



## OWNERSHIP STRUCTURE AND EARNINGS MANAGEMENT: EVIDENCE FROM OIL AND GAS COMPANIES IN NIGERIA

### ABSTRACT

*The study examined the effect of ownership structure on the earnings management of oil and gas firms in Nigeria. The study was motivated by a slight decrease in revenue from the oil and gas contribution to national income. Four proxies of ownership structure were employed in the study; that include ownership structure, managerial ownership, institutional ownership and foreign ownership while discretionary accruals proxy earnings management. The study analyzed a total of 10 listed companies over 10 years observation obtained from annual reports of the affected firms between the period of 2014-2023. Panel data regression was employed as model of analyses. Findings from the study indicate a significant and positive relationship between ownership concentration, institutional ownership and earnings management, while foreign ownership has a significant but negative association with earnings management. Managerial ownership is not significant in the model. The study, therefore, recommends a downward review of both ownership concentration share proportion as well as that of institutional ownership, enhancement of managerial ownership and increase review of foreign ownership which should be guided by a policy directive.*

**Keywords:** *Discretionary Accruals, Ownership concentration, Managerial Ownership, Institutional Ownership, Foreign Ownership*

### 1. Introduction

In Nigeria, the Security and Exchange Commission (SEC) has made it mandatory for public companies to publish and make available their audited financial statements annually which must conform with guidelines, formats, and regulations issued by the apex accounting institution (International Accounting Standard) and other regulatory and supervisory agencies. Yet, management of corporate organizations often embarks on earnings management in order to increase market value and thus maximize shareholders wealth (Ekoja, 2020). The regulatory inconsistency and the choice available in accounting policies have often called for the exercise of judgments in preparing financial statements. The implication of exercising such judgments is that information provided by management which invariably arouses a certain decision by different users that may make those users take wrong decision when preparers decide to convey self-serving information.

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Despite the regulation, the possibilities of judgment in accounting within the ambit of generally accepted accounting principles are not altered as managers do. It is an unimaginable situation to have accounting systems that are totally rule based without room for occasional judgments (Bello, 2020). If this unimaginable situation must be, it means providing rules for all facts and conceivable circumstances, which is totally and highly impossible. Since new situations may require new accounting rules which arise regularly, then, it is not possible to wipe out the generally accepted accounting principle (GAAP) opportunities created for management in accounting. Therefore, efforts have been made by researchers to devise methods and systems in which the opportunistic behaviors exhibited by managers can be reduced or eliminated. Thus, the relevance of accounting earnings to various stakeholders cannot be overemphasized; as there is heavy reliance on it by firms and their stakeholders to know their fate.

The self-serving information provided by managers may be as a result of the manager's intention to influence a particular contractual outcome amongst others that relies on reported earnings or to mislead the stakeholders about the underlying economic performance of their organization. The issue of occasional judgment in accounting has come to stay rather than its possible elimination as it has become an unimaginable situation to have accounting systems that are totally rule based (Bello, 2020). The Nigerian governance structure is characterized by the dominance of the largest shareholders who typically exercise significant influence on management decisions directly or indirectly (Shehu, 2020). Available literature in this area suggests that Possession Formation decreases the incentives to manage earnings and also provides the opportunities and incentives to manipulate earnings. Possession Formation of a company involves distribution of control and ownership in the company. While control entails the ability to affect decisions and for shareholders, it is represented by voting power, possession is regarded as the right to cash flows of the company which is proportionate to the shareholdings.

Separation of ownership and control in firms is common in the modern-day business environment as more firms are listed on the stock exchange as public firms. Despite this, the separation creates serious conflicts between the owners of the firm and the managers. Managers, who are in power, may have the motivation to transfer wealth in terms of bonus or other perks at the expense of the owner - the shareholders to get dividend (Bello, 2020). In this regard, shareholders may incur costs to monitor the management from such unethical behavior.

