provide leads as to what companies should report. These guidelines and suggestions emanating from the drivers are not binding, companies may decide to follow or not these standards depending on their motives.

Investigating the factors that drive environmental reporting of firms has been a huge area of interest for accounting researchers given that such actions are voluntary particularly in developing countries though this is not the case for developed market due to the strong institutional frameworks that ensure that even though accounting standards in this area are not lucid and adequate, institutional pressures are sufficient to ensure compliance. Consequently, firm's attributes have been one of the perspectives to investigating the factors affecting environmental disclosures. Unlike prior studies, this study moves further by adopting a moderating approach in estimating the impact of firm size, leverage, and profitability on environmental disclosure. The justification for this approach is largely because in most developing and emerging market, attracting foreign investment could be influenced by foreign practices. The skewness of oil and gas companies in Nigeria towards foreign participation makes the incorporation of ownership nature as a moderating factor necessary. It is against this backdrop, the study addresses the following questions,

- i. What is the effect of firm size on environmental disclosures of oil and gas quoted companies in Nigeria?
- ii. What is the impact of leverage on environmental disclosures of oil and gas quoted companies in Nigeria?
- iii. To what extent does profitability influence environmental disclosures of oil and gas quoted companies in Nigeria?
- iv. What is the moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental disclosures of oil and gas quoted companies in Nigeria?

## **2. Literature Review and Hypotheses Development**

There are a huge number of budding empirics on this discourse (Ahmad, Hassan & Mohammad, 2003). In this respect, many of the studies in this area, focused on external attributes of the firm (Monteiro & Aibar-Guzmán, 2010) by looking at the effect of factors such as the, financial leverage, firm size, financial performance amongst others.

**Firm Size**

We tend to generally believe that bigger firms will want to disclose more environmental information than what smaller firms will want to do. This is because big firms are more noticeable by the public and hence it is often more beneficial for them to do what is expected (Watts & Zimmerman, 1978). It is the case that bigger companies may be more inclined to be environmentally responsive than smaller ones because in most cases they have a higher stake and a broader spectrum of stakeholders (Patten, 1991). Again there is the view that bigger companies tend to be very visible even to regulatory bodies and hence come under scrutiny easily. Previous works in this area, have examined how the firm size can influence environmental disclosure (Nazari, Herremans & Warsame, 2015; Shamil, Herremans & Warsame, 2014). In these studies, the legitimacy theory is often used (Kolk & Perego, 2010) and the perception is that bigger firms are more visible and hence need to maintain their legitimacy, they also have more resources (Kansal, Joshi & Batra, 2014; Lourenço & Branco, 2013), and have reduced cost of reporting (Jennifer, Ho & Taylor, 2007). Therefore, there is a broad expectation that bigger firms will disclose more environment allowing to the need to maintain their legitimacy with society and stakeholders (Purushothaman, 2000). Reverte (2009), Wang, Song and Yao (2013) have shown in their studies that the firm size has a strong effect on environmental disclosures. Firm size can be considered to impact positively on environmental disclosures because the damage on their reputation and stakeholder relations will be higher for such firms than for smaller firms and also they also tend to face more pressures in this regards (Fortanier, Kolk & Pinkse 2011; Gallo, Jones & Christensen, 2011). Finally, looking at marginal cost implications of reporting, it will be lower for bigger firms than small companies.

Ho<sub>1</sub>: Firm size has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

**Leverage**

Lenders are part of the groups having stakes in a company owing to the risk they face if companies do not fulfill their obligations to repay their debts (Kuzey & Uyar, 2016). Companies are much concerned about this class of stakeholders and as such would do whatever is deemed necessary to allay their worries and address their interest. (Artiach, et al., 2010). Therefore, in the bid to manage these classes of stakeholders companies have been known to disclose more information in a bid to become more transparent. Particularly, high leverage firms are disposed to disclosing much to show that they are willing and able to meet obligations (Ho &

Taylor, 2013). As it is already known, high level of debts can affect the ability of the firm to carry on the cost associated with environmental disclosures and thus also such firms may not be able to handle the damages that may result when information is disclosed that is not to their benefit (Stanny & Ely, 2008). Again, there is the view that firms using more debts are also exposed to management and shareholder crisis or agency costs (Alsaeed, 2006). To be able to deal with these, the line of action for firms with high leverage is to disclose more voluntarily. However, Haniffa and Cooke (2005) also noted that environmental reporting can be a way for highly levered firms to gain some level of trust and confidence from their creditors and indeed stakeholders at large and therefore, the firm leverage can serve as motivation for disclosure.

Examining the key points of the legitimacy theory, it can be inferred that companies may make disclosures with the aim in mind to inform stakeholders (Magness, 2006), with particular attention on environmental impacts. The expectation may be that firms that are highly levered do not disclose any information regarding their impacts on the environment and their responsibility to disclose may face a threat.

Ho<sub>2</sub>. Leverage has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

### **Profitability**

The profitability of a firm could be a very crucial factor that can influence environmental disclosure of the firm. The basis for this is that companies that are profitable may feel the need to report on the environment to improve relationship with stakeholders (Legendre & Coderre, 2013). Studies have revealed that when firms become profitable, it may be able to bear the costs of that outcome with environmental disclosure and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm (Kent & Monem, 2008). Nevertheless, the available studies investigating this issue have come out with mixed findings. Some studies (Akrouf & Othman, 2013; Alarussi, Reverte, 2009; Setyorini & Ishak, 2012; Suttipun & Standton, 2011) revealed that a positive relationship, exist, while others (Barako, Hancock & Izan, 2006; Smith, Yahya & Amiruddin, 2007) did not find such a relationship.

