CORPORATE CHARACTERISTICS AND EARNINGS MANAGEMENT OF LISTED OIL AND GAS FIRMS IN NIGERIA

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Abstract

This study examines the relationship between corporate characteristics and earnings management of listed oil and gas firms in Nigeria for the period 2006 to 2015. Data was obtained from a sample of seven firms out of the population of nine firms through their annual report and accounts. Corporate characteristics as an independent variable was proxied by firm size, leverage, dividend and profitability, while the residuals from the modified Jones Model by Dechow et al (1995) was used to represent earnings management as dependent variable. The study adopted ordinary least square multiple regression technique in analyzing data. The findings revealed that firm size have significant positive impact on earnings management, leverage have insignificant negative impact on earnings management, dividend has insignificant positive impact on earnings management and profitability have insignificant negative impact on earnings management of the listed oil and gas firms. It is recommended that the firms in Nigeria should reduce the scope of their operations and also be caution in paying dividend to their shareholders, since the result reveals evidence that firm size have positive significant influence on earnings management and dividend have positive insignificant influence on earnings management. Also, the firms in Nigeria should initiate strategies that will enable them to generate more profit as well as increasing the level of leverage in their capital structure, since both profitability and leverage have negative insignificant impact on earnings management.

Keywords: firm size, leverage, dividend, profitability and earnings management

1. Introduction

Corporate characteristics are the wide varieties of information disclosed in the financial statement of business entities that serve as the predictors of the firms' quality of accounting information and performance (Lang & Lundholm, 1993). They can be described as the behavioral patterns of company's operation which can enable them to achieve their objectives throughout the period of their operations. From Lang and Lundholm's (1993) definition, corporate characteristics refer to the various
accounting information reported by firms in their financial statements for a particular accounting period which can send a message to the various stakeholders about their performance as well as the quality of earnings. Company's characteristics vary from one business entity to another. A company's characteristics can be determined based on the relevant information disclosed on its financial statements for a particular accounting period (Stainer, 2006).

The unethical accounting practices are viewed as earnings management by Roodposhti and Chashmi, 2011. Earnings management practices carried out with the intention to manage users' perceptions about the firms' financial information are considered unethical even though no accounting standards are violated (Abdul Rauf, Johari, Buniamin & Abd Rahman, 2012). Chen and Wei (2004) viewed earnings management as the use of management's discretion to decide on accounting choices or to design transactions in such a way that it will affect the chances of wealth transfer between company and stakeholders.

Earnings management is a strategy used by the management of firm to deliberately manipulate the company's earnings so that the figures matched with a pre-determined target (Iraya, Mwangi & Muchoki, Corporate Characteristics and Earnings Management of Listed Oil and Gas Firms in Nigeria 2015). This practice may be carried out for the purposes of income smoothening. As a result of having years of exceptionally good or bad earnings, firms will try to keep the figures relatively stable by adding and removing cash from reserves account (Dechow, Sloan & Sweeney, 2006). Earnings management are the managers actions which increase or decrease current reported earnings of a company financial information with no corresponding increase or decrease in the long term economic gain in the company (Dechow, Sloan & Sweeney, 2006). Earnings management involved alteration of financial information to mislead some stakeholders about the underlying economic performance of business organizations or to influence contractual outcomes that depend on reported earnings (Zhu & Tian, 2009).