The link between Possession Formation and earnings management has been the subject of importance and ongoing debate; it is however believed that diffusion of a firm's ownership structure plausibly serves the firm's

shareholders better than a concentrated ownership structure would (Isenmila & Elijah, 2020). A general belief exists among the public that abusive accounting is employed opportunistically by management of firms for their selfish private gain rather than the interest of the shareholders and other stakeholders in the industry (Mahmood, 2016). This misrepresentation of managers' and shareholders' interest has often been referred to as basis for suspicion of the occurrence of manipulative accounting. As managers could employ the flexibility provided by the accounting standards, regulatory inconsistencies, dearth in regulations and choices available to managers in accounting to manage earnings opportunistically, thereby creating falsehood in the reported earnings (Farouk & Bashir, 2017).

The decision to focus on the oil and gas firms stems from the fact that these firms are one of the vibrant sectors within the economy; therefore, there is a paucity of studies in this area as only the financial sector of the economy is under close surveillance to check earnings management excesses. GDP has increased by a compound annual growth rate (CAGR) of 20.68% (in nominal terms) between 2010 and 2016. A noticeable trend in the economy's growth pattern is the increasing contribution of the non-oil sector, particularly the agricultural and manufacturing sectors to the nation's GDP within which the oil and gas firms fall. There is thus the need for adequate focus on such firms. Furthermore, the 2008 global financial crisis that has exposed many companies of their opportunistic behavior in a bid to secure larger part of the market has really put the financial statement of companies into question of which the oil and gas firms may not be exonerated. It is to this end that the study sought to establish if Possession Formation variables can assist in mitigating the opportunistic behavior by managers. Thus, the main aim of the study is to examine the effect of ownership structure on earnings management of oil and gas firms in Nigeria. The remainder of the paper is structured as follows; literature review and theoretical framework in section two, methodology and data in section three, result and discussion in section four and conclusion and recommendation in section five.

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

This section introduces the basic concept discussed in the article, the review of related literatures and theoretical framework for the study.

### **2.1 Earnings Management**

Earnings in Accounting are the excess of revenue over expenses. Earnings are also referred to as Income or profit. Income is regarded as an indicator of management's effectiveness in utilizing the resources belonging to the external users. Income tends to provide the basic standard by which success is measured. Thus, income is a

measure to evaluate the quality of management's policy making, decision making and controlling activities. Earnings management may be defined as reasonable and legal management decision making and reporting intended to achieve stable and predictable financial results (M. Rahman, Mohammad, & Jamil, 2020). Earnings management is the deliberate dampening of fluctuations about “some level of earnings considered being normal for the firm” (Bradbury, Mak, & Tan, 2016). Farouk and Bashir, (2017) stated that: "earning management occurs when managers use judgment in financial reporting in structuring transactions to alter financial reports, either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting". It is any action on the part of management which affects reported income, thereby providing no true economic advantage to the organization, which may in fact, in the long-term, be detrimental (Nguyen, Nguyen, & Doan, 2020).

## **2.2 Ownership Structure**

Ownership Structure of a company refers to the distribution of control and ownership in the company. Control is seen as the ability to affect 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, 2020).

### **2.2.1 Ownership Concentration**

Large shareholders may intervene in the firm's management and may encourage managers to engage in earnings management to maximise their private benefits (Aker, 2024). As managers fear negative repercussions for declining performance from large shareholders, they may also have a strong motivation to engage in earnings management. Ekpulu and Omaye, (2018) documented that earnings management is positively related to ownership concentration.

### **2.2.2 Managerial Ownership**

According Bradbury et al., (2016) insider ownership reflects the governance problem arising due to variance in the cash flow and control rights. Insider ownership as defined in the governance literature 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, (2018) 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 an 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).