Ho<sub>3</sub>: Profitability has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

### **Foreign-Domestic Ownership Ratio**

The firm ownership structure particularly in relation to the foreign-domestic ownership ratio is looked at in this study as a moderating factor in environmental disclosure. Foreign investors are likely to have different values and knowledge due to their foreign exposure and the regulatory requirements in their home country when compared to domestic investors. In their views Karim, Lacina and Rutledge (2006) argued that companies that have their businesses abroad especially in developed markets face more intense environmental regulation and hence in such environments there is a high attention to environmental matters leading to more robust disclosures of environmental issues.

In companies where there is a high foreign ownership concentration, there is improved attention to voluntary environmental disclosures (Muttakin & Subramaniam, 2015). It is being identified that when a company has high foreign ownership, there will be more pressure on management to be environmentally responsive and hence engage in reporting (Bradbury, 1991). Foreign owners are also more knowledgeable and aware of the need for companies to be more socially responsive in the broader community, and thus may have to align with mimetic pressures through environmental disclosures similar to those in multinational firms. Ownership structure in the views of Delgado-Garcia, Quevedo-Puente and Fuente-Sabate (2010) is seen as the residual claims contribution as well as the control that have consequences on the behavior of a firm. Generally, the terms ownership structure focus at shareholder's interest in a corporation.

Ho<sub>4</sub>: There is no significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental disclosures of oil and gas quoted companies in Nigeria.

In the context of the relations from organization to society, the organizations responsibilities and the social expectations of them are defined, discovered, examined and revised constantly. The theory of legitimacy, according to Suchman (1995) provided a view that the link existing between an organization and that of related social expectations is simply a fact of social life. This theory posits that the presence and operations of firms is ensured by the forces of the market and community expectations and hence an awareness of the broader concerns of society shown in community expectations becomes a requirement that is essential for the survival of an organization (Suchman, 1995). The assumption of the theory is that an organization need to maintain its social role by addressing the needs of the

society and giving what is wanted by the society. This assumption has received support from the early study of Guthrie and Parker (1989). Legitimacy is a position that is an outcome of the joint opinion of society as regards the operation of the organization. It is a social evaluation of the behavior of company that is carefully acceptable, and appropriately and desired. Therefore, it is expected that companies will assume acceptable behavior or at least to be seen in that manner with the intention that they are understood to be good company citizens. Emphases has been laid by Suchman (1995) that legitimacy is a generalized view that the entity actions are desirable, appropriate or proper within some socially constructed systems of values, norms, definitions and beliefs. The essential principle of the theory of legitimacy is that the view of the company by the community is derived from how that company has acted in line with the determined social expectations. Within the social and environmental accounting literature, legitimacy theory provides insight to describe and likewise give explanation to the level of environmental changes that are responsive by an organization.

### **3. Methodology and Model Specification**

This study uses a longitudinal research design. The population of the study comprises of all oil and gas quoted companies presently on the floor of the Nigerian Stock Exchange (NSE) as at December 2018. The data were sourced from the sampled company annual reports from 2010-2018. In extracting the information on the qualitative disclosure, content analysis was employed by the researcher. In computing the data for qualitative disclosures from annual reports, the disclosure index is generated using the Cooks (1993) dichotomous method as cited in Haniffa and Cooke (2005). Under the Cooks method, if an item is disclosed, it is scored as 1, if not it is scored as 0 and items not applicable to every company is scored NA (not applicable).

The following model is developed for the study;

$$ENVDIS_{it} = \hat{\partial}_0 + \hat{\partial}_1 FSIZE_{it} * F/D-OWN + \hat{\partial}_2 LEV_{it} * F/D-OWN + \hat{\partial}_3 PROF_{it} * F/D-OWN + \mu_{it} \text{ -----(i)}$$

Where;

ENVDIS = Environmental disclosures

i = Number of sampled cross-sectional firms

t = Time period of the sampled companies

$\hat{\partial}_0$  = Constant

FSIZE = Firm size  
 F/D-OWN = Foreign-domestic ownership  
 LEV = Leverage  
 PROF = Profitability  
 $\mu$  = Stochastic term.  
 The Apriori signs are  $\partial_1 > 0$ ,  $\partial_2 > 0$  and  $\partial_3 > 0$ .

**4. Presentation and Analysis of Results**

**Table 1:** Descriptive Statistics

	ENVDIS	FSIZE	LEV	PROF	F/D-OWN
Mean	0.43357	7.211272	1.823034	4.198609	2.74956
Median	0.357143	7.077112	1.215395	3.462141	2.26031
Maximum	1	9.637756	43.0102	232.6198	3.175454
Minimum	0	4.937655	0.256443	-88.9854	0.31792
Std.Dev.	0.199556	0.909296	2.130501	13.40564	0.230858
Skewness	0.797486	0.419118	9.628676	4.536814	2.289048
Kurtosis	2.982601	2.867026	156.8396	94.59274	13.18274
Jarque-Bera	104.5259	29.59318	98.75393	34.8040	51.2092
Probability	0.00	0.00	0.00	0.00	0.00

**Source: E-view output (8.0), 2020**

The descriptive statistics of the data is shown in table 1 above. It is observed that ENVDIS has a mean value of 0.43357 with respective maximum and minimum values of 1 and 0. The mean ENVDIS suggest that on the average the level of attention given to ENVDIS issues is still relatively low. The standard deviation which shows the dispersion of the data as regards the mean is quite low at 0.199 which further suggest clustering of the firm particular scores around the mean. Hence there is need for the firm to improve on their reporting on ENVDIS related issues. PROF has a mean value of 4.198609 with respective maximum and minimum values of 232.6198 and -88.985. The standard deviation of 13.4056 reveals the dispersion of the firm precise values from the distribution mean. The average LEV is 1.8230 with maximum and minimum values of 43.0102 and 0.256 respectively and standard deviation of 2.1305. The mean value for FSIZE stood at 7.2113 with maximum and minimum values of 9.6377 and 4.937 respectively with a standard deviation of 0.909. The mean for F/D-OWN is 2.74956 which implies that that on the average, the foreign ownership is more than twice the domestic ownership presence and hence on the average oil and gas companies in Nigeria tend

to have a higher foreign ownership presence than domestic ownership with a maximum value of 3.175454 and minimum value of 0.31792 respectively. The standard deviation illustrating the dispersion of the data about the mean is relatively low at 0.231. The Jacque-bera statistics for all the variables reveals that the series are normally distributed given that the J.B values are all less than 0.05. This implies the absence of significant outliers in the data.

