



FINANCIAL LEVERAGE AND EARNINGS MANIPULATION AMONG LISTED OIL AND GAS FIRMS IN NIGERIA

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Abstract

The oil and gas sector is characterised by high capital intensity, volatile cash flows, and significant exposure to debt financing. This study examines the influence of financial leverage and earnings manipulation among the listed oil and gas companies in Nigeria. The study employs both the Accrual-based (DA) and the Real Earnings Management (REM) proxies for earnings manipulation. The financial leverage is calculated based on total debt to total assets, whereas the control variables are firm size, profitability, firm growth, and working capital. Secondary data were gathered from financial reports of eight (8) chosen oil and gas listed firms in Nigeria, which were obtained from the Machameratio database for eleven (11) years, from 2013 to 2023. The study based on monitoring hypothesis. Data were analysed in three stages preliminary, model estimation, and post-estimation test using panel data regression on STATA 15 to ascertain the strength and the direction of between study variables. The findings reveal that financial leverage has a negative and significant effect on DA and REM. However, firm size has a positive and significant influence on DA and REM. Furthermore, profitability has a negative and significant influence on DA and REM. Nonetheless, firm growth reveals a negative and significant influence on REM. Thus, the study concludes that financial leverage negatively influencing DA and REM while firm size and profitability are significant factors that influence earnings manipulation in listed oil and gas firms. Moreover, firm growth only influences REM.

Keywords: Financial leverage, Oil and gas firms, Accrual earnings management, Real earnings management, Monitoring hypothesis

JEL Code: G32, M41, O16

1. Introduction

Financial leverage plays a critical role in corporate financing decisions, particularly in capital-intensive industries such as oil and gas. In emerging economies such as Nigeria, oil and gas companies are mostly using debt financing to fund their exploration and production as well as infrastructure development. Also, leverage has become a structural characteristic of the industry (Chindengwike, 2024). Although debt financing can maximize the growth and value of the firm, it may also trigger motivation in favour of opportunistic financial reporting practices such as earnings manipulation. Moreover, leverage may benefit the firm value by generating tax shields and capital discipline; leverage may also lead to incentives of opportunistic financial reporting. In particular, the earnings can be manipulated to avoid debt covenant breaches and lessen the perceived financial distress risk or remain able to access external funding by managers of highly leveraged companies (Gerged et al., 2023; Dosmanbetova et al., 2025). Empirical studies have demonstrated that earnings management has a detrimental impact on the valuation of firms and investor trust, especially in resource-based industries where information asymmetry is already present (Marimuthu et al., 2023; Tijani et al., 2023; Sadowski et al., 2025).

The relationship between financial leverage and earnings manipulation has been an intense issue in accounting and finance literature. According to the debt covenant hypothesis, the greater the degree of leverage of a firm, the more that firm is likely to adjust its earnings in order to evade breach of contractual duties or to ensure that it has good terms of borrowing (Aribaba et al., 2022). Based on the evidence in the international markets, higher leverage creates incentives for managers to take up opportunistic earnings management. Nevertheless, there are also opposite results, according to which monitoring of debts and their enforcement of covenants can decrease managerial discretion and limit manipulation (Shittu & Onifade, 2023; Rusmin et al., 2024). In the oil and gas sector, this association is especially applicable because of industry peculiarities like the volatile price of commodities, regulatory checks, and huge capital investment. For instance, the research work on the oil and gas companies of Nigeria shows that the financial leverage can be an important determinant of the real earnings management behaviour, particularly in the interaction with managerial incentives, including political connections (Gooyert et al., 2024). In the same vein, empirical research demonstrates that leverage has a quantifiable effect on the manipulation of real activities within the industry, but the direction of effect is controversial (Yisau et al., 2025).

Despite growing scholarly interest, research on financial leverage and earnings management in oil and gas companies is still not complete. Furthermore, most of the current research concentrates on the developed markets or aggregate industries and thus provides a lapse in the sector-related understanding, especially in emerging economies where the institutional enforcement and governance mechanisms are distinctly unlike. The oil and gas industry in Nigeria offers an interesting background on analysing the financial leverage and earnings management nexus. The business environment in the industry involves price volatility of commodities, exchange rate variations, regulatory challenges, and changing corporate governance systems (Musa et al., 2023; Adeyemi et al., 2025). These characteristics increase financial pressure and can provide more motivation to smooth or inflate earnings by managers. Although the sector is very significant to the economy of Nigeria, empirical research on the relationship between financial leverage and earnings manipulations in this sector is scarce. Thus, this research addresses the effect of financial leverage on earnings manipulation of the listed oil and gas companies in Nigeria. This study provides industry-specific data of a resource-dependent emerging economy in contrast to previous works (Gerged et al., 2023; Chindengwike, 2024), which have concentrated on manufacturing or financial companies. The contribution of the study to the literature is that it assesses the influence of financial leverage on both accrual and real earnings management. Thus, the study objectives are as follows:

- i. To examine the effect of financial leverage on accrual-based earnings management in listed Nigerian oil and gas firms.
- ii. To examine the effect of financial leverage on real earnings management in listed Nigerian oil and gas firms.