### **2.2.3 Institutional Ownership**

Bradbury et al., (2016) posited that institutional ownerships are professional investors who have long-term focus. With respect to the amount of their investments and their know-how, they serve to control the management. Chi-keung, (2019) sees the institutional shareholders to include holders of pension funds, investment trusts, and insurance companies that are more powerful: they invest large amounts of money into a firm and thus have greater incentive to monitor their interest in the firms. When the firm performs poorly, they can place pressure on the managers of the firm and even withdraw their investment. Mahmood, (2016) defined institutional ownership as an institution that has a great investment, including equity investments. Anwar and Buvanendra, (2019) considers Institutional ownership as an important channel via which minority shareholders are protected against expropriation of controlling shareholders in emerging markets. Institutional Investors refers to the ownership stake in a company that is held by large financial organizations, pension funds or endowments. Institutions generally purchase large blocks of a company's outstanding shares and can exert considerable influence upon its management.

The definitions provided by various authorities as regards institutional ownership basically refers to institutions other than the present organization who also have interest in the organization by subscribing to its shares and having a reasonable percentage of ownership in another organization. The definition given by Chi-keung, (2019) would have been more encompassing except for its limitation to only holders of pension funds, investment trusts, and insurance companies. For the purpose of this research, the study adopted the definition given by (Bradbury et al., 2016).

### **2.2.4 Foreign Ownership and Earnings Management**

Foreign ownership refers to the complete or majority ownership/control of a business or resource in a country by individuals who are not citizens of that country, or by companies whose headquarters are not in that country (Farouk & Bashir, 2017). Foreign ownership means more than 50 percent of the outstanding voting securities of

the firm are owned by one or more foreign people. Foreign control means one or more foreign people have 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 (Encyclopedia, 2019). The definition proffered by (Farouk & Bashir, 2017) is found to be more appropriate to suit our research.

## 2.3 Review of Empirical Studies

A wide range of empirical literature related to this study has been reviewed and will guide the study.

### 2.3.1 Ownership Concentration and Earnings Management

Farouk and Bashir, (2017), this study examine the effect of ownership structure on earning management of listed conglomerate in Nigeria. Findings from the study show that managerial ownership and ownership concentration have a significant and negative effect on earnings management of listed conglomerate in Nigeria, while foreign ownership recorded positive and significant effect on earnings management of firms, institutional ownership was however reported to have an insignificant but negative influence on earnings management.

Alhmood, Shaari, Al-Dhamari, and Sani (2023) examine the effect between ownership concentration in the relationship between CEO characteristics and real earnings management in Jordan. The findings reveal that CEO experience, tenure, political connections enhance real-earnings management practice when combined with CEO experience, tenure and political connectiveness have a negative and significant link with REM. Fan, Chen, and Han (2023) evaluate the association between ownership concentration and accounting information consistency in Chinese listed companies. The study finds that after controlling other factors, ownership concentration could significantly reduce accounting information consistency. Further research finds that when the executives' shareholding is higher, the reduction effect of ownership concentration on consistency is weaker.

AL-Duais, Malek, Abdul Hamid, and Almasawa, (2022) investigate the relationship between ownership structure and real earnings management among emerging markets. Findings of the study indicate that family, foreign and institutional ownership has a positive link with the quality of financial reporting and to a large extent is capable of alleviating real earnings management.

H<sub>01</sub>: There is no significant relationship between ownership concentration and earnings management of oil and gas firms in Nigeria.

### 2.3.2 Managerial Ownership and Earnings Management

Rahman, Suffian, Ghani, Said, and Ahmad (2021) investigate the relationship between managerial ownership and real earnings management. In Malaysia. The findings of the study shows that the degree of real earnings management is positively associated with ownership by management. Farouk and Bashir, (2017), this study examine the effect of ownership structure on earning management of listed conglomerate in Nigeria. Findings from the study show that managerial ownership and ownership concentration have a significant and negative effect on earnings management of listed conglomerate in Nigeria

Abu-Serdaneh and Ghazalat, (2022) examine the relationship between managerial ownership, executive and its impacts on earnings management practice in an emerging economy. The study reveal that the mitigating role of executive compensation is moderated in firms with managerial ownership and executive compensation level in firms with managerial ownership is unlikely to be effective. Zhang, Zhang, Yang, and Xu, (2023) examine managerial ownership and corporate financialization. Findings from the study reveal that executive ownership inhibits computing financial investment; compared to the proportion of short-term financial asset holdings.