**Table 2: Pearson Correlation Matrix**

	ENVDIS	FSIZE	LEV	PROF	F/D-OWN
ENVDIS	1				
FSIZE	0.384071	1			
LEV	0.032479	-0.04693	1		
PROF	-0.36868	-0.0244	-0.03526	1	
F/D-OWN	-0.08706	0.109934	-0.02103	0.522008	1

**Source: E-view output (8.0), 2020**

The coefficients of correlation are examined from table 2 above. However, study particular interest is the correlation between ENVDIS and the independent variables. As ascertained, a positive correlation exists between ENVDIS and the following variables; FSIZE ( $r = 0.384071$ ), and LEV ( $r = 0.032479$ ) but negatively correlated with PROF ( $r = -0.36868$ ) and F/D-OWN ( $r = -0.08706$ ). The positive coefficient suggests that an increase in these variables could be associated with increases in ENVDIS and vice-versa. On the other hand, a negative correlation suggests that increase in these variables could be associated with decreases in ENVDIS and vice versa. Though the provision of some level of insight into the degree as well as direction of association between the variables, the analysis of the correlation is found to be limited in its inferential ability mainly because it does not entail functional dependence, hence, causality in a strict sense. The analysis of the regression is better suited forth is purpose.

**Table 3: Regression Results**

	Apriori sign	Model 1	Model 2	Model 3
C		-1.3606 (1.3892) {0.3531}	5.715 (1.5043) {0.0126}	-0.2169 (1.2975) {0.8738}
FSIZE	+	0.5865 (0.4367) {0.2122}		
FSIZE*F/D-OWN	+	8.227* (4.7126) {0.0148}		
LEV	+		-1.06653 (0.4141) {0.4497}	
LEV*F/D-OWN	+		-0.1114 (0.2976) {0.723}	
PROF	+			0.5514 (0.2367) {0.0473}
PROF*F/D-OWN	+			3.9482* (0.2333) {0.0456}
R <sup>2</sup>		0.3735	0.455	0.534
Adjusted R <sup>2</sup>		0.095	0.682	0.415
S.E. of regression		2.3055	2.894	1.7235
F-statistic		4.3418	4.933	21.302
P(f-stat)		0.016	0.040	0.00
D.W		2.09	2.10	1.94

**Source: E-view output (8.0), 2020**

\*significant at 5%.

The regression results in table 3 shows the estimations conducted to study the impact of corporate attributes on environmental disclosures with the moderating effect of ownership structure. Model 1 results shows R<sup>2</sup> is 0.3735 which suggest that the model of the firm size explains about 37.4% of systematic variations in market value. The F-statistic 4.341 (p-value = 0.016) that is found to be significant at 5% suggest that the significant linear relationship hypothesis between the dependent and explanatory variables cannot be rejected. It is an indicative of the

joint statistical significance of the model. The D.W statistics of 2.09 shows unlikely presence of serial correlation in the residuals. Firm size was found to exert a positive (0.5865) but not statistically significant ( $p = 0.4367$ ) effect on ENVDIS at 5% level but when interacted with the F/D-OWN, we observed an increase in the slope coefficient to 8.227 and is now statistically significant ( $p = 0.0148$ ) at 5%. This implies that the increase in the foreign-domestic ratio has a significant moderating effect on the relationship existing between firm size and ENVDIS. Hence the result suggests that given the firm size level taken as a constant, the ownership structure pattern can determine the level of attention given to ENVDIS.

Model 2 shows that the regression  $R^2$  is 0.455 which imply that the model gives an explanation of about 45.5% of the systematic variations in ENVDIS. The F-statistic of 4.933 ( $p$ -value = 0.040) which is found to be significant at 5% suggest that the significant linear relationship hypothesis between the dependent and independent variables cannot be rejected. It is likewise an indicative of the joint statistical significance of the model. The D.W statistics of 2.10 shows unlikely presence of serial correlation in the residuals. LEV was found to exert a negative (-1.0665) but not statistically significant ( $p = 0.4497$ ) effect on ENVDIS at 5% level. When the F/D-OWN is introduced, we observed that LEV is still negative and also not statistically significant ( $p = 0.723$ ) at 5%. This implies that the F/D-OWN does not significantly moderate the relationship between Leverage and ENVDIS.

Model 3 shows the regression  $R^2$  is 0.534 and this suggest that the model gives an explanation of about 53.4% of systematic variations in ENVDIS. The F-statistic 21.302 ( $p$  value = 0.00) which is significant at the level of 5% and suggest that the significant linear relationship hypothesis between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The D.W statistics of 1.94 indicates the presence of serial correlation in the residuals is unlikely. PROF was found to exert a positive (0.5514) and statistically significant ( $p = 0.0473$ ) effect on ENVDIS at 5% level. When the F/D-OWN dummy is introduced, we observed an increase in the slope coefficient to 3.9482 and is also statistically significant ( $p = 0.0473$ ) at 5%. This implies that though PROF was had a significant effect on ENVDIS without the introduction of F/D-OWN, with the moderation of OWNS in the model, the effect is stronger that it was without and hence we can conclude that F/D-OWN has an enhancing effect on the relationship between PROF and ENVDIS.

