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# Leverage and Accrual Earnings Management of Listed Oil and Gas Marketing Firms in Nigeria

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**Abstract**

*This study examines the influence of leverage on accrual earnings management of the listed oil and gas marketing firms in Nigeria for the period of 2009-2020. Seven (7) out of eight (8) listed oil and gas marketing companies were sampled using censor technique. Leverage as independent variable was proxy by financial leverage (FLEV) and total leverage (TLEV) while the residuals from the Modified Jone's Model by Dechow et al, (1995) was used as proxy for accrual earnings management. The data was generated from the annual report of the sampled companies. Panel OLS Regression technique is adopted in analyzing the data as suggested by hausman test and Lagrangian multiplier test. The study findings revealed that TLEV decreases the level of AEM of the oil and gas firms in nation. That is, the higher the debt employed in the capital structure the lower the instances of accrual earnings management. Similarly, FLEV has positive and significant impact on accrual earnings management. This implies that high level of debt reduces management chances of manipulating earnings to their desired level. However, the impact of FLEV on AEM has further proved debt-equity hypothesis which established a positive link among debt and reported earnings. Since earnings management is not a desired phenomenon in accounting, the users of accounting information, especially shareholders and tax authorities, should consider the level of leverage on whether or not to place reliance on reported earnings.*

**Keywords:** Leverage, Accrual Earnings Management, Oil and Gas Marketing Companies

## 1. INTRODUCTION

Reported accounting earning, as one of the important tool for measuring efficiency in the use of available resources by the management, is a dominant factor that determine the various firm's decision on investment, financing, dividend and liquidity. Since management performance is measured based on the reported earnings, they device a means for altering accounting numbers to a desired level that will improve their efficiency and effectiveness in the eyes of users of accounting information (Ge & Kim, 2014). The management does take advantage of loopholes in the Generally Accepted Accounting Principles (GAAPs) or by altering real transactions like cost of research and development to achieve a desired level of income. However, managers carryout earnings management to meet one or all of the three earnings target, that is;avoiding reporting an earnings decline, avoiding reporting a loss, and avoiding failing to meet analyst's earnings forecasts.

Managers employ a number of earnings manipulation techniques to either maximize profit or to minimize cost. For instance, cookie jar approach emphasizes that corporation over estimates expenses in the present time for the purpose of managing earnings. However, if actual expenses happen to be less than estimates, then the gap can be utilized to cookie jar when the firm need to upsurge earnings (Rahman, Moniruzzaman & Sharif, 2013). Healy and Whalen (1999) appealed that the accounting profession should look up at areas where standards could be modified so as to reduce the activities of manipulating earnings that could jeopardize customer confidence. Since the time when world experienced worst financial scandals such as Enron (2001), WorldCom (2004), Cadbury (2007), which led investors to discredit financial statement information, there is still increasing need to look up for indicators of earnings reliability (Usman &Yero 2012). Mamedoya, (2008) believed that, leverage accelerates the level of EM and influence its performance to stakeholders. Similarly, leverage also stands for equity in firms

capital mix and positively enhance EM (Wang & Lin, 2013). Moreover, Ardison, Martinez and Galdi (2012) argued that, Leverage promotes the capacity of firm's manager's behavior toward increasing earnings.
In the recent two decades, number of worst corporate accounting scandals (such as waste management scandals 1998, Enron scandal 2001, WorldCom 2002, Tyco scandals of 2002 among others) resulted to huge lost to shareholders and employees as a result of inflating financial records by the responsible accounting officers of these respective corporations in USA. These financial scandals have been identified with oil firms in Nigeria in which about 24 billion naira credit allocated to various firms were not found in the financial statements (Chukwenedu, 2013). This was the result of taking advantage of discretionary powers and/ or ambiguities in the Generally Accepted Accounting Principles (GAAP) to manage earnings for some personal gains. Managers, however, manipulate real activities to achieve certain level of earnings to the expense of other stakeholders (Healy &Wahlen, 1999 and Llukani, 2013). Hence, the study examines the influence of leverage on accrual earnings management (AEM) of listed oil and gas firms in Nigeria.