The existing empirical studies on corporate characteristics and earnings management of companies in developed nations and emerging economies for example the work of Cohen and Zarowin (2011), Moghri and Galogah (2013), Ajide and Aderemi (2014), Xu (2014), and Cruz and Luiz (2015) studied the impact of earnings management on corporate characteristics indicators which is in opposite direction with our research. Hence, the natures of their relationships remain controversial which create a gap for further studies.
The areas of corporate characteristics and its effect on earnings management have attracted a lot of interest by researchers such as Barbosa and Louri (2005) and Al-Halabi and Al-Abbadi (2014), and Lee, Walker and Zhu (2015). More so, there is no similar study in Nigeria, some researchers such as Barbosa and Louri (2005) and Al-Halabi and Al-Abbadi (2014) have attempted to examine the effect of corporate characteristics on earnings management of firms using difference proxies of corporate characteristics. Most of the previous studies seemed to have focused more attention on financial sector and some subsectors of the manufacturing sector in exclusion of downstream oil and gas sector despite its strategic importance to the Nigerian economy. There is no comprehensive study that examined the effect of corporate characteristics and earnings management; even the two above are foreign studies. The quest for individuals and corporate organizations to use petroleum products for transportation of goods and services as well as other industrial operations in Nigerian economy has made oil and gas firms an important sector to be study in the country. Therefore, this seeks to examine the relationship between corporate characteristics and earnings management of listed oil and gas firms in Nigeria. It was also hypothesized that corporate characteristics proxied by firm size, leverage, dividend and profitability has no significant impact on earnings management of listed oil and gas companies in Nigeria.

2. Literature Review

Empirical studies were reviewed on the relationships between leverage, firm size, dividend, profitability and earnings management. Several studies have been conducted around the world on the relationship between firm size and earnings management of firms. Some studies found positive and negative significant relationship between firm size and earnings management while others found no evidence of any relationship. Fairfield, Pinkowitz and Tang (2008) studied the impact of acquisition to mask earnings management of listed firms in United State for the period 1988 to 2007 and adopted multiple regression as statistical tool of analysis. Their findings revealed a significant positive relationship between firm size and earnings management. Hamza and Lakhal (2010) examined the determinants of earnings management of listed firms in France using

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a sample size of 108 firms for the period 1998 to 2008 and found significant negative relationship between firm size and earnings management. They failed to mention the sampling technique used to arrive at the sample size of the study.

Uwuigbe, Ranti and Bernard (2015) studied the effect of firm characteristics on earnings management of 20 listed firms on the Nigerian Stock Exchange for the period 2006 to 2010 and found evidence of significant positive relationship between firm size and earnings management. In contrast, Aries (2015) found evidence of insignificant positive relationship between firm size and earnings management.

Furthermore, Ardison, Martinez and Galdi (2012) examined the impact of leverage on earnings management of listed firms in Brazil for the period 1994 to 2010 and found evidence of insignificant positive relationship between firm size and earnings management. However these studies failed to conduct robustness test in analyzing their data in order to improve the validity and reliability of the statistical results. Ardison, Martinez and Galdi (2012) examined the impact of leverage on earnings management of listed firms in Brazil for the period 1994 to 2010 and found an evidence of insignificant positive relationship between leverage and earnings management. Aries (2015) explored the influence of leverage on earnings management of listed firms on Indonesian Stock Exchange for the period 2009 to 2013 using a sample of 30 manufacturing firms. They found evidence of insignificant positive relationship between leverage and earnings management. Further, Takhtaei, Ojaghi and Esfandabadi (2013) studied the impact of financial leverage on earnings management of listed firms on Tehran Stock Exchange for the period 2002 to 2008. The analysis of data was carried out using

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pooled ordinary least square regression and the result reveals a significant negative relationship between leverage and earnings management of the selected firms.

However, Januarsi, Badina and Febrianti (2014) studied the effect of leverage on earnings management of listed firms on the Indonesian Stock Exchange for the period 2009 to 2011 and found significant negative relationship between leverage and earnings management. Similarly, Alsharairi and Aly (2011) investigated the influence of high leverage on earnings management of listed firms in United State for the period 1999 to 2008. Multiple regression was used for data analysis and the result reveals an evidence of significant negative relationship between leverage and earnings management of the firms. Most of these studies failed to mention the approaches they used to measured leverage as a variable of the studies.
Several studies have also been conducted in different countries of the world on the relationship between dividend and earnings management. For instance, the work of Moghri and Galogah (2013) studied the effect of earnings management on dividend policy of 140 firms listed on Tehran Stock Exchange for the period of 2006 to 2011 using fixed effect multiple regression model as statistical tool of analysis and found a significant positive relationship between dividend and earnings management. Another study was conducted by Ajide and Aderemi (2014) on the relationship between earnings management and dividend policy of 13 non-financial listed firms on the Nigerian Stock Exchange for the period of 2012 using ordinary least square multiple regression as statistical tool of analysis. They found an insignificant negative relationship between dividend and earnings management. The study failed to provide justification for the sampling technique used to arrived at the sample size of 13 firms and covered insufficient period of time.