### **Hypotheses Testing and Discussion of Result**

Ho<sub>1</sub>: Firm size has no significant impact on environmental disclosures of oil and gas quoted companies in Nigeria.

The results shows that *Firm size* was found to exert a positive (0.5865) but not statistically significant ( $p = 0.4367$ ) effect on ENVDIS at 5%. Hence, we accept the hypothesis that firm size has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria. It is almost the case that generally we tend to believe that bigger firms will want to disclose more environmental information than what smaller firms will want to do. This is because big firms are more noticeable by the public and hence it is often more beneficial for them to do what is expected (Kansaletal., 2014; Lourenço and Branco, 2013). In contrast to our findings, Reverte, (2009) and Wanget, et al. (2013) have all shown in their studies that the firm size has a strong effect on environmental disclosures.

Ho<sub>2</sub>: Leverage has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria.

LEV was found to exert a negative (-1.0665) but not statistically significant ( $p = 0.4497$ ) effect on ENVDIS at 5% level. Hence, we accept the hypothesis that leverage has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria.

Ho<sub>3</sub>: Profitability has no significant impact on environmental reporting of oil and gas quoted companies in Nigeria.

Model 1 shows the regression result for financial performance and ENVDIS. PROF was found to exert a positive (0.5514) and statistically significant ( $p = 0.0473$ ) effect on ENVDIS at 5% level. Hence, we reject the hypothesis that profitability has no significant influence on Environmental disclosures. Studies have revealed that when firms become profitable, it tends to make them more able to bear the costs of that comes with environmental reporting and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm (Haniffa and Cooke, 2005; Kent and Monem, 2008). Nevertheless, the available studies investigating this issue have come out with mixed findings. Some studies (Akrouit & Othman, 2013; Artiach et al., 2010; Liu and Anbumozhi, 2009; Lourenço and Branco, 2013; Setyorini & Ishak, 2012;

Suttipun & Standton, 2011) revealed that a positive relationship, exist, while others (Barakoetal., 2006; Smithet et al., 2007) did not find such a relationship.

Ho<sub>4</sub>: There is no significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental reporting of oil and gas quoted companies in Nigeria.

From the regression result, it is observed that Firm size was found to exert a positive (0.5865) but not statistically significant ( $p = 0.4367$ ) effect on ENVDIS at 5% level but when interacted with the foreign-domestic ratio, we observed an increase in the slope coefficient to 8.227 and is now statistically significant ( $p = 0.0148$ ) at 5%. This implies that the increase in the foreign-domestic ratio has a significant moderating effect on the relationship between firm size and EVDIS. Hence, the results suggest that given the firm size level taken as a constant, the ownership structure pattern can determine the level of attention given to ENVDIS. When the foreign-domestic ratio is moderated with LEV, it is still negative and also not statistically significant ( $p = 0.723$ ) at 5%. This implies that the foreign-domestic ratio does not significantly moderate the relationship between Leverage and ENVDIS. When the foreign-domestic ratio dummy is introduced with PROF, we observed an increase in the slope coefficient to 3.9482 and is also statistically significant ( $p = 0.0473$ ) at 5%. This implies that though PROF had a significant effect on ENVDIS without the introduction of foreign-domestic ratio, with the moderation of foreign-domestic ratio in the model, the effect is stronger.

In their views Karim, Lacina & Rutledge (2006) argued that companies that have their businesses abroad especially in developed markets face more intense environmental regulation and hence in such environments there appears to be a high attention to environmental matters leading to more robust disclosures of environmental issues. In companies where there is a high foreign ownership concentration, there is improved attention to voluntary environmental disclosures (Muttakin & Subramaniam 2015). Therefore, the nature of ownership especially the foreign-domestic ownership ratio can affect the relationship between the firm's attributes and environmental reporting.

## **5. Conclusion and Recommendations**

This study has empirically examined the determinants of environmental disclosure with focal interest on the moderating role of foreign-domestic ownership ratio. Based on the findings of this study, the following recommendations are suggested;

Firstly, the results show that company size was found to exert a positive but not statistically significant effect on Environmental performance. The role of firm size has been a very dominant variable in several studies investigating environmental performance. The study recommends that both small and big firms need to improve their environmental performance.

Secondly, leverage was found not to have a significant impact on environmental reporting of oil and gas quoted companies in Nigeria and this suggest that debt-equity ratios of companies is neutral in affecting environmental performance of companies. Hence the study recommends that firms companies irrespective of their leverage levels should improve their environmental performance.

Thirdly, the result shows that profitability was found to exert a positive and statistically significant effect on environmental disclosure at 5% level. This suggest that as firms become profitable, it tends to make them more able to bear the costs of that comes with environmental reporting and to also handle the outcomes that could follow when a firm reports environmental information that is not to the benefit of the firm. The study recommends that firms doing well financially should pay more attention to environmental reporting. However, the study also notes that even firms experiencing losses must also not be excluded from taking responsibility for their environmental cost, risks and liabilities. Hence though financial performance motives environmental performance, it should not be used as basis for selective environmental performance.

Finally, there is a significant moderating effect of foreign-domestic ownership ratio on the relationship between firm size, leverage, profitability and environmental reporting. The study thus recommends that the presence of more foreign-domestic ownership will lead to more robust disclosures of environmental issues.