## 2. REVIEW OF LITERATURE

Much empirical evidence suggests that Earnings Management (EM) is a common phenomenon. As such, it is defined as the use of managements' judgment in financial reporting that involved framing financial transactions in such a way that mislead some stakeholders in making a sound and reliable business decision and or influencing contractual outcomes that depend on reported earnings (Healy &Wahlen, 1999). Several studies have examined the impact of financial leverage on accruals earning management with divergent findings for example, Ujah and Brusa (2014) shows that financial leverage decreases firms earnings. Veronica (2015) Investigate the impact of financial leverage on earnings management using accruals and they found insignificant relationship between financial leverage and accrual earnings management. Wiyadi et al. (2015) shows that leverage and profitability has no effect on earnings management in both indexes. They found no effect of leverage on earnings management, as a result, their result need to be tested over again. In

the same vein, Vakilifard and Mortazavi (2016) and Widiatmoko and Mayangsari (2016), found that financial leverage reduce accrual-based earnings management. It shows that as leverage increase managers find it very difficult to manipulate earnings due excessive control by the debt providers. Total leverage on one hand, has been seen as one of the crucial influence on the accrual earnings management. Obeidat (2016) shows a significant positive relationship between total leverage and accrual earnings management. This finding reveals that higher leverage means more capacity to enhance earnings to the position that best suit the debt providers. But Widiatmoko and Mayangsari (2016) discovered an inverse link among leverage and accrual earnings though the relationship is insignificant. The result of this study indicates an inverse relationship as debt to equity ratio increases possibilities of managers to manage earnings reduces. Racheal, Chelichi and Raymond (2017) in their study demonstrated that leverage shocks accelerates level of earnings in Nigeria. Based on the reviewed literature linkage among leverage and earnings management exist. However, very few studies are done in Nigeria. Therefore, the study examines the influence of leverage on accrual earnings management in Nigeria's listed oil and gas firms.

## 3. METHODOLOGY AND MODEL SPECIFICATION

The research design used for this study is ex-post factor research design which is the use of historical data to make decision or judgment. The logic behind selecting non-survey research design is that all the variables (leverage and earnings management strategies) are sourced from the annual report of the oil and gas firms on the floor of the Nigerian stock exchange. The population of the study comprises of all the eight (8) Oil and Gas marketing firms that were listed on the floor of Nigerian stock exchange as at 31st December, 2020. The study employs censoring sampling technique which led to reduction of Oando Plc from the population as the company failed to produce financial statement for 2019 and 2020 due some legal issues. The study used the following variable Accrual earning management (Abnormal accruals), Financial Leverage (Total Interest Bearing Liabilities to Total Assets.), Total Leverage (Total Debt/ Total Assets), Firm growth (percentage changes of annual growth in total sales of

the firm at current year) and Interest expense (interest expenses divided by total debt).

### 3.1 Specification of the model

The study used a modified model by Zamri (2013) and it is expressed in equation (1)

$$AEM^{it} = \alpha_o + \beta_1 FLEV^{it} + \beta_2 TLEV^{it} + \beta_3 FGROTH^{it} + \beta_4 INTEXP^{it} + \mu_t \quad (1)$$

Where:
AEM= accurual earning management
FLEV = Financial Leverage
TLEV = Total Leverage
FGROWTH = Firm Growth
INTEXP = Interest Expense
$\mu_t$ = Error term.

From the prior literatures, the current study is expected to establish an inverse relationship between the dependent and the independent variables. This is because, from the experience of what happened between Access bank and African petroleum plc in 2009 many lending institutions have come up with tied debt covenants that will ensure safe return of their resources. In line with this the current study expect that the higher the leverage the lower the possibility of management to manage accrual earnings management. Hence, the study employed panel regression method for the model estimation. Similarly, hausman test was conducted in order to be specific on the rightful technique for the estimation. Moreover, the study conducted various validation tests to ensure stability of the model.

## 4. RESULT

Under this section, validation tests were conducted and the outcome reveals that the model is free from econometric problems. Finally, after hausman test the study interpreted initial OLS regression. Table 1 illustrates the statistical nature of the data. It shows that the average accrual earnings management was -0.313 SD of 1.018 indicating that the mean value by 1.018 proving a wide dispersion between the mean value and standard deviation. The min and max instances of AEM are -2.062 and 6.279 respectively. Similarly, the

mean value and standard deviation of total leverage stood at 0.7234 and 0.2691 respectively, indicating that 72% of capital employed by the companies is sourced from debt. However, the mean value of financial leverage of 0.2179 indicates that 22% of capital employed by the sampled companies is sourced from interest bearing debts. The min and max values for FGROWTH were -0.8805 and 1.9210 respectively and the average value of 8.4%. Finally, INTEXP's mean value is 4.2% with a 4.4% standard deviation.

