OWNERSHIP STRUCTURE AND FINANCIAL PERFORMANCE OF LISTED OIL AND GAS COMPANIES IN NIGERIA

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ABSTRACT

This study examines the effect of ownership structure on the financial performance of listed oil and gas companies in Nigeria for the period of 2006-2019. Secondary data was extracted from the financial reports and accounts of the sample companies. Robust OLS as the best estimator of the regression model was used to analysed the data extracted. The findings revealed foreign ownership has a positive significant impact on the financial performance of oil and gas companies in Nigeria. Based on the findings,the study recommends that, foreigners should be allowed to take the majority of the ownership structure of listed oil and gas companies in the downstream sector of the petroleum industry in Nigeria, more so,management of these companies should formulate policies that would boost the number of shares allocated to foreigners since foreign ownership increases financial performance.

INTRODUCTION

The relation between ownership structure and firm value has been reported to be one of the most interesting issues in corporate finance (Sanda, Mika'ilu & Garba, 2005). It is the subject of continuous debate since the original paper of Berle and Means (1932) who suggested that firms with a wide dispersal of shares tend to under-perform. Berle and Means (1932) observed that during the 1920s, ownership structure in public companies became one in which shareholders had become so numerous and dispersed that they were no longer able to manage the companies they owned and needed to monitor management. In recent years the discussion has centred on an assessment of the relative advantages and drawbacks of concentrated ownership structure as opposed to the separation between management and ownership (Usman & Yero, 2012).

In the light of the conflicts between owners and manager, one of the objectives pursued by governance mechanisms is to prevent managers/directors from taking inadequate measures or from performing in a manner that is inconsistent with maximizing value to the owner, a phenomenon of management immunity can sometimes develop. This is known in the literature as observed by Jensen and Mecklin, (1976) as 'management entrenchment'. Management entrenchment reflects the situation in which managers/directors are immune to the discipline imposed by a wide range of control mechanisms (Berger, Ofek & Yermack, 1997). The level of the managers/directors' entrenchment according to Demsetz (1983); Bebchuck, Cohen and Ferrell (2009) may be enhanced by several factors, particularly the weight of ownership held and voting power in decision-making. Managers/directors can also choose to invest in projects that would be rejected when the rate of return required by the owners is considered, but which would meet their own expectations (Fama & Jensen, 1983; Bebchuk, Cohen, & Ferrell, 2009; Lisboa, 2007). For higher levels of managerial ownership, performance increases again, as the owner/manager/director of the company has additional incentives in valuing share price (Loderer & Martin, 1997).

On the other hand, ownership concentration is another mechanism of corporate governance which influences agency costs (Jensen & Meckling, 1976). Based on this premise, the effect of ownership concentration on performance has been widely documented in the literature (Sanda, Mika'ilu and Garba, 2005). Since dispersion creates free riding problems and makes it difficult to supervise, a positive relationship is expected between ownership concentration and corporate performance. Consistent with this hypothesis supervision, Shleifer and Vishny (1986) refer to the important role played by large owners, and how the stock price rises as the percentage of shares held by them increases. Also, Grossman and Hart (1986) argue that owners with a high stake in the company show greater willingness to play an active role in decisions as they can internalize the benefits of their monitoring effort. The method used by large owners to oversee the management/ administration is a result of informal agreements drawn up amongst them (Shleifer & Vishny, 1997). Nevertheless, ownership concentration can lead to conflicts between controlling and minority owners leading to worse performance, as advocated by expropriation hypothesis. Conversely, if the value of the company is too high in relation to expectations generated and participation is subject to high risks, the owners are driven to sell part of their holdings (Pinto & Augusto, 2014).

Conflict of interests between managers and shareholders as well as between controlling and minority shareholders lies at the heart of the corporate governance literature (Jensen & Mecklin, 1976). The literature however fails to produce any conclusive evidence on the relationship between ownership structure and firm profitability as Mitton (2002), Joh (2003) found a positive effect of ownership on firm performance while Dalton, Daily, Certo, and Roengpitya(2003)**;** Sanchez, Juan and Garcia (2007) on the other hand find no substantive relation between ownership structure and financial performance. Most of the studies are in

banking sector, manufacturing firms, conglomerates (Andow & David, 2016; Saifullahi, Muhammad & Shehu, 2015) but has been carried in the oil and gas sector.

These inconclusive findings by previous literature makes this study relevant as the study's domain which is the Nigerian oil and gas sectors is characterised with business who explore crude oil from the Niger Delta region of the country that has experienced several issues of militancy kidnapping and destruction of company's asset. Given that researchers like Pinto & Augusto (2014) have argued that high environmental risk that affects the operation of business might instigate owners to sell part or all of their holdings which will consequently lead to a loss in equity other decision making roles they play in the board, it is therefore necessary to carry out such study to investigate the impact of ownership structures on the financial performance of oil and gas firms in Nigeria as previous studies like Demsetz and Villalonga (2001) have observed that when owners of a privately held company decide to sell shares, and when shareholders of a publicly held corporation agree to a new secondary distribution, they are, in effect, deciding to alter the ownership structure of their firms and, with high probability, to make that structure more diffuse which ought to be influenced by the profit-maximizing interests of shareholders, so that, as a result, there should be no systematic relation between variations in ownership structure and variations in firm performance. Also, most of the studies in this area failed to make some robust tests in order to improve the validity and reliability of the statistical inference derived from the studies. However, this study conducts heteroskedasticity, hausman, Lagragian tests among others.

Though there are several studies that have investigate ownership structure as it relates to earnings management (Usman and Yero, 2012), dividend policy (Miko and Kamardin, 2015), capital structure (Mahrt-Smith, 2000), firm value San-Martin-Reyna and Durán-Encalada, 2012), firm performance (Saifullahi, Mohammed, and Hassan, 2015, Gambo, 2020); there is however not many studies that have investigated the impact of ownership structures on the financial performance of oil and gas firms in Nigeria despite their contribution to the Nigerian economy at large and also noting the fact that since ownership in oil and gas companies in Nigeria varies with concentration, managerial, and foreign ownership, the result is uncertain as to how it will affect firm financial performance. In this wise, the study raises the question how does ownership structure influences the financial performance of oil and gas companies in Nigeria. The main objective of the study is to examine the effect of ownership structure(managerial ownership (MGO), concentrated ownership (INST) and foreign ownership (FRNO)) on the performance of listed oil and gas companies in Nigeria.