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On the work of Shah, Yuan and Zafar (2010) who investigated the impact of earnings management on dividend policy of listed firms in Pakistan and China for the period of 2003 to 2007 using ordinary least square regression, it was established there an insignificant positive association existed between dividend and earnings management in both the two countries. Similarly, Aurangzeb and Dilawer (2012) examined the impact of earnings management on dividend policy of textile industry in Pakistan for the period of 1966 to 2008 using a sample of 358 firms. Multiple regression was used for data analysis and the result revealed a significant negative correlation between dividend and earnings management. Lee, Walker and Zhu (2015) examined the effect of corporate dividend payout on earnings management of listed firms in China using multiple regression as statistical tools of analysis and found insignificant negative relationship between dividend and earnings management. The study did not mention the population and sample size of the firms used as well as the period covered. Some of the studies reviewed under this variable did not state their sample size, method of data collection and research design adopted in their studies.

Also, Al-Halabi and Al-Abbadi (2014) examined the relationship between financial performance indicators and earnings management of listed manufacturing companies in Amman Stock Exchange in Jordan for the period of 2007 to 2011 using 52 manufacturing firms as sample size of the study. Multiple regression was used as statistical tools of analysis and the result revealed significant positive relationship between profitability and earnings management of the firms. Also, Cruz and Luiz (2015) studied the impact of stock return on earnings management of listed companies in Philippine using multiple
regression as statistical tools of analysis and found insignificant positive relationship between profitability and earnings management. The study failed to state the period covered and the number of firms used as sample of the study. Mitani (2010) investigated the influence of corporate governance on earnings management of listed firms in Japan using a sample of 799 firms for the period 1999 to 2004. Multiple regression was adopted in analyzing the data collected from the annual report and accounts of the firms and the result shows a significant positive relationship between profitability and earnings management. Though hundred of firms were studied, the timeframe covered only five years which is quite short for a longitudinal study.

Furthermore, Xu (2014) examined the effect of International Financial Reporting Standards adoption on earnings management of private firms in United Kingdom for the period of 2003 to 2010 using multiple regression as the statistical tool of analysis, and found an insignificant negative relationship between profitability and earnings management. Wang (2014) examined the influence of profitability on earnings management of 26, 968 firms in 31 countries across the globe for the period of 1996 to 2011. Multiple regression was used for the panel data analysis and the result revealed a significant negative association between profitability and earnings management of the selected companies. The researcher failed to mention the name of the country where the study was conducted. Most of these studies reviewed did not covered sufficient time frame in their studies and some did not even state the sample size of their studies.

2.1 Theoretical Framework The study adopted agency theory to underpin this research. An agency relationship exists when one or more principal (shareholders) engage another person as their agent (managers) to perform a service on their behalf (Fama & Jensen, 1983). Performance of this service results in delegation of some decision-making authority to the managers. Jensen and Meckling, (1976) argue that where ownership and management are separated, the accounting function is affected by the agency problem. This delegation of responsibility by the owners and the resulting division of labour are helpful in promoting an efficient and productive economy. However, such delegation means that the principal needs to place trust in an agent to act in the principal's best interest. As a result of information asymmetries and personal interest of manager, shareholders lack reasons to trust their agents and will seek to resolve these concerns by putting
in place mechanisms to align the interests of managers with shareholders and to reduce the extent for

Managers may have different motives to shareholders. Brennan, (1995) view that managers can be
influenced by some factors such as financial rewards, labour market opportunities and relationship with
other parties that are not directly relevant to the interest of the shareholders. This can result to a tendency
for managers to be more optimistic about economic performance of an entity than the reality. As a result
of these different interests, managers may have incentives to bias information flows Agrawal and
Knoeber, (1996). Shareholders may also express concerns about information asymmetries where
managers are in possession of information to which shareholders do not have access to it.