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## EFFECT OF MACROECONOMIC FACTORS ON CAPITAL STRUCTURE OF FIRMS IN DEVELOPING AFRICA: A TWO-STEP GMM APPROACH

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### **Abstract**

*The study examines the effects of macroeconomic factors and on capital structure of non-financial firms in Africa. Using a recent data for an advanced dynamic model (2step system generalized methods of moment (GMM)) technique for a panel data model of 406 non-financial firm of 8 developing African nations. The findings reveal that macroeconomic variables are determinant of capital structure of non-financial in Africa. The findings show that financial managers can benefit from raising additional capital as macroeconomic conditions are favorable. Moreover, shareholders should employ firm managers with good knowledge of macroeconomic conditions and also encourage them raise debt capital needed to fund positive investment. Lastly, Policymakers should enact policies that promote financial market development because such policies would complement the banks' financing strategies and firms would have more access to debt capital.*

**Keywords:** Capital Structure, Macroeconomic Factors, Developing Africa, Generalized Methods of Moment (GMM)

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### **1. Introduction**

Capital structure is the financial decisions regarding raising of capital from various sources of funds that comprises of retained earnings and debt and equity (Shahar & Manja, 2018). Capital structure decisions impact a firm in two aspects. First, firms of equal risk category with high leverage will likely have high costs of capital. Lastly, capital structure will affect firm's valuation, with high leveraged firms being more volatile and less valued than lower leveraged firms (Baltaci, and Ayaydin, 2014). However, Capital structure is a vital choice that could lead to an optimum funding mix that could optimize firm's share price (Lim, 2012).

Studies of corporate capital structures have a long history. Ever since the article by Modigliani and Miller (1958) of irrelevance proposition, extensive theoretical studies have been done on determinants of firm's capital structures. These efforts already resulted in the early 1980s in the establishment of the two major principles

of capital structure. In trade-off principle, firms trade off any potential tax savings bankruptcy from debt financing against deadweight costs. Pecking order hypothesis, on the other hand, indicates firms prioritize inside to outside funding and also debt to equity due to adverse selection, if external financing is used. Although neither theory is entirely satisfactory, they were instrumental in defining many of indicators that control the actual firms financing decisions.

The most important issues in corporate financial domain, both theoretically and empirically, is question of optimal capital structure that can increase shareholder returns (Kayo and Kimura, 2011). Since the Modigliani and Miller (1958) "capital structure irrelevance" proposals, we have experienced the emergence of many theoretical perspectives in this arena. Consequent theoretical work takes into consideration financial market imperfections and showed that firms capital structure arises from firms-specific and macroeconomics influences. The predominance of the capital structure studies focuses primarily on the analysis of certain specific features of firms such as size, tangibility, profitability, growth and business risk as capital structure determinants, and overlooked the importance of the economic condition which the firm operates. Certainly, the firms' decisions on capital structure is affected by macroeconomic factors like inflation rate, GDP growth, interest rate and Market capitalization to GDP. Therefore, analyzing the role of these macroeconomic variables alongside the firm-specific features gives a clearer picture of the decision and choices that firms make on capital structure.

The article aims at making contribution to knowledge the relevance capital structure decisions by examining capital structure determinants using a recent data for a large panel of firms in developing nations and concentrating on both firm-specific features and macroeconomic factors. The key contribution comes from evaluating the significance of macroeconomic variables roles in capital structure decisions and assessing potential impact of macroeconomic variables in determining firm's capital structure compared to the firm-specific features in developing African nations. Additional contribution comes in through estimate of capital structure determinants using recent data and new macroeconomic variables (interest rate and market capitalization to GDP) which past researches on macroeconomic determinants of capital structure do not mostly incorporate.

The article is arranged as follows: We provided an overview of theories relating to research of capital structure in section two. The Macroeconomic determinants in

the third, data and estimation methodology are introduced in section fourth, fifth section presented the results, and the sixth concluded the study.

## **2. Theories and determinants of Capital Structure**

In the study of firm-specific determinants of capital structure two main theoretical approaches are particularly important the trade-off and pecking order theories. These principles offer multiple projections concerning specific firm features and macroeconomic factors affecting firm's decisions on capital structure. Kraus and Litzenberger (1973) offer a classic theory postulation that an ideal capital structure reflects a one-period trade-off between debt financing, tax advantages and deadweight prospects of bankruptcy cost. They, further argued that in the trade-off principle, choices in capital structure are defined by trade-off between the debt benefits and costs. Typical considerations for this trade-off are based on cost of bankruptcy, tax advantages and asset replacement related agency costs (Myers, 1977), and to overinvest (Stulz, 1990). Every firm has an optimal value-maximizing debt and equity ratio that it seeks to achieve (Gungoraydinoglu and Öztekin, 2011). As a result, while higher debt mitigates equity costs for firm, it intensifies disputes between bondholders and shareholders (Drobetz et al, 2013).

The theory of pecking order founded by Myers and Majluf (1984) was built on information asymmetry basis and it asserts that adverse cost of selection for issuing risky securities, whether due to information asymmetry or management ambition, contribute to a preferential classification over means of funding by forming a bridge among internal and external funding costs and raising the uncertainty of issuing securities. Firms initially raise retain earnings, debt, then equity to reduce adverse selection costs (Gungoraydinoglu and Öztekin, 2011). In pecking order principle, there's no condition of optimum capital structure for a firm, Myers' rationale for the pecking order theory is based on the assumption that firm stakeholders are more knowledgeable than those outside the firm (Chakroborty, 2010). The pecking order principle lists sources of finance according to the level to which information asymmetry affects them. As a measure, firms are predominantly using internal financing. They prefer to give out debt over equity when they need outside funds (Drobetz et al, 2014). The pecking order principle does not assume, as opposed to trade-off principle, that firms have well-defined goal for optimal debt-equity ratio (Dang, 2013).

Among the few major studies that used firm-specific features to analyze capital structure determinants are Rajan and Zingales (1995) who used four specific firm

explanatory parameters, profitability, tangibility, size and growth. Booth et al. (2001) added by including business risks. Frank and Goyal (2009) identified average leverage of industry, ratio of market to book assets, fixed assets, expected inflation, size and profits as capital structure determinants. Dakua (2018) used profitability, size, risk, structure of assets, non-debt tax shield, growth opportunity and liquidity to measure capital structure. This study uses four firm-specific variables and they are non-debt tax shield, growth opportunity, profits and size.