LITERATURE REVIEW

Ownership Structure

Ownership Structure of a firm refers to the distribution of control and ownership in the firm. Control is seen as the ability to influence decisions and for shareholders; it is

represented by voting power. While ownership is regarded as the right to cash flows of the company which is proportionate to the shareholdings (Shehu, 2012). Ownership structure is one of the main dimensions of corporate governance and is widely seen to be determined by country-level corporate governance characteristics such as the development of the stock market and the nature of state intervention and regulation (La Porta Silanes, Shleifer & Vishney, 1998). Ownership structure is defined by the distribution of equity with regard to votes and capital but also by the identity of the equity owners. These structures are of major importance in corporate governance because they determine the incentives of managers and thereby the economic efficiency of the corporations they manage (Jensen and Meckling, 1976). Ownership structure is seen as the opus of the biggest five shareholders, which include the mixture of institutional shareholders, individual and managerial shareholders (Alipour & Amjadi, 2011). Other authors looked at ownership structure as the percentage of shares held by Directors (Shah, Butt & Saeed, 2011). Furthermore, ownership structure is seen as decisions made by those who own or who would own shares. They measure ownership structure as the composition of board ownership, institutional ownership and foreign ownership (uwalomwa & Olamide, 2012). Hence, ownership structure is seen as the classes or clusters of owners that exercise rheostat over activities of a firm.

Managerial Ownership

Insider ownership which is also seen as managerial ownership reflects the governance problem arising due to variance in the cash flow and control rights. Insider ownership has two dimensions. In the first case, insider ownership can be defined as managerial ownership (manager-owner), where managers are assigned ownership rights as a post facto incentive mechanism by owners. In the second case, insider ownership is defined by the de facto ownership rights held by an insider who promotes and also manages (owner-manager). But Muhammad, Indra and Yunika (2013) defined Managerial Ownership as a situation where the manager has shares, in other words, the manager of the firm and as well as the company's shareholders. The definitions above look at the possession of shares from insider perspective which is not different from the shares held by those at the helm of affairs, i.e. the managers of the company. This implies that, managerial ownership means the amount of share either in naira amount or units of shares held by those who manage the affairs of the business where they act as an agent of the public (shareholders).

Concentrated Ownership

Concentrated ownership also referred to as block holdings/ownership is an internal governance device that allows the largest shareholders to gain control over management behaviour and decision (Omar & Hind, 2012). Under the corporate governance code released by the Securities and Exchange Commission (SEC) in 2003, SEC defined block-holding as any investor with more than a 5% equity stake in the firm. The definition given by Omar

and Hind (2012) did not provide specifically what level constitutes block holdings, but as for the definition given by Nigeria Securities and Exchange Commission in its documents relating to corporate governance code sees block holdings as those who have more than 5% equity stake in a firm.

Foreign Ownership

Foreign control means one or more foreign persons having the authority or ability to establish or direct the general policies or day-to-day operations of the firm. Foreign control is presumed to exist where foreign persons own 25 percent or more of the outstanding voting securities unless one U.S. person controls an equal or larger percentage (Usman and Yero, 2012). Foreign investors can be effective monitors of managers in emerging markets, because foreign investors demand higher standards of corporate governance. If foreign investors assume a role of active monitors, firm performance is expected to increase as foreign ownership increases.

Review of Empirical Literature

This subsection reviews various existing studies on the impact of ownership structure and its proxies with performance of firms.

Managerial Ownership and Financial Performance

Andow and David (2016) examined the influence of managerial ownership on the financial performance of conglomerate firms in Nigeria from 2004-2013. Secondary data was employed which was analysed with multiple linear regression. The study found that, managerial ownership has a significant negative impact on the firms' performance. It was recommended that, managerial ownership should not control up to 50% or more of shares allotted in the company which helps in reducing their control over other shareholders which may be responsible for poor performance. The study concluded that, managerial ownership plays a negative role on the financial performance of conglomerate firms. This study differs from Andow and David (2016) as it is looking at oil and gas companies.

Basyith, Fauzi and Idris (2015) investigated the impact of managerial ownership on firm performance of blue chip firms listed on Indonesia Stock Exchange from 2010-2014. The study has 45 firms as its population where 38 were used as sample. The study used secondary data only which was analyzed using regression analysis. The study found among other things that, managerial ownership has a significant negative impact on firm performance. The study concluded that, managerial ownership influences firm performance. This study differs from Basyith, Fauzi and Idris (2015) as it examines ownership structure and financial performance of oil and gas companies from 2006-2015.

Saifullahi, Mohammed and Shehu (2015) examined the influence of managerial ownership on the performance of 6 conglomerate companies in Nigeria from 2008-2013. The study employed secondary data and it was analyzed with multiple linear regression. It was found that, managerial ownership has a strong negative significant impact on the conglomerate companies in Nigeria. However, the study recommended that, managers should be discourage by the board to hold a substantial unit of shares by instituting a policy that will restrict the number of their holdings to avoid decrease in performance. The study concluded that, managerial ownership negatively affects performance of conglomerates in Nigeria. The current study examines ownership structure and financial performance of oil and gas companies.

Gugong, Arugu and Dandago (2014) studied the impact of ownership structure on the financial performance of 17 listed insurance firms in Nigeria from 2001-2010. The study employed secondary data which was analyzed with regression technique and the study found that, managerial ownership has a significant impact on insurance companies' performance. It was recommended that, the code on owner's equity of listed insurance companies in Nigeria should be sustained and be promoted for full implementation so that the firms can have a perpetual life. The study concluded that, managerial ownership influences insurance companies' performance.The current study examines ownership structure and financial performance of oil and gas companies and the study failed to conduct robustness tests in order to improve the validity of their findings.