Different motivation and information asymmetries lead to concern about the quality and reliability of
information, which impact on the level of trust that shareholders will have in their managers Fama,
(1980). There are various mechanisms that can be used to align the interest of managers with shareholders
and to allow shareholders to measure and control the behavior of their managers and reinforce trust in
them.

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3. Methodology Correlation research design was adopted because the study attempts to measure the
relationship between corporate characteristics and earnings management of listed oil and gas firms in
Nigeria. The population of the study consists of all the 9 listed oil and gas companies on Nigerian Stock
Exchange for the period of ten years from 2006 to 2015. In view of the non availability of data for two of
the firms, the study adopted purposive sampling approach by studying only seven firms. The study used
secondary data obtained from the annual reports and accounts of the firms for the period of the study.
Multiple regression, using ordinary least square technique was adopted for data analysis. Two steps
regression was used in determining the earnings management of listed oil and gas firms in Nigeria, by
adopting modifies Jones Model by Dechow et al. (1995).

3.1 Model Specification and Variables Measurement The study adopted the modified Jones model by
Dechow et al (1995), which estimates discretionary accruals as proxy of earnings management, the
residual of the model is given below:  
\[ DAC = \frac{TAC}{TA} - \left( \frac{1}{TA} + \alpha \left( \frac{REV - REC}{TA} + \frac{PPE}{TA} \right) \right) \]

Where:  
- **TAC** = NI - CFO  
- **DAC** = Discretionary Accruals  
- **TAC** = Total Accruals  
- **NI** = Net operating income  
- **CFO** = Cash flow from operating activities  
- **1** = Constant
The model used to empirically test the hypotheses formulated is as follows: \( EM = \beta + \beta_{FS} + \beta_{LV} + \beta_{DV} + \beta_{PR} + \mu \). The dependent and independent variables used in the model are explained as follows:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Name</th>
<th>Variables Measurement and Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM</td>
<td>Earnings Management</td>
<td>Measured by absolute values of the residuals (discretionary accruals) using Modified Jones model by Dehow et al. (1995).</td>
</tr>
<tr>
<td>FS</td>
<td>Firm Size</td>
<td>Measured as the natural logarithms of firms’ total assets (Hamza &amp; Lakhal, 2010).</td>
</tr>
<tr>
<td>LV</td>
<td>Leverage</td>
<td>Measured as the ratio of total debt to total assets (Arise, 2015).</td>
</tr>
</tbody>
</table>
DV Dividend Per Share

Measured as the proportion of dividend paid to firm’s total outstanding shares (Moghri & Galogah, 2013).

PR Profitability Measured as the profit before interest and tax divided by the firms’ total assets (Cruiz & Luiz, 2015).

ã Intercept

µ Error term t Firm i at time t Source: Compiled by the Author from various literature, 2017

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4. Regression Results The study conducted robustness tests in order to ascertain the reliability and validity of the statistical result. Multicollinearity test was conducted and the test revealed a tolerance value and variance inflation factor of less than 1 and 10 respectively. This show complete absent of multicollinearity problem in the data of the study. Similarly, both fixed effect and random effect models were tested, Breusch and 2Pagan Lagrangian Multiplier test for random effect revealed a Chi value of 0.02 with p-value of 0.885 which is not statistically significant as per the result attached in appendix. In the absence of significant level of Lagrangian Multiplier test, Robust Ordinary Least Square model was adopted for the study. Table 4.1 presents the summary of the robust ordinary least square regression results obtained from the analysis of data.