### **Size of firm**

A significant connection between size of firm and debt is expected by trade-off principle. That's because large firms are highly diverse and have lesser default risk. On other hand, the pecking order principle is widely assumed as predicting an adverse connection, since big firms have lesser adverse selection problem and can give equity quickly than small firms. The vast majority of empirical research conducted find a significant connection among size of firm and debt. Evidences show empirically that there are variations in results between size and debt. Chakrabarti and Chakrabarti (2019) and Dakua, (2018) positively linked the connection between size of firm and debt. Conversely, a negative connection was reported by Hanousek and Shamsur (2011) and Chakraborty (2010).

### **Profitability**

In general, trade-off principle is defined as forecasting a positive link among firm profits and debt ratio. That is because risk of default is smaller, and interest-tax debt shields are of more value to firms with higher profits. On other hand, pecking order principle foresees an adverse connection among debt ratio and profitability as firms with higher profits can make use of retained earnings to finance business opportunities and thus have fewer desire for external debt. Even though most empirical researches show that the connection is robustly adverse. Yet some empirical studies show a positive result on the profit and debt ratio relation. Chakrabarti and Chakrabarti (2019) and Dakua, (2018) found a negative connection between profit and debt. Conversely, Bukair (2018) and Toumi, et al. (2012) found relation between profits and debt negative.

### **Market Price to Book (Growth opportunity)**

Growth firms need to use less debt from a trade-off theory viewpoint, because growth opportunities are intangible assets without value of collateral if firms face bankruptcy (Myers, 1984). From pecking theory viewpoint, growing firms needing

funding should deliver security with fewer costs of information asymmetry. Dakua, (2018) and Acaravi, (2015) empirically found growth opportunity to be significantly connected to debt. Conversely, Gormley and Matsa, (2013) and Chakraborty (2010) report an adverse effect between growth opportunity and debt.

### **Non-Debt Tax Shield**

In 1980, De Angelo and Masulis were obviously first to introduce into literature formally the concept of non-debt tax shields. The non-debt tax shield could be attributes such as depreciation deductions, allowances for depletion and tax credits for investment. Such shields could be viewed as replacements for the debt funding corporate tax benefits. Consequently, firms with greater volumes of non-debt tax shields will opt for lower debt rates. The trade-off principle thus predicts an adverse connection between the debt ratio and non-debt tax shields. Empirical research more often than not show findings which support this prediction; yet some show a positive relation. Among the few empirical studies that show an adverse link between debt and non-debt tax shield are Oztekin and Flannery, (2012), Iwarere and Akinleye, (2010). Conversely, Chakrabarti and Chakrabarti (2019) and Bukair (2018) posits a positive link between debt and non-debt tax shield.

### **Macroeconomic Determinants**

Several research, like De Jong et al. (2008) and Baltaci and Ayaydin, (2014) reveal that the safety and stability of the economic conditions has a tremendous effect on firm's capital structures. To analyze impact of economic conditions on firms' capital structure, the study used macroeconomic indicators such as GDP growth, interest rate, market capitalization to GDP, and Inflation rate to measures the general economic climate.

### **Inflation**

Inflation is one of a country's key indices of stability. Any rise in inflation leads to economic instability. This uncertainty causes firms' inability to repay their debts. Higher inflation decreases the benefits of debt because of higher bankruptcy costs of debt imposed on firms (Gungoraydinoglu and Öztekin, 2011). In this situation, borrowers demand a higher return because of the risk that they are taking. Higher interest rates raise the firm's projected debt burden, firms lower the debt ratios. Additionally, firms are increasingly using weak dollars in times of high inflation to pay off debt and reduce their debt ratios (Drobotz et al, 2013). Inflation thus has an adverse impact on debt. Joeveer (2013) argues that anticipated inflation is forecasted to be related positively to debt due to increased real value of deductions

on debt tax. An adverse relationship is found among debt and inflation in the studies of Öztekin and Flannery (2012), Drobetz et al (2013) and Joeveer (2013). Conversely, there have been a positive link among inflation and the firm's debt financing in works of Sinha and Ghosh, (2010); and Ali, (2011).

### **Interest rate**

Interest rate is the expense of acquiring loans on short-term or long-term grounds. Interest rate cannot be ignored because, of its impact on firm's debt. Companies prefer getting debt from financial institution and capital market in particular to fund investment when the expense is very low. Despite financial liberalization of their financial markets, interest rate in most developing economies is however very high. Interest rates are generally double digits, and financing are mostly obtained on a short-term basis. One of the reasons contributing for this is the saving behavior of bank depositors who save on a short-term basis and expect higher saving rates.

### **GDP growth rate**

Growth in real gross domestic product (GDP) can be seen as an indicator of growth opportunities open to firms in an economy. In a sound economic environment, lack of tangible assets of firms compared to the available business opportunities means a higher value loss when businesses are in distress. The trade-off theory therefore predicts that there is a negative relationship between leverage and GDP growth. The pecking order hypothesis, by comparison, predicts a positive relationship between debt and GDP growth, because a high ratio of growth opportunities to internal funds will suggest a stronger need for external funding. Empirical research commonly find an adverse connection between debt and GDP growth (Demirgüç-Kunt and Maksimovic 1996). Conversely, Lim, (2012) and Drobetz et al. (2013) find positive GDP growth - debt relationship. According to usual practice, we measure GDP growth as annual growth in real GDP per annum, denoted by GDPG.