Zakaria and Purhanudin (2014) examined the impact of managerial ownership on the performance of Malaysian listed trading and services firms from 2005-2010. The study used secondary source of data and the data was analysed using regression technique. It was found that, managerial ownership positively influences the performance of the firms and the study concluded that, the higher the managerial ownership, the high firm reports high performance. This study differs from that of Zakaria and Purhanudin (2014) as it looks at ownership structure and financial performance of oil and gas companies.

However, in contrast to the findings of Saifullahi, Mohammed, and Hassan (2015); Demsetz & Villalonga (2001), in a more recent study, Zakaria, Palanimally and Purhanudin, (2014) investigated ownership structure and firm performance in Malaysian trading and services sector for a period of six years (2005 to 2010). The study used secondary data and it was analysed with regression technique. Their findings revealed that when firm has managerial ownership, it can enhance the firm performance. They further found that trading and Services firms are not affected by ownership structure under pre crisis period as compared to during post crisis period. This finding is also supported by Sanda, Mika'ilu and Garba (2005) posited that director and managerial shareholding is significantly negatively related to firm performance. This compares with outside directors and ownership concentration, which are not significant in all cases. This finding also does not support Adenikinju and Ayorinde (2001), who saw no significant relationship between firm

performance and insider ownership. In addition, McConnell and Servaes (1990) credited a significant relation between insider ownership and firm performance.

On the other hand, a non-significant relationship exists in the work of (Loderer and Martin 1997). Managerial ownership has negative and strong impact on firm performance of study with 8 sample firms (Faruk & Mailafia, 2013). This study supports the study of Morck, shleifer and Vishney, (1998) who analyzed the relationship between the manager's percentage of shares and firm performance. They gave a positive for holding within three ranges, 0% to 5%, beyond 25%, but negative one between 5%-25%.

Concentrated ownership and Financial Performance

Concentrated shareholding or ownership which is also referred to as block ownership is the proportion of shares (usually more than 5%) owned by a certain number of shareholders. It is argued that the higher the number of shares owned by the block holders, the more mangers action will be regulated and monitored to act in the interest of the shareholders (Sanda et al. 2005). However, some researchers have reported mixed findings between concentrated ownership and financial performance.

Basyith, Fauzi and Idris (2015) investigated the impact of block-holder ownership on firm performance of blue-chip firms listed on Indonesia Stock Exchange from 2010-2014. The study has 45 firms as its population where 38 were used as sample. The study used secondary data only which was analyzed using regression analysis. The study found among other things that; Block-holder ownership has a significant positive impact on firm performance. The study concluded that, Block-holder ownership influences firm performance.The current study examines ownership structure and financial performance of oil and gas companies.

Further, Pinto & Augusto (2014) analyzes the causal relationship between the ownership concentration and operational performance using a sample of 4163 Portuguese SMEs and panel data models. The study used secondary data and it was analysed with regression technique. The main results show an endogenous and dynamic relationship between those variables. The quadratic specification established between ownership concentration and operational profitability suggests that for low levels of control rights the expropriation hypothesis prevails and for high levels the supervision hypothesis prevails. The study concluded that, ownership structure affects operational performance of Portuguese SMEs. The current study examines ownership structure and financial performance of oil and gas companies.

In the context of Japanese manufacturing enterprises, Hu and Izumida (2008) conducted a study where they analyze the causal relationship between ownership concentration and performance. Secondary source of data was used and regression was used to analyse the data. The results suggest a U-shaped relationship between ownership concentration and

performance, in line with the expropriation effect predominant in low levels of ownership and the supervision effect for intermediate levels of ownership, indicating that both dispersed ownership and high ownership concentration are associated with improved performance. On the other hand, they showed an insignificant effect of performance on ownership concentration, supported by the fact that capital markets have low liquidity, which prevents larger owners from changing their portfolios depending on performance. Considering the results, they conclude that ownership concentration is not determined by performance in illiquid markets, where it is difficult to transact and change ownership in response to changes in circumstances. The current study examines ownership structure and financial performance of oil and gas companies.

Foreign Ownership and Financial Performance

Empirically, Lee (2008) examine the effect of equity ownership structure on firm financial performance in South Korea using panel data for South Korea in 2000—2006. They focused on the role of two main dimensions of the ownership structure: Ownership concentration (i.e., the distribution of shares owned by majority shareholders) and identity of owners (especially, foreign investors and institutional investors). Secondary source of data was used and regression was used to analyse the data. They found that firm performance measured by the accounting rate of return on assets generally improves as ownership concentration increases, but the effects of foreign ownership and institutional ownership are insignificant.Andow and David (2016) assessed the impact of foreign ownership on the financial performance of conglomerate firms in Nigeria form 2004-2013. The study employed panel data and it was analyzed with regression technique. The study found that, foreign ownership has a negative significant impact on the conglomerate firms' performance. The study concluded that, foreign ownership increases the performance of conglomerates in Nigeria. This study differs from Andow and David (2016) as it examines ownership structure and financial performance of oil and gas companies from 2006-2015.

Abdulrahman and Reja (2015) examined the impact of foreign ownership on bank performance in Malaysia from 2000-2011. Using secondary data, multiple fixed effect regression was used for the data analysis and the study found that, foreign ownership has an insignificant impact on the Malaysian banks' performance. It was concluded that, the insignificant results of foreign ownership suggest that the type of ownership structure does not have significant impacts to the bank performance. This study differs from Abdulrahman and Reja (2015) as it examines ownership structure and financial performance of oil and gas companies from 2006-2015.Saifullahi, Mohammed and Shehu (2015) examined the impact of foreign ownership on the performance of 6 conglomerate firms in Nigeria from 2008-2013. Secondary data was extracted from annual reports accounts of the firms and it was analyzed with panel multiple linear regression. The study found an insignificant impact exists between foreign ownership and performance. The study concludes that, foreign

ownership does not play a role on the performance of conglomerates firms in Nigeria.Zakaria and Purhanudin (2014) examined the impact of foreign ownership on the performance of Malaysian listed trading and services firms from 2005-2010. The study used secondary source of data and the data was analyzed using regression technique. It was found that, foreign ownership positively influences the performance of the firms and the study concluded that, the higher a firm foreign ownership, the better it performs.