**Table 1 Statistics description of the data**

| Variables | Obs | Mean | Std. Dev. | Min | Max | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| **AEM** | 84 | -.3131881 | 1.018484 | -2.062222 | 6.279388 | 3.416955 | 22.78387 |
| **TLEV** | 84 | .7234766 | .2691479 | .0584529 | 2.222321 | 2.69544 | 17.29412 |
| **FLEV** | 84 | .2179248 | .238531 | 0 | 1.516717 | 3.210006 | 16.57537 |
| **FGROWTH** | 84 | .0841839 | .4152042 | -.880542 | 1.921041 | 1.25184 | 7.423808 |
| **INTEXP** | 84 | .042343 | .044418 | -.0138617 | .200894 | 1.757984 | 5.957688 |

Source: generated by the researchers using STATA

Table 2 above shows model OLS regression result. The table revealed cumulative $R^2$ of 0.25 which implies that 25% of the total variation in the dependent variable (AEM) is caused by the independents variables (total leverage, financial leverage, firm growth and firm size). The probability of F of 0.0001 signifies fitness of the model as well as right selection of the independent variables. For a relationship to be significant, T value must be more than 1.96 as a threshold.

Total leverage (TLEV) has a decreasing coefficient of -1.4338 with p-values of 0.020 which signifies a negative and significant relationship between total leverage (TLEV) and AEM. That is, the higher the debt employed in the capital structure the lower the instances of accrual earnings management. This finding is in line with that of Vakilifard and mortazavi (2016), Widiyatmoko and mayangsari (2016), Wiyadi et al, (2015) and Alsharairi and salama (2011), while it contradicts the result discovered by Yero (2012) and Bassiounyet. al, (2016) where they found significant positive relationship between total leverage and accrual earnings management. This finding implies that high debt which may result into tied debt covenant (from both operating and financial debt) may reduce management chances of manipulating earnings to their desired level. Hence, hypothesis that Total leverage has no significant impact on Accrual Earnings Management (AEM) is therefore rejected.

However, table 3 reveals a positive coefficient of 1.623359 with p-value of 0.027which indicate a positive and significant relationship between financial leverage (FLEV) and accrual earnings management at 5% level of significance. The direct relationship portrays that as the interest bearing debt increases the instances of earnings management increases. This positive relationship is what Usman and Yero (2012) established in their study though the impact was insignificant. On the other hand, Veronica (2015) found no relationship between financial leverage and accrual earnings management in Indonesia. Therefore, the hypothesis that financial leverage has no significant impact on Accrual Earnings Management (AEM) is rejected.

**Table 2 outcome of the estimated model**

| Variables | Coef. | T | p>/t/ | | | |
|---|---|---|---|---|---|---|
| **TLEV** | -1.433816 | -2.37 | 0.020 | | R-squared | 0.2542 |
| **FLEV** | 1.623359 | 2.26 | 0.027 | | **Adj.** R | 0.2164 |
| **FGROWTH** | -1.161517 | -4.77 | 0.000 | | | |
| **INTEXP** | -6.152998 | -2.41 | 0.018 | | **F (4, 79)** | 6.73 |
| **CONS** | .7286915 | 1.87 | 0.065 | | **Prob.>F** | 0.0001 |

Source: generated by the researcher using STATA

## 5. Conclusion

This study investigates the influence of leverage on accrual earnings of oil and gas firms in Nigeria. The outcome of the study illustrates that total leverage (from both operating and financial such as creditors and other lenders) has power of mitigating management's behavior of earnings smoothing through GAAPs manipulation. Similarly, financial leverage has positive and significant relationship with accrual earnings management, that is, the management usually increases earnings upward to avoid debt covenant violation. However, the study has empirically proved debt-equity hypothesis which establishes a positive relationship between debt level and the reported earnings. Since earnings management is not a desired phenomenon in accounting, the users of accounting information, especially shareholders and tax authorities, should consider the level of leverage on whether or not to place reliance on the reported earnings.

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