2. Literature Review

Conceptual Review

Financial Leverage

Financial leverage is defined as the amount of debt financing that a firm employs in its capital structure to finance its operations and investments. In the context of corporate finance, financial leverage is often determined as the use of borrowed capital to enhance the possible reaction to the shareholders. Companies use leverage hoping that the returns to investments funded through debt will be greater than the cost of borrowing and, as a result, increase the wealth of the shareholders of the company. Nevertheless, leverage may amplify returns, but

at the same time, it increases the financial risk of the firm (Yeo, 2025). With the introduction of market imperfections, including corporate taxes and financial distress costs, debt financing may have a value-creating effect through tax shields and also leads to the risk of financial distress (Kolawole, 2025). In terms of corporate governance, financial leverage may also be used as a control mechanism that limits the discretion of managers. Debt obligation accords discipline to the managers, as they have to make periodic interest payments and abide by the covenants imposed by the lenders (Amusan, 2025).

Earnings Manipulation

Earnings manipulation, also known as earnings management, refers to the conscious action taken by managers in the financial reporting process in order to manipulate reported earnings with the objective to derive some predetermined desired results (Shittu & Oladipo, 2025). The academic field of accounting states that managers can manipulate financial statements to meet performance standards, to fulfil contractual obligations, or to affect the perceptions of stakeholders about the performance of firms. Earnings manipulation usually takes two major forms: accrual-based earnings management and real earnings management.

Accrual earnings management: The concept of accrual earnings management entails the application of accounting discretion in the implementation of accounting policies and estimates to modify the amount of earnings reported without the need to actually change the economic activities of the firm (Shittu et al., 2024). This could involve modification of provisions, depreciation, and timing of recognition of revenues or estimate of allowances. These practices take advantage of the flexibility provided in the financial reporting systems, such as international financial reporting standards or generally accepted accounting principles (Adegbayibi, 2025).

Real earnings management: This is the manipulation of the real business operations with the aim of changing reported earnings. Managers can hasten sales by too many price discounts, cutting discretionary costs like research and development or advertisement, or overproducing to lower the cost of goods sold. In contrast to the accrual manipulation, the real earnings management does not just influence the operation decisions but can carry long-term consequences for firm value (Roychowdhury, 2006).

Theoretical Review

Monitoring Hypothesis

The monitoring hypothesis focuses on the importance of external and internal systems of oversight that limit managerial opportunism. In the framework of financial accounting study, monitoring is the process of overseeing the activities of shareholders, institutional investors, boards of directors, and auditors in order to control the managerial activities and pay attention to the credibility of financial reporting (Watts & Zimmerman, 1986). Or the debt can serve as a mechanism of governance. Strict monitoring policies imposed by creditors can decrease the discretion of managers and make manipulation of earnings more difficult (Khan et al., 2024). It is indicated by oil and gas companies that leverage may occasionally limit the activity manipulation in the real world through covenant implementation. Good monitoring systems decrease the information asymmetry and narrow the chances of the managers to practice opportunistic earnings manipulation. Increased financial reporting quality has been linked to strong corporate governance frameworks, independent boards, active audit committees, and quality external audits (Musa et al., 2023; Shittu et al., 2023; Mohammed et al., 2024). The hypothesis of monitoring thus is that heightened supervision lowers agency expenses and discourages the exercise of discretionary accounting behaviour that misrepresents reported earnings.

Debt Covenant Hypothesis

The debt covenant hypothesis is based on the more extensive theory of positive accounting theory and suggests that the higher the debt level of a firm, the more likely it is to engage in accounting practices that drive reported earnings. Debt covenants refer to a contractual relationship between the lenders and the borrowers, which places financial limitations on firms, including keeping specific leverage levels or a minimum profitability level (Kaupke & Knyphausen-Aufse, 2023). As debt contracts are frequently subject to performance-based covenants, managers can manipulate accruals or indulge in real activities manipulation in order to prevent a technical default. This is more probable in industries whose cash flows are volatile, as is the case with oil and gas. Managers of companies that are near to violation of covenant will be tempted to manipulate earnings in order to evade such contractual obligations (Kjaerland et al., 2023).