However, based on the empirical literatures reviewed there are evidences that divergent views exist on the impact of ownership structure and its proxies on financial performanceof banks, manufacturing firms, conglomerates and none of the studies exist in the oil and gas sector of the Nigerian economy. This study contributes to bridging the gap. Therefore, the following null hypotheses were formulated to test the influence of ownership structures on financial performance of listed oil and gas companies in Nigeria.

HO_1 Managerial Ownership has no significant impact on financial performance of listed oil and gas companies in Nigeria.

HO_2 Concentrated Ownership has no significant influence on financial performance of listed oil and gas companies in Nigeria.

HO_3 Foreign Ownership has no significant contribution on financial performance of listed oil and gas companies in Nigeria.

Theoretical Framework

This study focuses discussions on three financial theories in relation to the effect of ownership structure on performance of firms. Namely: institutional Theory, stakeholder theory, and the agency theory. The study however leans on the agency theory as it the best theory that explains the relation between ownership structure and financial performance in the context of this study.

Institutional Theory

This theory states that the institutional environment can highly impact the growth of formal structures in an organization, often more strongly than market pressures. Innovative structures that build up technical efficiency in early-adopting organizations are justified in the environment. Eventually, these innovations attain a level of legitimization where they become legal mandates. At this point organizations both new and existing will implement the structural form including schemes, rules, norms, and routines even if the form does not improve efficiency. According to Scott (1995), since MNCs operate in various regions across the world with discrete political, social and economic environment they normally encounter varied pressures which end up influencing their competitive strategy and human resource management practices (Martinsons, 1993; Zaheer, 1995). Therefore, multinational companies tend to react differently to challenges of the same nature.

In as much as emerging economies such as Nigeria have growth potential there are myriad of political, social and economic challenges which are a huge impediment for institutions trying to operate in such emerging economies. According to Khanna and Palepu (2000) firms should develop business models that are less susceptible to problems. They highlighted that institution performance initially deteriorate with group diversification and afterwards increase once group diversification exceeds a certain threshold level. Since the methods applied in developed countries do not out rightly fit in the emerging markets, new tailored insights and strategies should be created. Both MNCs and local firms have divergent focus when faced with same challenges in emerging markets such as Nigeria depending on the calibre of the company.

The implication of this theory to the study is that firms with foreign ownership in Nigerian tend to roll out products that have already been in use in other regions including the well developed countries in line with directives and policies from the parent company. The assumption is that such products mostly will not perform well since they are not tailored to suit the specific conditions of the Nigerian market thereby reducing the overall financial performance.

Stakeholder Theory

This theory states that managers react to pressures put forth by owner-stakeholders because of legitimacy, power, and urgency considerations. Freeman (1984) suggests that the firm stakeholders influence the top managers who are in charge of strategy development and implementation through resource usage and withholding mechanisms. Murtha and Lenway (1994) suggest that states are able to influence management because they control authority, markets, and property rights which are the main strategic resources by their involvement in the appointment of a firm's top management as well as board members and providing direct or indirect government subsidies and incentives. States involvement in the markets can negatively affect the degrees of openness (free market) or control (closed market). This influence can also manifest itself through property rights in countries where the government has undue powers in regard to property ownership.The implication of this theory is that most of the policies and market approaches implemented by firm owned by the government are highly subjective to government strategies being rolled out in that period. The assumption is that the state as the major stakeholder supplies resources to these firms but with a lot of 'strings attached'. Therefore, state owned firm will perform well if and only if the ruling government influences competitive strategies.

The Agency Theory

The agency problem was developed by Jensen and Meckling (1976) and Fama and Jensen (1983). The theory states the relationship between principals such as a shareholders, and agents such as a firm's senior management. The principal delegates work to an agent. The

theory attempts to deal with firstly, the agency problem where there is a conflict of interest between a company's management and the company's stockholders, and secondly, that the principal and agent settle for different risk tolerances. There are two main agency relationships in a firm that are normally in conflict; those between the company's management and stockholders and between the stockholders and the debt holders. These agency conflicts have implications on corporate governance and business ethics. Such relationships have expensive agency costs that are incurred so as to sustain an effective agency relationship. Incentive fees paid to agents to encourage behaviour consistent with the principal's goals are common examples of agency costs (Bowie and Edward, 1992). One of the ways of reducing agency problems is debt financing which helps those problems that are normally related to free cash-flow and asymmetric information problems especially in the case of privately held debt. Secondly, Conflicts of interest between managers and shareholders also arise from the divisions between ownership and control. Managerial ownership can align the interest between them, hence; reduce the total agency costs. The relationship between managerial ownership and agency costs is linear and the optimal point for the firm is achieved when the managers acquires all of the shares of the company (Jensen & Meckling, 1976). Thirdly, Ownership concentration is the other option of reducing agency costs by shareholders proactively taking active roles in monitoring. This is however dependent on the amounts of their equity stakes. The more the investor's stake, the more motivated they are to monitor and protect their investment (Gilson, John and Lang, 1990). According to Agrawal and Knoeber (1996) agents such as company managers will highly unlikely venture into behaviours that are strictly profit maximizing where shareholders are not strictly monitoring their activities. The implication therefore is that, if owner-controlled firms are high performers than manager-controlled firms. The assumption is that concentrated ownership of a firm provides better monitoring which leads to better performance.