H<sub>02</sub>: There is no significant relationship between managerial ownership and earnings management of oil and gas firms in Nigeria.

### 2.3.3 Institutional Ownership and Earnings Management

Davis and García-Cestona, (2023) examine the association between institutional ownership, earnings management and earnings surprises in the U.S. The findings support a positive association between institutional ownership and earnings management. Githaiga, (2023) evaluate the relationship between board gender diversity, institutional ownership and earnings management in East Africa Community listed firms. Results of the study indicate an inverse relationship between the proportion of institutional ownership and earnings management.

Farouk and Bashir, (2017), this study examines the effect of ownership structure on earning management of listed conglomerate in Nigeria. Findings from the study show institutional ownership has an insignificant but negative influence on earnings management.

H<sub>03</sub>: There is no significant relationship between institutional ownership and earnings management of oil and gas firms in Nigeria.



### 2.3.4 Foreign Ownership and Earnings Management

Han, Ding, and Zhang, (2022) examine the influence of foreign investors on earnings management. The result of the study indicate that foreign investors exhibit a great market discipline and provide monitoring benefits through the enhancement of corporate transparency. Gill-de-Albornoz and Rusanescu, (2017) investigate the relationship between foreign ownership and financial reporting quality in private subsidiaries. The study finds that the magnitude of discretionary accruals is significantly higher when the parent company is foreign than when it is local.

Widianingsih, Setiawan, Aryani, and Gantyowati, (2024) investigate the relationship between foreign institutional ownership and earnings management. The results show that, overall foreign ownership has a negative impact on earnings management. Farouk and Bashir, (2017), this study examine the effect of ownership structure on earning management of listed conglomerate in Nigeria. Findings from the study show foreign ownership recorded positive and significant effect on earnings management of firms.

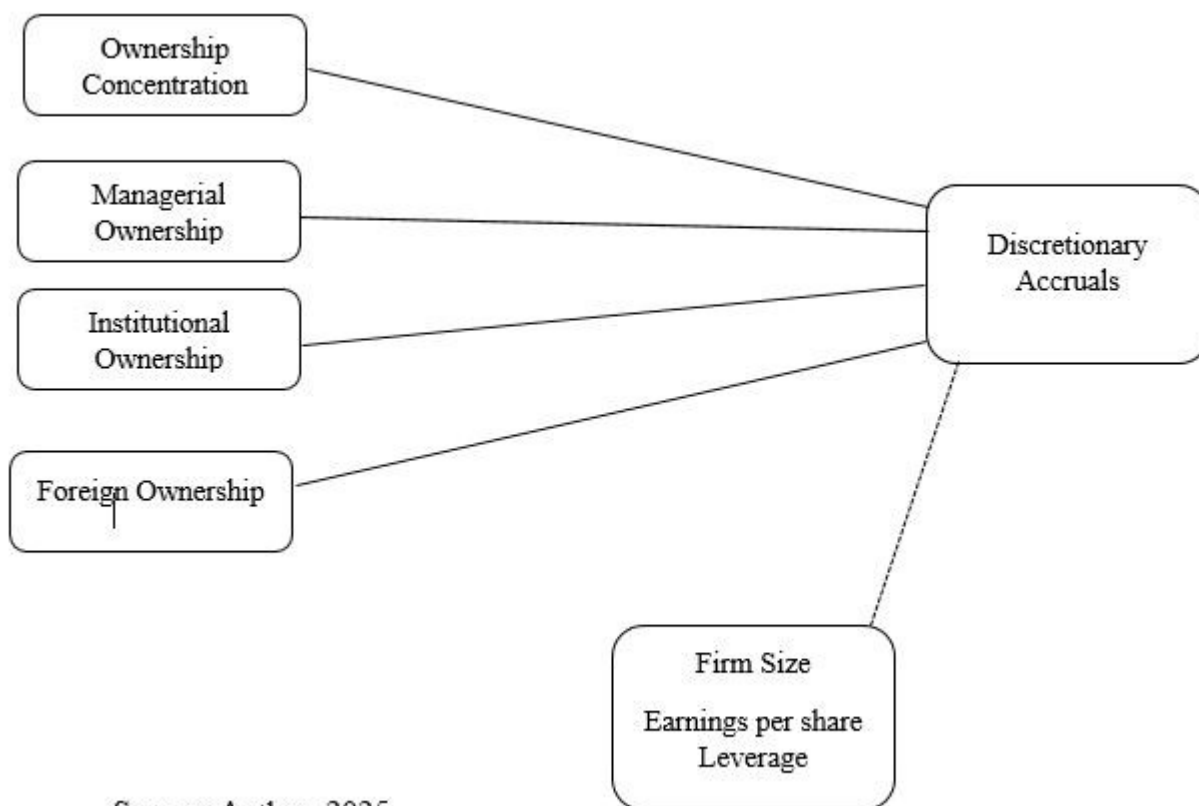
$H_{04}$ : There is no significant relationship between foreign ownership and earnings management of oil and gas firms in Nigeria.