Nonetheless, having reviewed the two theories, the study was anchored based on monitoring hypothesis because debt brings banks and creditors who monitor closely. Lender demand audited reports, covenants, and transparency which restrict managers' ability to manipulate earnings. Monitoring hypothesis probable dominates in Nigeria oil and oil high capital intensity and lender scrutiny, weak enforcement of private debt covenants, regulatory and external monitoring layers as well as reputation with international financiers. Also, capital intensive nature of oil and gas industry attracts sophisticated lenders whose monitoring mechanisms restrains opportunistic reporting. Furthermore, in Nigeria, institutional weaknesses and strong lender monitoring make covenant violation less of driver than lender oversight. Hence, the earnings manipulation of the oil and gas sector has received little focus despite this sector being strategic and the ratios of leverage being high.

Empirical Review

The empirical research on financial leverage and earnings management in oil and gas companies provides mixed findings. Some studies report a positive relationship, while others report a negative one, between leverage and earnings manipulation. For instance, the relationship between acquisition deal characteristics and accruals and REM is evaluated by Alghemary et al. (2025) on the firm listings of six Gulf Cooperation Council (GCC) nations. The findings indicate that acquiring firms that are cross-border dealers are likely to manage earnings through accruals instead of through REM prior to acquisition. On the same note, Sadowski et al. (2025) found that the new economy industries' firms and those with less concentrated markets used accrual-based earnings management practices as opposed to others. Similarly, Galek and Cicak (2025) provide an overview of the literature in the area of earnings management over the past decade of literature covering companies. The findings indicate the necessity to pay more attention to investigating the factors and outcomes of the REM. Moreover, it was found that financial leverage is associated with strong negative effects on real activity manipulations, and total debt is associated with negative but not significant effects on real activity manipulations (Tijjani et al., 2023).

Besides, Phua et al. (2021) find that earnings volatility and derivative use are positively correlated with earnings management. Similarly, Sandrasigaran et al. (2020) found that positive and significant oil volatility to discretionary and income-decreasing accruals was observed. Despite the useful information offered by the previous research, there are a number of gaps: inconsistent empirical evidence about the leverage-earnings manipulation nexus, while some studies focus on financial leverage and firm performance (Aribaba et al., 2022; Anozie et al., 2023; Dsouza et al., 2025; Amusan, 2025; Oyedele, 2025). In Nigeria, most previous empirical studies concerning earnings management have been mostly on

manufacturing, financial institutions, or broad cross-sector samples (Shittu & Amao, 2022; Adegbayibi, 2025; Chindengwike, 2024). Thus, there is a lack of literature that comprises both accrual-based and REM in this situation. This study fills identified research gaps by focusing on listed oil and gas companies in Nigeria and drawing a difference between the effect of financial leverage on accrual and REM. Thus, the current study's formulated hypotheses are as follows:

H₀₁ Financial leverage has no significant influence on accruals earnings management in Oil and gas companies.

H₀₂ Financial leverage has no significant effect on real earnings management in Oil and gas companies.

3. Methodology

The study population consists of listed oil and gas companies in Nigeria, while the purposive sampling technique was used to select eight (8) due to the availability of data for the study period over eleven years (11), 2013-2023. Secondary data for chosen firms were obtained from the MachameRatios database. Panel regression models (fixed and random effects) were employed for the analysis, while the Hausman test was used to choose either fixed or random effects. The panel regression models for this study are as follows, and they were adapted from Rigamonti et al. (2024).

$$DA_{it} = \beta_0 + \beta_1 FL_{it} + \beta_2 FS_{it} + \beta_3 PROF_{it} + \beta_4 FG_{it} + \beta_5 WC_{it} + \epsilon_{it} \quad (i)$$

$$REM_{it} = \beta_0 + \beta_1 FL_{it} + \beta_2 FS_{it} + \beta_3 PROF_{it} + \beta_4 FG_{it} + \beta_5 WC_{it} + \epsilon_{it} \quad (ii)$$

Where:

DA = Discretionary accruals

REM = Real earnings management

FL = Financial leverage

FS = Firm size

PROF = Profitability

FG = Firm growth

WC = Working capital

β_0 = Regression Intercept

ϵ_{it} = Error term

Table 1: Measurement of variables

Variables	Acronym	Measurements	References
Dependent			
Discretionary accrual	DA	$\frac{TA}{A_{it-1}} = \alpha_0 \left(\frac{1}{A_{it-1}} \right) + \alpha_1 \left(\frac{\Delta REV - RECI_t}{A_{it-1}} \right) + \alpha_2 \left(\frac{PPE_{it}}{A_{it-1}} \right) + \alpha_3 \left(\frac{ROA_{it}}{A_{it-1}} \right) + \epsilon_{it}$	Oseni, et al. (2022)
Real earnings management	REM	$\frac{CFO_t}{A_{t-1}} = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 \left(\frac{S_t}{A_{t-1}} \right) + \alpha_3 \left(\frac{\Delta S_t}{A_{t-1}} \right) + \epsilon_t +$ $\frac{PROD_t}{A_{t-1}} = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 \left(\frac{S_t}{A_{t-1}} \right) + \alpha_3 \left(\frac{\Delta S_t}{A_{t-1}} \right) + \alpha_4 \left(\frac{\Delta S_{t-1}}{A_{t-1}} \right) + \epsilon_t +$ $\frac{DISX_t}{A_{t-1}} = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 \left(\frac{\Delta S_{t-1}}{A_{t-1}} \right) + \epsilon_t$	Shittu and Oladipo (2025)
Independent			