METHODOLOGY

This study adopted correlational design. The design is considered appropriate, because it is better in determining the relationship and degree of ownership structure influence on performance in our study that permit prediction. This study obtained data from secondary sources which was extracted from the annual report and account of listed oil and gas firms in Nigeria. The population of the study consist of all the downstream sector which consist of the seven oil and gas firms in Nigeria that are listed on the Nigerian stock exchange as at 31st December, 2019. The listed oil firms operating in Nigeria as at 31st December, 2019 are: Conoil Plc, Eternal Plc, Forte Oil Plc, Mobil Oil Nig Plc, Mrs Oil Plc, Oando Plc, and Total Nigeria Plc. However, in order to get complete data for the time period and to collect data from firms of similar operations, this study employs a criteria that only listed oil and gas firms that have been in operation for the past 10 years and are engaged in petroleum marketing. On application of the criteria, the new population of the study is reduced to

seven listed oil and gas firms that are engage in petroleum marketing which were used as sample of the study and name thus: The listed oil firms operating in Nigeria as at 31st December, 2019 are: Conoil Plc, Eternal Plc, Forte Oil Plc, Mobil Oil Nig Plc, Mrs Oil Plc, Oando Plc, and Total Nigeria Plc. The justification for choosing oil firms on the fact that the sector is characterized with various ownership structure. Data was extracted from the published audited annual reports and account of the selected firms from 2006-2019. This period under review is considered appropriate because it provides reasonable time frame of 10 years which relevant data can be collected and inference can be drawn (Gujarati, 2013). The data is quantitative and panel in nature. Multiple regression technique was conducted in consistent with Saifullahi, Mohammed, Hassan, (2015) and Usman and Yero (2012). Panel data is used in investigating changes in variables over time and the difference in variables between subjects. Considering the nature of panel data (cross-sectional and time series) was adopted for the study, the study employs different regression models which include Ordinary Least Squares (OLS) Model, Fixed Effect (FE) Model and Random Effect (RE) Model. In order to know which, result to interpret between the OLS, FE and RE, this study applies the Hausman Specification Test and Breusch and Pagan Lagrangian Multiplier Test before arriving at the most suitable for the study (Gujarati 2013). Further, additional test for Heteroskedasticity, Autocorrelation and Multicollinearity have been conducted to comply fully with the classical assumption of OLS and the model of the overall study (Gujirati, 2013). The analysis is conducted using STATA 13 version.

Variable definition and Measurement

Variables for this study may be classified into three groups: financial performance variable, ownership structure and control variables. The variables are defined and measured thus:

Table 1: Variable definition and Measurement

S/No	Variable	Definition	Measurement	Source
1	PER	Performance (ROA)	Profit after tax over total asset	Saifullahi, Mohammed, Hassan (2015).
2	MGO	Managerial ownership	% of shares held by managers to total number of shares	Saifullahi, Mohammed, Hassan (2015), Shehu *et al.* 2012
3	CNST	Concentrated ownership	% of shares held by major shareholders to total number of shares	Usman and Yero, (2012)
4	FRO	Foreign ownership	% of shares held by foreigners to total number of shares	Saifullahi, Mohammed, Hassan (2015).

Source: Compiled by author from past studies

Model Specification

The equation below represents the model of the study using balanced panel data. This equation is represented as follows:

$$PERF_{it} = \beta0_{it} + \beta1MGO_{it} + \beta2CNSTOWN_{it} + \beta3FRNO_{it} + \mu_{it}$$

Where:

PERF	=	Firm performance of firm i in year t
MGO	=	Managerial Ownership i in year t
CNST	=	Concentrated Ownership i in year t
FRNO	=	Foreign Ownership i in year t
$\beta1 - \beta3$	=	Coefficient of explanatory variables i in year t
βo	=	Constant or Intercept
μ	=	Error Term
i	=	Individual firm identifier
t	=	time

From equation 1, the contribution of managerial ownership, foreign ownership and the control variable (concentration) is regressed on the performance measured by return on asset of oil and gas firms in Nigeria. Performance is the dependent variable while managerial ownership, foreign ownership are the independent variable and concentrated ownership is the control variable.

Data Analysis

This section presents the descriptive statistics and regression result of the study. Also, the chapter discussed the various robustness tests conducted for the purpose of ensuring that the sampled data meets the assumptions of the regression analysis. The section ends by testing the hypothesis and discussing result of the study.

Descriptive Statistics

The descriptive statistics is presented in table 2. The calculated minimum, maximum, mean and standard deviations of the data for the variables used in the study are presented.

Table 1: Summary of Descriptive Statistics

Variable	Min	Max	Mean	Std	Skewness
ROA	0.00006	0.0618	0.0232	0.0129	0.0460
MGO	0.001	1.1	0.1672	0.2439	0.0000
OWC	0.14	0.93	0.6895	0.192	0.0001
FRO	0.037	0.87	0.2508	0.1318	0.0000

Source: Researchers compilation, using Stata 13

Table 2 presents the descriptive statistic for both dependent and the independent variables of the study. It shows that, ROA represents return on asset, MGO represent, managerial ownership, OWS represent ownership concentration and FRO represent foreign ownership.

From the result, it can be seen that, the minimum level of return on asset among oil and gas industry in Nigeria stood at 0.00006. This level of return on asset implies that there are companies with relatively very low return on asset among the oil and gas industry in Nigeria. This value ranges from a minimum of 0.00006 to a maximum of 0.0618. This implies that, firms with high return on asset perform better compare to those with lower return on asset among the sampled companies. The average return on asset stood at 0.0232 among the oil and gas industry in Nigeria.

The descriptive statistics result in table 2 shows that managerial ownership has an average mean value of 0.1672. This indicate that, about 17% of share in this sector are held by managers of these companies. This may significantly improve the performance of companies in this sector. This value ranges from a minimum of 0.0010 to a maximum of 1.1 among oil and gas companies in Nigeria. In addition to this, ownership concentration revealed an average value of 0.6895. This value ranges from a minimum of 0.14 to a maximum of 0.93. This shows a significant improve in the ownership concentration from minimum to a maximum level during the period among Nigeria oil and gas industry from 14% to 93% respectively.