### **Market capitalization to GDP**

According to Dincergok & Yalciner report (2011), the development of the stock market has significant connection to capital structure. In fact, market capitalization as proxy for the growth of the stock market has positive impact on capital structure (Gajurel, 2006). About the same period Bokpin (2009) claims that these variables have no connection. Conversely, Sett & Sarkhel (2010) considers an adverse connection between the growth of the stock markets and capital structure.

Moreover, researchers noted that the impact of stock market growth on debt rates of capital structure in certain developing nations with economies in transition is not clear and distinct from developed ones. The study in developing nations found that growth of the stock market has same dimensional connection with debt. This is described as the company risks are varied, and asymmetric information decreases, making firms prefer more debt because the debt cost is lower than of equity.

### 3. Methodology and Specification of Models

This research sourced data for firm specific and macroeconomic factor from the data stream and world development indicators (WDI). Our sample cover a period between 2010 and 2016 for 4,642 financial firm across 22 developing nations. The study employed suitable and advanced dynamic panel estimator, Blundell and Bond's (1998) generalized methods of moment estimation technique (2step system GMM).

#### Model Specification

##### Model 1

$$TDTA_{it} = \lambda TDTA_{it-1} + \beta_0 + \beta_1 Slog_{it} + \beta_2 PRFTS_{it} + \beta_3 MTB + \beta_4 NDT S_{it} + \beta_5 INF_{it} + \beta_6 INT_{it} + \beta_7 GDPG_{it} + \phi_i + \alpha_t + \mu_{it}$$

##### Model 2

$$TDTA_{it} = \lambda TDTA_{it-1} + \beta_0 + \beta_1 Slog_{it} + \beta_2 PRFTS_{it} + \beta_3 MTB_{it} + \beta_4 NDT S_{it} + \beta_5 INF_{it} + \beta_6 INT_{it} + \beta_7 GDPG_{it} + \beta_8 MCGDP_{it} + \phi_i + \alpha_t + \mu_{it}$$

Where

TDTA = Total Debt to Total Assets

Slog = Log of Size

MTB = Market to Book value

NDTS = Non Debt Tax Shield

PRFTS = Profits

INF = Inflation Rate

INT = Interest rate

GDPG = Gross Domestic Product Growth

MCGDP = Market Capitalization to Gross Domestic Product

$\phi_i$  = Industry Effects

$\alpha_t$  = Year Fixed Effects

$\lambda$  = Adjustment Parameter

$\mu$  = Error Term

**4. Results and Discussion**

Critical examination of descriptive statistics in Table 5a for dependent variables and independent variables reveal some vital information. As can be seen from the entire firm level variables, the mean is greater than the median, except for GDPG variable. Thus, the data is mostly characterized by positive skewness. Based on the mean values of TDTA (3.18), it can be deduced that firms in developing countries prefer debt in their capital structure. Moreover, standard deviation of TDTA is fairly high. This implies that on average, firms in developing countries do not reflect large differences in their total debt holdings when the debt measures are scaled by total assets.

Inflation rates and interest rates means is 6.22 and 10.45 respectively. The disparity in inflation rate and interest rate ranges from -0.90 and 3.42 (minimum value) for some firms and 17.45 and 52.1 (maximum value) for other firms. Thus, the disparity between inflation rates and interest rate implies that some developing countries, firms are faced with higher inflation and interest rates than others in developing nations. However, firms faced with higher inflation and interest rate may make less effective capital structure decision than other firms with lesser rates of inflation and interest.

**Table 1 Summary of Descriptive Statistics**  
**Source:** Authors computation using Stata 14, 2020

Index	TDT	SLlog	PRFT	MTB	NDTS	INF	INT	GDP G	MCGD
Mean	3.18 1	14.84 9	0.062	2.006	0.076	6.223	10.45 8	5.792	76.357
Median	2.96 0	14.68 6	0.070	1.100	0.055	6.217	10.00 8	6.066	67.464
Max	8.99 0	26.03 0	19.61 9	233.0 9	857.5	17.45 4	52.1	14.04 7	270.19 7
Min	0.00 0	0.000	-5.621	-69.7	0.000	-0.900	3.422	-3.549	7.462
Std. Dev.	2.10 4	2.966	0.196	5.347	4.756	3.284	6.677	2.432	46.763
Skewnes s	0.48 3	0.396	43.53 1	13.15 8	179.28 9	0.215	3.558	-0.655	1.662

With respect to GDPG and MCGDP, the results indicate that the mean is 5.79 and 76.35 respectively. The difference between GDPG and MCGDP ranges from -3.54

and 7.46 (minimum value) for some firms and 14.04 and 270.19 (maximum value) for other firms. Hence, the difference between GDPG and MCGDP implies that some developing countries firms are having better economic conditions in their countries than other firms’ developing countries. However, firms with better economic conditions could make effective capital structure decision than firms with lesser economic conditions.

**Correlation results for Model 1 and 2**

Table 5b present the correlation coefficient among total debts to total assets (TDTA) and inflation and interest rates are statistically significant and positive (0.09 and 0.07). Similarly, the correlation coefficient between the total debts to total assets and GDP growth and market capitalization to gross domestic product are statistically significant and positive (0.05 and 0.01) respectively. This suggests that as the economy increases with better condition, debt increases. Moreover, the correlation coefficient between TDTA and firm size is statistically positive and significant (0.07). Likewise, the correlation coefficient between TDTA and profits is statistically significant and positive (0.05). This suggest that as firm size and profits increases, debt increases.