Table 4.1 Regression Results Variables Coefficient

T-Value

P-Value
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<tr>
<td></td>
<td>FS 0.021</td>
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<td></td>
<td>LV -0.275</td>
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<td></td>
<td>-1.42</td>
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<tr>
<td></td>
<td>0.157</td>
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</table>
Table 4.1 shows that firm size has significant positive impact on earnings management of listed oil and gas firms in Nigeria. Meaning that, firm size is increasing the level of earnings management of the firms. This can be observed from the coefficient of 0.021 and p-value of 0.011 which is statistically significant at 5% level of significance. This finding is in line with that of Uwuigbe, Ranti and Bernard (2015) but inconsistent with Arise (2015).

Also, from table 4.1, leverage is insignificantly and negatively correlated with earnings management of listed oil and gas firms in Nigeria which means leverage is decreasing the level of earnings management of the firms. The coefficient of is -0.275 with p-value of 0.159 which is statistically insignificant at any level of significance. The finding is in consistent with the study of Takhtaei, Ojaghi and Esfandabadi (2013) but contradicted the findings of Ardison, Martinez and Galdi (2012).
Furthermore, the result provides evidence of insignificant positive association between dividend and earnings management of listed oil and gas firms in Nigeria. This implies that dividend is influencing the level of earnings management of the companies. The result shows a coefficient of 0.006 with p-value of 0.437 which is not significant at any level of significance. The result is in line with the findings of Shah, Yuan and Zafar (2010) who found evidence of positive insignificant relationship between dividend and earnings management.

Finally, Table 4.1 shows that profitability has insignificant negative influence on earnings management of listed oil and gas firms in Nigeria. This signifies that profitability is decreasing the level of earnings management of the firms. The value of beta coefficient is 0.245 while the corresponding p-value is 0.328, which is insignificant at any level of significance. This result is consistent with the findings of Demers and Wang (2010).

The combined and overall effect of the predictor variables on the explained variable showed that the model is adequate and free from misspecification. The Wald Chi value of 2.44 with p-value of 0.055 which is significant at 10% level of significance shows that the model is well fitted with the variables of the study. Also, the coefficient of determination R which stands at 13% indicates the proportion of the total variations in earnings management variable that is explained by the independent variables. This signifies that 13% of the total variation in earnings management of listed oil and gas firms in Nigeria is caused by the combined effect of firm size, leverage, dividend and profitability; while the remaining 87% is caused by other factors outside the model of this study.

5. Conclusion and Recommendations This study investigates the impact of corporate characteristics on earnings management of listed oil and gas companies in Nigeria. Data were collected from the annual reports and accounts of seven oil and gas firms in Nigeria, and analyzed using multiple regression. It was found that leverage and profitability have negative relationship with earnings management of listed oil and gas firms in Nigeria, while firm size and dividend were found to have positive impact on earnings management of the firms. It is recommended that the listed oil and gas firms in Nigeria should increase the percentage of leverage in their
capital structure and also increase the level of their profit generation, since the result reveals evidence that leverage and profitability have negative influence on earnings management, meaning that leverage and profitability are reducing the level of earnings management of the firms.

References

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  dv
  70
  3.100843
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  fs
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delta: 1 year  time variable: years, 2006 to 2015  panel variable: id (strongly balanced).
xtset id year, yearly
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Breusch-Pagan test for constant variance:
\[ \text{chi}^2 = 0.0519 \]
\[ \text{chi}^2(1) = 3.78 \]

Variables:

1. fitted values of em Ho:

Constant variance

Breusch-Pagan
Cook-Weisberg test for heteroskedasticity

|      | Coef.   | Std. Err. | t     | P>|t|  | [95% Conf. Interval] |
|------|---------|-----------|-------|------|---------------------|
| _cons | .0076702 | .1884894  | 0.04  | 0.968    | -.3687691    .3841095     |
| pr   | -.2456491 | .2493142  | -0.99 | 0.328     | -.743564    .2522658     |
| dv   | .0061868  | .0079049  | 0.78  | 0.437     | -.0096003    .0219739     |
| lv   | -.2751664 | .1932543  | -1.42 | 0.159     | -.6611219    .1107891     |
| fs   | .0212143  | .0080535  | 2.63  | 0.011     | .0051304    .0372983     |
| em   | Coef.    | Std.      |       |          |                     |
| Err. t P>|t| [95%] Conf. Interval] |
| Total | 1.96516036 | 69 .028480585  | Root |

MSE = .16213
Adj

R-squared

= 0.0770

Residual  1.70865205  65  .026286955  R-squared  = 0.1305  Model  .256508311  4
.064127078  Prob  >

> F  = 0.0556  F( 4, 65)

= 2.44  Source  SS  df  MS  Number

of
obs
= 70.

reg
em
fs
lv
dv
pr

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Prob>chi2
\[ (b-B)'[(V_b-V_B)^{-1}](b-B) \]

Test:

Ho:

difference in coefficients
not

systematic

B

= inconsistent

under

Ha,

efficient

under

Ho;

obtained

from
xtreg

b

=  

consistent

under

Ho

and

Ha;

obtained

from

xtreg

pr
.0090918

.0592901

fs

.0118513

.0131397

-.0012884

.0029596

fixed

random

Difference

S.E.

(b)
\sqrt{\text{diag}(V_b - V_B)}

Coefficients

. .

hausman

fixed

random

. .

est

store

random

rho
.49767346

(fraction

of

variance

due
to

u_{i})

sigma_e

.14234677

sigma_u

.14168595

_cons
0.208

-.5778617

.1255309

fs

.0131397

.0083927

1.57

0.117

-.0033097

.0295891

em

Coef.
Std. Err.

\[ z \]

P>|z|

[95% Conf. Interval]

corr(u_i, X)

= 0

(assumed)

Prob
\texttt{>}

\texttt{chi2 = 0.4578}

Random effects

\texttt{u_i ~ Gaussian}

Wald

\texttt{chi2(4) = 3.63}

overall

=}
0.1237

max

= 10 between

= 0.2870 avg

= 10.0 R-sq: within =

0.0431 Obs per group:

min

= 10

Group variable:

id

Number of
groups = 7

Random-effects GLS regression Number of obs = 70
.xtreg em fs lv dv pr, re

.est store fixed F test that all u_i=0: F(6, 59) = 4.22 Prob > F = 0.0013
rho .31133478 (fraction of variance due to u_i)
sigma_e .14234677 sigma_u .09571001
_cons .1360064 .1890912 0.72 0.475 -.2423642 .514377 pr -.1379082 .2632695 -0.52 0.602 -.6647092 .3888929
dv .0006673 .01011 0.07 0.948 -.0195627 .0208973 .0088993 .133 0.188 -.0059561 .0296587
lv -.2170736 .1889817 -1.15 0.255 -.5952252 .161078 fs .0118513 .008993 1.33 0.188 -.0059561 .0296587
em Coef. Std.
Err. t P>|t| [95% Conf. Interval]

Interval] c orr(u_i, Xb)

= 0.1817
\[ \text{Prob} > \]

\[ F = 0.6185 \]

\[ F(4,59) = 0.67 \]

\[ \text{overall} = 0.1212 \]

\[ \text{max} = 0.1212 \]
10

between

= 0.2767

avg

= 10.0

R-sq:

within = 0.0432

Obs
per

group:

min = 10

Group variable:

id

Number of groups =
Fixed-effects regression

Number of obs = 70.

xtreg em fs
Ibrahim, Ahmad Tijjani

Estimated results:

\[ em[id,t] = Xb + u[id] + e[id,t] \]

Breusch and Pagan Lagrangian multiplier test for random effects

Corporate Characteristics and Earnings Management of Listed Oil and Gas Firms in Nigeria