In addition, foreign ownership has a mean value of 0.25. This value ranges from minimum of 0.037 to a maximum of 0.87. This shows a significant increase in the proportion of shares held by foreign companies in the Nigerian oil and gas industry from 3.7% to 87% respectively. On the contrary, foreign ownership has the lowest standard deviation among the independent variables of 0.13, which shows its highest contribution in explaining the performance oil and gas companies in Nigeria.From the table 2, the Skewness values were used to test for normality of data of the study and they are all close to 0 and 1 which signifies that the data is normally distributed.

Correlation Matrix

Table 3 shows the correlation values between independent and dependent variables and among independent variables themselves. The values are gotten from the Person correlation of two- tailed significance. It shows the correlation matrix with the top values showing the Pearson correlation coefficient among all variables and the asterisk (*) beside the Person correlation coefficient showing the two- tailed significance of these coefficients.

A look at the pattern of the correlation among independent and dependent variables shows a value of 0.5221, none of the explanatory variables is approaching 0.8 or greater.

Table 3: Summary of Correlation Matrix Result

	ROA	*MGO*	*OWC*	*FRO*
ROA	1			
MGO	-0.1406	1		
OWC	0.0436	0.1119	1	
FRO	0.1721	0.0172	-0.1167	1

Source: Researchers compilation, using Stata 13

Table 3 indicates that return on asset is 0.0436 and 0.1721 positively correlated with the ownership concentration and foreign ownership, while managerial ownership is 0.1406 negatively related with return on asset. Managerial ownership is 0.0172 and 0.5221 related with foreign ownership, while ownership concentration is 0.1119 negatively related with managerial ownership.

The relationship between the independent variables themselves was found to be significantly related with the exception of few that were found not to be significantly related, though, this may not be enough to conclude that harmful multicolinearity exist among the independent variables of the study until the variance inflation factor and the tolerance values are far and above the expected limit. The V I F and the tolerance are two advance measures of assessing multicolinearity between the regressors. The V I F and the tolerance are computed and are found to be consistently smaller than one and ten respectively, which clearly indicates absence of harmful multicolinearity. This shows the appropriateness and fitting of the study model with the independent variables and one control in ownership structure and performance of oil and gas industry in Nigeria.

Robustness Test of independent and dependent variables

In order to make ascertain the validity of statistical inferences of the study, this section present the result of the robustness test conducted. The robustness tests conducted includes:

(i) **Multicolinearity Test:** This was conducted to check whether there is a higher correlation between independent and dependent variables which will mislead the result of the study. Table 3 present the matrix of linear relationships among independent and dependent variable and among the independent variables themselves. From the observation, managerial ownership is having negative correlation, while ownership concentration and foreign ownership are having a very low but positive correlation among themselves. In order to prove and further substantiate the absence of harmful multicolinearity between the independent variables, colinearity and diagnostics test are carried out as the tolerance values and the variance inflation factor (V I F) values show absence of multicolinearity in the data.

(ii) Heteroskedasticity Test: Breusch- Pagan / Cook- Weisberg is used to test the null hypothesis that the error variances are all equal versus the alternative that the error variance are a multiplicative function of one or more variables. The alternative hypothesis states that the error variances increase or decrease as the predicted values of Y increase. That is the bigger the predicted value of Y, the bigger the error variance will be. A large chi-square would indicate that heteroskedasticity was present. In the result obtained from the heteroskedasticity test conducted in this study, the chi-square value is 4.36 with p-value of 0.0367, indicating heteroskedasticity was present and this shows the violation of assumption number four of the classical linear regression model which state that, there must be constant variance, that is, the distribution appearing in the population regression function are homoscedastic.

(iii) Hausman Test: In order to decide between Fixed Effect Model (FEM) output and Random Effect model Output (REM) which is the best, researchers often rely on the Hausman (1978) specification test. The Hausman test is design to detect the violation of the random effects modeling assumption that the explanatory variables are orthogonal to the unit effects. If there is no correlation between the independent variables and the unit effects then estimates of â in the fixed effects model should be similar to estimates of â in the random effect model. The Hausman test statistic H is a measure of the difference between the two estimates. Under the null hypothesis of orthogonality, H is distributed chi-square with degree of freedom equal to the number of independent variable in the model. A findings that $p < 0.05$ is taken as evidence that, at conventional level of significance, the two model are different enough to reject the null hypothesis, and hence to reject the random effect model in favor of the fixed effect model. If the Hausman test does not indicate significant difference ($p > 0.05$), however, it does not necessarily follow that the fixed effects estimator is safely free from bias, and therefore to be preferred over the random effects estimator. Thus the study selected the robust OLS as the best estimator of the model.

Presentation and Interpretation of Regression Result

This section presents the result of the dependent variable and the independent variables of the study (managerial ownership, ownership concentration, foreign ownership). The presentation follows with the analysis of the association between the dependent variable and each individual independent variable.

Robustness checks for multicolinearity and heteroskedasticity were first conducted on the data to ensure the reability and creadibility of the overall findings of the study. The result showed the absence of multicolinearity but heteroskedasticity was present. A FEM and REM were estimated after which the Hausman specification test was conducted to

choose the most appropriate model for discussion between the two models. The Hausman test selected the GLS, consequently the Langrange Multilier was condusted and it showed no evidence of panel effect in the data (See Appendices attached). Therefore we settle for OLS as the best estimator over the GLS. However, due to the evidence of heteroskedasticity, the robust OLS was used to estimate the hypothesized relation for the study. The estimated model is as below:

$$ROA_{IT} = \beta_{0it} + \beta_1 MGO_{it} + \beta 2OWCit + \beta_3 FRO_{it} + \mu_{it} \qquad (1)$$

The summary of the regression results obtained from the robust OLS model estimated for the study is presented in table 4.3 below:

Table 4: Summary of Regression Result

Variables	Coefficient	T-statistics	P-values	Tolerance	VIF
Constant	0.0236699	2.18	0.0.33		
MGO	-0.001753	-1.89	0.063	0.773174	1.29
OWC	-0.001129	-0.16	0.871	0.883727	1.13
FRO	0.207763	1.77	0.081	0.93796	1.07
R-Square	0.17				
Adjusted R	0.12				
F Statistics	3.37				
Prob. (F. sig)			0.0144		

Source: Regression result Output, 2019 using Stata 13

Table 4 show the summary of the estimated regression model which can mathematically be transformed as:

ROA=0.0236699 -0.00175(MGO) -0.001129(OWC) +0.207763(FRO)

The regression result further substantiates the result in table 4 on correlation matrix which indicates absence of harmful multicollinearity. From table 4, the (VIF) are consistently less than 10 indicating complete absence of multicollinearity. In addition, the tolerance values are also consistently less than 1.00. From the regression result, the highest tolerance value and VIF is 0.94. This result shows that there is complete absence of harmful multicollinearity between the independent variables (Neter, Kutner, Nachtsheim & Wasserman, 1996; Tobachnick, & Fidell, 1996). This further provides evidence that harmful multicollinearity will not affect the inferences drawn from the results of this study.

The coefficient of determination represented by R^2 stood at 17% which constitutes the proportion of the variation in the dependent variable which is explained by the independent variable. Therefore, it signifies that 17% changes in financial performance of oil and gas companies are caused by the explanatory variables as used in the study, while the remaining

83% of the changes are caused by other factors outside the model of the study. The F-statistics which shows the overall level significance of the model is 3.37 showing the adequacy and fitness of the model of the study and is significant at 1% level.

Managerial Ownership and Performance

From the regression table above, the beta coefficient of managerial ownership is -0.001753 and its p-value is 0.063 (5%) which signifies that there is a negative significant impact between MGO and return on asset of quoted oil and gas industry in Nigeria. The implication of the above result is that, for every one unit increase in the managerial ownership there is an approximately 0.001753 naira decrease in return on asset of quoted oil and gas industry in Nigeria. However, the finding is in line with expectation of the researcher. The policy implication of this finding is that, the management of the oil and gas companies should formulate policies aim at reducing the number of shares allocated to managers. This finding is in line with the findings of Sanda, Mikailu and Garba (2005), Faruk and Mailafia (2013), Saifullahi, Mohammed and Shehu (2015), Basyith, Fauzi and Idris (2015), Andow and David (2016) that found managerial ownership to be negatively and significantly affecting performance of firms and contrary to the findings of Adenikinju and Ayorinde (2001), Zakaria and Purhanudin (2014).

Ownership Concentration and Performance

From the regression table, ownership concentration has a beta coefficient of -0.001129 with a t-value of -0.16 which is insignificant at 87%. This signifies that, ownership concentration is negatively and insignificantly affecting the performance of listed oil and gas companies in Nigeria. However, the outcome is contrary to the prior expectation of the study that, as specific number of individuals hold a large portion of a company's share, they would be able to influence the decision making in the company and they would influence the decisions of managers toward achieving the shareholders' expectation/objective of wealth maximization and thereby increasing the performance of the firm in terms of profitability. This finding is contrary to the finding of Saifullahi, Mohammed and Shehu (2015) that found ownership concentration to be positive and significantly affecting the performance of conglomerate firms in Nigeria.

Foreign Ownership and Performance

From the regression table, foreign ownership has a beta coefficient value of 0.0207763 with a t-value of 1.77 and is significant at 10%. It signifies the existence of positive significant impact between the foreign ownership and return on asset of quoted oil and gas industry in Nigeria. The implication of the above result is that, for an increase in the number of foreign ownership the performance of quoted oil and gas companies in Nigeria increases with two kobo. This finding is in line with the researcher's expectation. The policy implication of

this finding is that, the management of the oil and gas companies in the downstream sector should formulate policy that would boost the number of share allocated to foreigners since foreign ownership increases the companies' financial performance. This finding is in line with the finding of Zakaria and Purhanudin (2014) who found that, foreign ownership has a positive significant impact on firm performance and contrary to the findings of Andow and David (2016) who found that, foreign ownership has a negative significant impact on firms' performance while Abdulrahman and Reja (2015), Saifullahi et al (2015) found foreign ownership to be insignificantly affecting firms' performance.

Table 5: Summary of Predictions of Findings

Variable	Predictive Sign	Statistical Significance
Managerial Ownership	-	Significant
Foreign Ownership	+	Significant
Ownership Concentration	-	Insignificant

Source: Researcher's findings

Hypotheses Testing

This sub section presents the data set which was estimated using a robust OLS inorder to test the hypotheses of the study. The regression result used for the hypotheses testing is presented in the table 4.3.

$H0_1$: Managerial ownership has no significant impact on return on asset of quoted oil and gas industry in Nigeria.

Managerial ownership was found to be significant and negatively impacting on return on asset at 5% level of significance indicating that, an increase in the number of share held by managers will lead to a decrease on the return on asset of oil and gas industry in Nigeria. In view of the above result reported in respect of Managerial ownership showing that the variable is statistically significant in influencing return on asset, this therefore proved an evidence of rejecting null hypothesis one of the study.

$H0_2$: Ownership concentration has no significant effect on return on asset of quoted oil and gas industry in Nigeria.

Ownership concentration was found to be statistically insignificant, which means that, the variable is not significantly associated with return on asset of oil and gas industry in Nigeria. Therefore Ownership concentration has not significantly affected return on asset. Owing to this, the study fails to reject null hypothesis two of the study. Thus hypothesis 2, $H0_2$ is failed to be rejected.

$H0_3$: Foreign ownership has no significant impact on return on asset of quoted diversified industry in Nigeria.

Foreign ownership is found to be positive and significant at 5% level, this means that, it is significantly impacting on return on asset of quoted oil and gas companies in Nigeria. Therefore, foreign ownership has significantly affected return on asset. In line with this, the study rejects the third null hypothesis. Thus, for hypothesis 3, $H0_3$ is rejected.