## 2.4 Theoretical Framework

Agency theory posits a clear distinction in terms of rights and responsibilities between owners of an organization considered to be the principal and the managers who are hired to work in line with the directives of the owners. The agency theory sees directors as agents of the shareholders and therefore there is need for their interest to be protected, in some instances, the agent may not act in the best interest of the shareholders, this may result in conflict. Agency theory emphasized the separation between ownership (principal) and managers (agent) in an organisation. In some situations, managers are believed to pursue some opportunistic behaviour which may be in conflict with the goal of the owners (principal) and may deplete shareholders' wealth. Proponents of the agency theory, view managers as an economic institution that minimize the problems and serve as the guardian to shareholders (Fama & Jensen, 1983). This study adopted the agency theory due to its peculiarity and relevance it has in addressing conflict that may occur between managers (agent) and shareholders (principal) of the firms, its empirical evidence by the research conducted by scholars on ownership structure and earnings management in advanced countries will link the variables concern in the Nigerian context.



## Research Framework



Source: Author, 2025

## 3. Methodology

This section discussed data, variable description, model specification, and method and technique of data analysis. The study consists of data drawn from a panel of ten (10) listed firms within the oil and gas firms in Nigeria. The data was obtained from the annual reports and financial statements of the listed firm within the industry. The study period ranges between 2014-2023. Making up ten (10) years and a total of 100-year observations were obtained. The variables are classified into three groups, the independent or explanatory variables, the dependent variable and the control variables, their description is presented in the table below.

**Table 1:** Variable Description

| Variables               | Measurements  | symbol | Sources  |
|-------------------------|---|--------|--|
| A-Dependent Variable    |   |        |  |
| Discretionary Accruals  | Discretionary Accruals measured using modified Jones model.       | DAC    | Anwar & Buvanendra(2019)Nguye, Nguyen & Doan(2020) |
| B-Independent Variable  |   |        |  |
| Ownership Concentration | % of those who have up to 5% or more in the total shares in issue | OWC    | Faruk & Bashir(2017)                               |
| Managerial Ownership    | % of Total Shares held by Directors                               | MAO    | wati &Gultom(2021)                                 |
| Institutional Ownership | % of Total Shares held by Institutions                            | INO    | wati &Gultom(2021)                                 |
| Foreign Ownership       | % of Total Shares held by foreign investors                       | FRO    | Faruk & Bashir(2017)                               |
| C-Control Variable      |   |        |  |
| Firm Size               | Natural logarithm of total asset                                  | FMS    | Tran and Dang(2021)                                |
| Earning per Share       | Net income by number of Outstanding shares                        | EPS    | Yahaya etal (2020)                                 |
| Leverage                | Ratio of total liabilities to total assets                        | LEV    | Tran and Dang(2021)                                |