**Table 2. Correlation results for objective one (Equation 1 and 2)**

	TDTA	SLlog	PRFTS	MTB	NDTS	INF	INT	GDPG	MCGDP
TDTA	1.00								
SLlog	0.078	1.00							
PRFTS	0.005	0.006	1.00						
MTB	-0.065 <sup>b</sup>	0.061	0.019	1.00					
NDTS	0.004 <sup>b</sup>	-0.006	-0.099	0.019	1.00				
INF	0.097 <sup>b</sup>	0.047	0.007	0.007	-0.007	1.00			
INT	0.070 <sup>b</sup>	0.064	0.004	0.010	-0.005	0.293	1.00		
GDPG	0.059 <sup>b</sup>	-0.011	0.003	0.005	-0.003	0.260	-0.257	1.00	
MCGDP	0.010 <sup>b</sup>	-0.204	-0.005	0.029	0.005	-0.290	-0.371	-0.115	1.00

**Source: Output of Stata 14, 2020**

**Notes:** <sup>a</sup> and <sup>b</sup> indicate correlation coefficient is significant at 1 and 5 percent levels, respectively.

Furthermore, correlation coefficient among total debt to total assets and MTB (growth opportunity) is positive and significant statistically. This suggests that as

growth opportunity increases, debt increases. Conversely, TDTA is adversely related NDTs and statistically significant.

### **Generalized Method of Moments Results**

The study estimates a dynamic panel model built on trade-off theory. Total debt to debt assets ratios is used as dependent variable for results of models 1 to 2. System GMM is the main estimation. The coefficients estimated in the models are significant and have the expected sign. Inflation rate coefficients for model 1 and 2 are (0.051\*\* and 0.059\*\* with t-statistics of 3.87 and 2.96 respectively) significant statistically both at 5 percent level and positively linked TDTA. This positive connection implies that favorable inflation rate increases debt. Also, Interest rate coefficients for model 1 and 2 are (0.042\*\* and 0.045\*\* with t-statistics of 2.46 and 2.79 respectively) significant statistically both at 5 percent level and positively related to TDTA ratio. This positive relation signifies that favorable interest rate increases debt. Likewise, the coefficient of gross domestic product growth (0.001\*\*\* and 0.001\*\*\* t-statistics of 3.24 and 3.54) in model 1 and 2 respectively are significant statistically both at 1 percent level and positively linked to TDTA ratio. This positive link implies that higher growth in gross domestic product increases debt.

Furthermore, market capitalization to gross domestic product coefficients in model 2 is 0.002\*\* with t-statistics of 3.84 and statistically significant at 1 percent and positively related to TDTA ratio. This significant connection implies that high market value reduces firms' risk which in turn increases debt. However, firm size coefficients for model 1 and 2 are 0.104\* and 0.056\*\* with t-statistics of 1.94 and 2.99 respectively are statistically significant both at 10 and 5 percent level and positively linked to TDTA ratio. This positive relation signifies that increase in firm size increases debt. Likewise, the coefficient of Market to book (firms' growth opportunity) is 0.031\*\* and 0.043\*\* t-statistics 2.75 and 3.02 in model 1 and 2 respectively are significant statistically both at 5 percent and positively linked to TDTA ratio. This positive link implies that increase in growth opportunities increases debt.

**Table 3. Panel System GMM Result for model 1 and 2**

	SYSTEM GMM	SYSTEM GMM
	1	2
SOA	0.040	0.042
TDTA <sub>it-1</sub>	0.960* (25.22)	0.958* (24.24)
INF	0.051** (3.87)	0.059** (2.96)
INT	0.042** (2.46)	0.045** (2.79)
GDPG	0.001*** (3.24)	0.001*** (3.54)
MCGDP	-	0.002*** (3.84)
SLlog	0.104* (1.95)	0.056** (2.99)
PRFTS	-0.900 (-1.38)	-0.589 (-0.91)
MTB	0.031** (2.75)	0.043** (3.02)
NDTS	-36.62 (-1.38)	-23.97 (-0.91)
Industry effects	Yes	Yes
Firm fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
AR(1)	0.000	0.000
AR(2)	0.491	0.490
Difference Sargan Test	-	-
Instruments	54	64

**Source: Output of Stata 14.**

**Notes:** SOA is speed of Adjustment to Target Debt level. Asterisks indicate significance at 10% (\*), 5% (\*\*), and 1% (\*\*\*). T-statistics of GMM system model are based on Windmeijer-corrected standard errors. 2<sup>nd</sup> order serial correlation in first difference is distributed as N (0, 1) under the null of no serial correlation in the residuals.

**4.1 Findings, Implications and Discussion**

The positive relation between capital structure (debt) and macroeconomics variables support the insights drawn from the theory of trade-off that firms make efficient decisions on capital structure, like deciding on optimal mix of capital structure that maximize benefits of debt interest tax shield which may bring high returns to shareholders. The positive relationship macroeconomics variables and

capital structure, point to the need for shareholders to employ firm managers with sufficient knowledge of macroeconomic conditions that will enhance choices of capital structure. Firms with strategies and targets on macroeconomic situations make higher quality decisions because their knowledge on the workings of the economy allows them to have practical insights on better debt financing decisions (Cole and Sokolyk, 2017), such as capital structure decisions and maximization of shareholders' returns.

Policymakers should be more specific about how to improve the economic conditions in an economy which will aid firms to make valuable decisions on debt management. Policymakers should also create an environment that supports managerial training and should also continue to formulate policies that encourage firm managers to take advantage of training opportunities to enrich their skill and knowledge on debt financing considering macroeconomic conditions in an economy.

## 5. Conclusion

An important issue in the literature is that unobservable macro-specific variables explain most of the variation in firm's capital structure in developing nations. This study argues and confirms that macroeconomic variables are the potentially factors which explain some of the variation in firms' capital structure. As firms operate with better economic conditions, they proffer effective decisions of capital structure like optimal capital structure; firms can increase shareholders' returns. The results reveal that macroeconomic variables are capital structure determinants in developing African nations and results are robust to model alternative specification and used different macroeconomic variables. The macroeconomic variables are significant statistically and related positively to debt.

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