CONCLUSIONS

The study has the following as its conclusions:

(i) This study concludes that managerial ownership contributes negatively to the performance of listed oil and gas companies in Nigeria. Managers taking the majority part in the ownership of oil and gas companies will only result in causing drawbacks to the firms, thereby reducing the total profits. If Managers are given higher number of shares and they have the opportunity to participate in the control and decision taking of listed oil and gas firms, it is assumed that their value will be decreasing as time goes by as a result of their influence, this is because the managers may not focus on maximizing profit as the shareholder expectation but rather they may focus on their own personal interest.

(ii) The study concludes from the regression result of this study that concentrated ownership has a negative insignificant impact on the financial performance of listed oil and gas companies in Nigeria. This study believes that if a particular portion of shareholders have the power to overrule the decision of all other shareholders and managers opinion i.e the opinion of the concentrated shareholders vote during decision making process is the ruling vote, the financial performance of listed oil and gas companies will invariably diminish in time to come.

(iii) This study has come to conclusion that, foreign ownership in the ownership structure of listed oil and gas companies in Nigeria has a positive impact on their financial performance. If foreigners have the majority portion of ownership of the listed oil and gas companies in Nigeria it is going to be of benefit to the firms financially. Statistics show that foreign ownership will favour the financial performance of firms in the industry at a reasonable and considerable point. Foreigners' mission and vision is to maximize profit as well as wealth of the company and also to be a leading company in providing services to business partners as their primary motive and intent is financial performance.

RECOMMENDATIONS

In line with the conclusions of the study, the following recommendations have been proffered:

(i) Managers should not be given the majority of shareholding in the ownership structure of the listed downstream oil and gas companies in Nigeria. But rather

they should be given a small portion of the shareholding of the listed oil and gas companies in Nigeria, this will motive and encourage them to perform better in other to achieve the desired company goals and objectives as well as comply with the laid down guide lines of the companies which will increase their financial performance and their integrity.

(ii) A particular group of individuals or companies should not be given the opportunity to hold the majority of the shareholding of listed downstream oil and gas companies in Nigeria. If in any way the ownership structure of listed oil and gas companies in Nigeria becomes one sided a lot of investors will have no option but to sell off their shares while prospective investors will not be convinced to come and invest their funds, this is because their opinions will never matter or make any difference since the ownership structure is one sided.

(iii) Contrary to managerial ownership and concentrated ownership, this study recommends that foreigners should be allowed to take the majority of the ownership structure of listed downstream oil and gas companies in Nigeria. As of the challenges faced by listed oil and gas companies in Nigeria in the Niger delta area such as vandalization of company's assets, militancy and kidnapping of the company's personnel which will discourage foreigners to invest much funds in the firm, listed oil and gas companies in Nigeria should pay more attention to corporate social responsibility such as providing services to the people living in those communities. The listed oil and gas companies are also advice to make more scholarships available to youths as this will help reduce the number of unemployed youths, they should also ensure that up to 50% of their staff are from the Niger delta region (East) and they should also provide social amenities and recreational centres.

Limitations of the Study

The findings of this study are only applicable to oil and gas companies in Nigeria and the study used only ROA to measure performance while so many other measures of performance exist.

Suggestions for Further Studies

A study should be conducted in other sectors of the Nigerian economy or the entire sectors so as to assess the impact of the ownership structure on the performance of the sectors and see if there could be changes in the outcome. Also, Researchers should conduct a study using other measures of performance like Return on Equity (ROE), Return on Investment (ROI) and so on.

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APPENDIX

Hausman Specification Test

```
. quietly xtreg roa LogMGO OWCSQRT SrootFRO fsz, re


. store estimate re
unrecognized command:  store
r(199);


. estimates store random


. quietly xtreg roa LogMGO OWCSQRT SrootFRO fsz, fe


. estimates store fixed


. hausman fixed random
```

| | —— Coefficients —— | | | |
| | (b) | (B) | (b-B) | sqrt(diag(V_b-V_B)) |
	fixed	random	Difference	S.E.
LogMGO	-.0010197	-.0010822	.0000624	.0001842
OWCSQRT	-.0058814	-.0053906	-.0004907	.0016702
SrootFRO	.0128348	.0134703	-.0006355	.0024278
fsz	-.0014018	-.0013643	-.0000375	.0001361

```
                    b = consistent under Ho and Ha; obtained from xtreg
          B = inconsistent under Ha, efficient under Ho; obtained from xtreg


   Test:  Ho:  difference in coefficients not systematic

              chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                      =         0.33
          Prob>chi2 =       0.9876
```

Re Result for Langragian Multiplier Test

```
. xtreg roa LogMGO OWCSQRT SrootFRO fsz, re

Random-effects GLS regression              Number of obs      =        70
Group variable: id                         Number of groups   =         7

R-sq:  within  = 0.2304                     Obs per group: min =        10
       between = 0.0154                                    avg =      10.0
       overall = 0.1401                                    max =        10

                                           Wald chi2(4)       =     18.52
corr(u_i, X)   = 0 (assumed)               Prob > chi2        =    0.0010
```

roa	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LogMGO	-.0010822	.0007563	-1.43	0.152	-.0025645	.0004001
OWCSQRT	-.0053906	.0061389	-0.88	0.380	-.0174226	.0066413
SrootFRO	.0134703	.009802	1.37	0.169	-.0057413	.0326819
fsz	-.0013643	.0005186	-2.63	0.009	-.0023808	-.0003479
_cons	.0385998	.0106422	3.63	0.000	.0177415	.0594582
sigma_u	.01204779					
sigma_e	.00956426					
rho	.61341628	(fraction of variance due to u_i)				

Langragian Multiplier Test Result

```
. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

        roa[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                              Var      sd = sqrt(Var)

                    roa    .0001681        .0129645
                      e    .0000915        .0095643
                      u    .0001451        .0120478

        Test:  Var(u) = 0
                        chibar2(01) =    36.59
                     Prob > chibar2 =   0.0000
```