**Source:** *Author's Compilation 2025*

The model explains the relationship between independent variables and dependent variables expressed in the model equation indicated below.

$$DAC_{it} = \beta + \beta_1 OWC_1 + \beta_2 MAO_2 + \beta_3 INO_3 + \beta_4 FRO_4 + \beta_5 FMS_5 + \beta_6 EPS_6 + \beta_7 LEV_7$$

Where; OWC represents Ownership Concentration

MAO represents Managerial Ownership

INO represents Institutional Ownership

FRO represents Foreign Ownership

FMS represents firm size

EPS represents earnings per share

Dependent Variable = Earnings management measured by Discretionary Accruals [DAC]

The study used multiple regression of the ordinary least square regression. Three models are presented as the best model to be selected. Pooled ordinary least square, random effect and fixed effect. Breush Pagan LM test and Hausman specification test was conducted to ascertain the best model among the three models presented.

#### 4. Result and Discussion

This section presents the results obtained in the study which include the descriptive statistics, the correlation matrix, and the VIF test for multicollinearity, the regression table and hypotheses testing.

##### 4.1 Descriptive Statistics

**Table 2:** Descriptive Statistics

| Variable          | Obs | Mean    | Std. Dev. | Min     | Max      |
|-------------------|-----|---------|-----------|---------|----------|
| DAC <sub>it</sub> | 100 | 12.2361 | 26.7021   | 4.5     | 83.2     |
| FSZ <sub>it</sub> | 100 | 18.3776 | 2.0356    | 13.4533 | 21.88013 |
| OWC <sub>it</sub> | 100 | 0.2431  | 0.1564    | 0.45    | 0.55     |
| MAO <sub>it</sub> | 100 | 0.1134  | 0.0211    | 0.32    | 0.4      |
| INO <sub>it</sub> | 100 | 0.2991  | 1.5468    | 0.13    | 0.65     |
| FRO <sub>it</sub> | 100 | 0.0933  | 0.4293    | 0.21    | 0.23     |
| EPS <sub>it</sub> | 100 | 14.1363 | 11.5676   | 1.202   | 60.196   |
| LEV <sub>it</sub> | 100 | 31.2122 | 19.54327  | 2.1     | 85.83    |

**Source:** Computation by the author using STATA 15

Table 2 above describes the data used in the analysis of this study; from the table, we have a total observation of 100. The result reports both the mean, standard deviation, minimum and maximum values of the distribution. Institutional ownership has the highest mean value (0.2991) from the various ownership types that include 0.2431, 0.1134 and 0.0933 for ownership concentration, managerial ownership and foreign ownership respectively. This clearly indicates that less foreign control ownership of firms within the sector, with high concentration of institutional ownership shares among oil and gas firms in Nigeria. The control variables report a relatively higher value for the mean that include 18.3376, 14.1363 and 31.2122 for firm size, earning per share and leverage respectively. On the other hand, institutional ownership is having the highest standard deviation with among 1.5468 the explanatory variables, which indicate the highest level of spread within the variable.

## 4.2 Correlation Matrix

**Table 3:** Correlation Matrix

|                   | DAC <sub>it</sub> | FSZ <sub>it</sub> | OWC <sub>it</sub> | MAO <sub>it</sub> | INO <sub>it</sub> | FRO <sub>it</sub> | EPS <sub>it</sub> | LEV <sub>it</sub> |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| DAC <sub>it</sub> | 1                 |                   |                   |                   |                   |                   |                   |                   |
| FSZ <sub>it</sub> | 0.2554            | 1                 |                   |                   |                   |                   |                   |                   |
| OWC <sub>it</sub> | 0.6782            | 0.2704            | 1                 |                   |                   |                   |                   |                   |
| MAO <sub>it</sub> | 0.4246            | 0.2626            | 0.5241            | 1                 |                   |                   |                   |                   |
| INO <sub>it</sub> | 0.0411            | -0.3774           | -0.0428           | -0.3078           | 1                 |                   |                   |                   |
| FRO <sub>it</sub> | -0.3009           | 0.0136            | -0.3339           | -0.1182           | -0.2403           | 1                 |                   |                   |
| EPS <sub>it</sub> | 0.1612            | 0.0643            | 0.1442            | 0.1473            | 0.0963            | 0.0338            | 1                 |                   |
| LEV <sub>it</sub> | -0.1001           | 0.0293            | -0.2657           | -0.3249           | -0.1184           | 0.3253            | -0.0499           | 1                 |

Source: Computation by the author using STATA 15

The above table indicate the relationship between the independent variables and the dependent variables, as well as the relationship among the independent variables. The figures indicate a moderate and low relationship between the independent variables and the dependent variables as well as between the independent variables. The strongest relationship between independent and dependent variables in the matrix is 0.6782, that is the relationship between ownership concentration and discretionary accruals, while the strongest relationship among the explanatory variables 0.5241, which is a relationship between managerial ownership and ownership concentration. This clearly indicates absence of multicollinearity among the independent variables.

## 4.3 Multicollinearity test

**Table 4:** Multicollinearity Test

| Variable | VIF  | 1/VIF    |
|----------|------|----------|
| MAO      | 1.73 | 0.577482 |
| OWC      | 1.63 | 0.613498 |
| INO      | 1.44 | 0.692243 |
| FRO      | 1.31 | 0.765294 |
| LEV      | 1.28 | 0.783799 |
| FSZ      | 1.27 | 0.784527 |
| EPS      | 1.07 | 0.933599 |
| Mean VIF | 1.39 |          |

Source: STATA 15

The variance inflation factor (VIF) and the tolerance value consistently shows a value less than 5 and less than 0.10. In addition, the mean variance inflation factor is less than 10, this clearly shows absence of multicollinearity.

#### 4.4 Regression Result

**Table 5: Regression Result**

| VARIABLES                      | Pooled OLS<br>DAC      | Fixed Effect<br>DAC    | Random Effect<br>DAC   |
|--------------------------------|------------------------|------------------------|------------------------|
| FSZ <sub>it</sub>              | 0.5951***<br>(0.0537)  | 1.9992***<br>(0.1310)  | 0.6810***<br>(0.2150)  |
| OWC <sub>it</sub>              | 0.7701***<br>(0.0402)  | 0.9973***<br>(0.102)   | 0.8035***<br>(0.0542)  |
| MAO <sub>it</sub>              | 0.0493<br>(0.0723)     | 0.0222<br>(0.1110)     | -0.0151<br>(0.0840)    |
| INO <sub>it</sub>              | 0.2471***<br>(0.0924)  | 0.1743***<br>(0.0136)  | 0.1951*<br>(0.1080)    |
| FRO <sub>it</sub>              | -0.9441***<br>(0.1310) | -0.8195***<br>(0.2212) | -0.1061***<br>(0.0163) |
| EPS <sub>it</sub>              | 0.5683***<br>(0.0878)  | 0.26011**<br>(0.130)   | 0.1530***<br>(0.0104)  |
| LEV <sub>it</sub>              | 0.2301***<br>(0.0557)  | 0.9481***<br>(0.1012)  | 0.196***<br>(0.0705)   |
| Constant                       | -5.362<br>(13.82)      | -39.14<br>(31.30)      | -3.440<br>(18.14)      |
| Breush-Pagan LM<br>test        | 5.88<br>(0.0007)       |                        |                        |
| Hausman Test                   |                        | 10.77<br>(0.1488)      |                        |
| Observations                   | 100                    | 100                    | 100                    |
| Multicollinearity (vif)        |                        | 1.39                   |                        |
| Serial Correlation<br>(F-stat) |                        | 1.1352<br>(0.4532)     |                        |
| R-squared                      | 0.804                  | 0.660                  |                        |
| Number of firms                |                        | 10                     | 10                     |

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The study estimates the regression with discretionary accruals as the dependent variable. The Breush pagan LM test (0.0007) was conducted to determine the best model between Pooled OLS and random effect, the result favours random effect. Hausman test (0.1488) was also conducted between random effect and fixed effect, the result still favours random effect, therefore the model used for the inference in the analysis is the random effect.

The r-square value indicates a value of 66 percent, which implies that this model explains 66 percent of the changes or influence on discretionary accruals are explained by the factors captured in the model. The result indicates that ownership concentration (OWC) is significant and positively relates to discretionary accruals (DAC). This implies any percentage increase in ownership concentration results to a decrease in discretionary accruals, this is consistent with (Tran et al., 2020). Management ownership (MAO) is not significant in the model. Institutional ownership (INO) is significant and positively correlates with discretionary accruals. This also indicates a decrease in the level of discretionary accruals with any unit increase in institutional ownership (INO), this is consistent with (Anwar & Buwanendra, 2019). Foreign Ownership (FRO) is significant at one percent and negatively affects discretionary accruals. This implies that as more foreign ownership increases in the firms, the higher chance of discretionary accruals among the firms, this is consistent with the results obtained by (Farouk & Bashir, 2017). Other variables control the relationship; Firm size (FSZ) indicates a significant and negative association with discretionary accruals. This implies that as the size of the firms increases, the size of the discretionary accruals decreases and vice versa. Earnings Per share (EPS) is also significant at one percent and positively relates with discretionary accruals. This indicates an increase in discretionary accruals with any percentage increase in earnings per share. Moreover, leverage (LEV) indicates a significant and positive relationship with discretionary accruals, this implies the influence of debt financing on discretionary accruals.

The diagnostic test conducted, the multicollinearity test conducted through vif indicates a mean vif value of 1.39 that is less than 10, and this indicates absence of multicollinearity. The result also indicates an absence of serial correlation after the Wooldridge test of serial correlation was conducted. The result indicates that all the hypotheses in the study should be rejected with the exception of hypothesis two, which should not be rejected based on the result obtained. This implies that there is significant relationship between ownership concentration and earnings management of oil and gas firms in Nigeria, there is a significant relationship between institutional ownership and earnings management of oil and gas firms in Nigeria and there is a significant relationship between foreign ownership and earnings management of oil and gas firms in Nigeria.

#### 4.5 Hypotheses testing

This section discusses the result for the formulated hypotheses in the study.

Hypothesis one; based on the result of significant positive association between ownership concentration and earnings management, we reject the formulated null hypothesis. This implies that there is a significant positive

association between ownership concentration and earning management. An increase in ownership concentration results in a decrease in earnings management.

Hypothesis two; based on the result indicate positive insignificant association between managerial ownership and earning management, we therefore fail to reject the formulated null hypothesis.

Hypothesis three; based on the result of significant positive association between institutional ownership and earning management, we reject the formulated null hypothesis. This implies that there is a significant positive association between institutional ownership and earnings management. An increase in institutional ownership shares results in a decrease in earnings management.

Hypothesis four; based on the result of significant negative association between foreign ownership and earning management, we reject the formulated null hypothesis. This implies that there is a negative effect foreign ownership has on earnings management.

## 5. Conclusion and Recommendations

The study explored the association between ownership concentration and earning management among listed oil and gas firm in Nigeria. The majority of the proxy of ownership concentration indicates significant association with earning management. This indicates a strong bond between ownership concentration and earning management among the firms. The study recommends a resilient a strong investment in in ownership concentration, institutional ownership and foreign ownership in the ownership structure among firms in oil and gas industry in Nigeria, this is due to their influence and impact on earning management of the firms within the industry. The study recommends increase in ownership concentration because it will translate to a decrease in earnings management, increase investment in managerial ownership, increase in the investment of shares to both institutional owners and foreign ownership within the oil and gas firms in Nigeria will help significantly in minimizing the earnings management among oil and gas firms in Nigeria.

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