Financial Leverage	FL	Total debt to total assets ratio	Shittu & Amao (2022)
Control			
Firm size	FS	Log of total assets	Alagbe et al. (2025)
Profitability	PROF	Earnings divided by assets	Ali and Fatima (2023)
Firm growth	FG	Natural log of total revenue	Salehi et al. (2022)
Working capital	WC	Trade receivable divided by total revenue multiply by 365 days	Onaolapo & Shittu (2022)

Source: Author's compilation 2026

4. Results and Discussion

Descriptive Statistics

The descriptive analysis of the study variables spans eleven (11) years, from 2013 to 2023, for eight (8) selected oil and gas listed firms in Nigeria, making 88 observations. Dependent variables include Discretionary Accrual (DA) and Real Earnings Management (REM), and the independent variable is Financial Leverage (FL), while control variables include Firm Size (FS), Profitability (PROF), Firm Growth (FG), and Working Capital (WC).

Table 2: Descriptive Statistics

Variable	Min	Max	Mean	Median	SD	N
DA	-2.797003	.5422281	-.0023418	.028229	.3302006	88
REM	-3.159296	1.350239	-.0590625	.0677126	.5698839	88
FL	3.6133	84.4151	48.37662	44.65355	18.90398	88
FS	3.7815	5.2803	4.676591	4.9191	.4685828	88
PROF	14.3498	86.822	39.58643	37.06405	13.96361	88
FG	5.4343	9.2304	7.120754	7.0664	1.159087	88
WC	.1096	2.3199	.8392023	.76485	.4403892	88

Source: Author's Computations (2026)

Table 2 shows the DA value of the mean as -0.0023 and the median as 0.0282, implying that DA is relatively low among the sampled firms. The -2.7970 and 0.5422 are the minimum and maximum values, respectively, implying the existence of both income-decreasing and income-increasing accrual manipulation. The average Standard Deviation (SD), 0.3302, is a moderate variability of discretionary accrual practices among the firms. The mean of REM is -0.0591 while the median is 0.0677. The wide range between the minimum (-3.1593) and maximum (1.3502) shows that there is a large variation in real activities manipulation between firms. The SD of REM is relatively higher and stands at 0.5699 in comparison to the standard deviation of 0.2484 of DA, indicating that firms do not involve themselves in real earnings management as much as accrual-based manipulation.

In addition, FL has a mean of 48.38 and a median of 44.65 meaning that in Nigeria, oil and gas companies rely considerably on debt financing. The SD (18.90) and the large range (3.61 to 84.42) indicate substantial differences in capital structure across firms, reflecting heterogeneous financing strategies within the industry. The mean of FS is 4.68; the median is 4.92, with a relatively small SD of 0.4686, indicating low dispersion and suggesting that the firms in the sample are relatively similar in scale. The mean and median of PROF are 39.59 and 37.06, respectively, with a wide range of 14.35 to 86.82 and a SD of 13.96. This implies that there are significant variations in the financial performance of the firms. The mean of FG is 7.12 and the median is 7.07 with a moderate SD of 1.16, which means that growth strategies

among firms are relatively stable. The mean of WC is 0.8392, and the median is 0.7649; the lowest number is 0.1096, and the highest number is 2.3199. The value of the SD, equal to 0.4404, shows that the liquidity positions in terms of short-term liquidity vary moderately across firms.

Table 3: Normality Test Results (Sktest and Shapiro-Wilk)

Variable	Pr(Skewness)	Pr(Kuriosis)	Adj Chi2(2)	Prob>Chi2	W(SW Test)	Prob>z
DA	0.0000	0.0000	161.53	0.0000	0.41246	0.00000
REM	0.0000	0.0000	58.23	0.0000	0.82780	0.00000
FL	0.7006	0.0001	15.03	0.0005	0.95005	0.00194
FS	0.2359	0.0000	326.93	0.0000	0.85940	0.00000
PROF	0.0003	0.0524	16.67	0.0002	0.93370	0.00022
FG	0.1319	0.0001	17.31	0.0002	0.92872	0.00012
WC	0.0224	0.7733	5.30	0.0707	0.95207	0.00259

Source: Author’s Computations (2026)

Table 3 above shows the outcome of both the Skewness/Kurtosis test (Sktest) and the Shapiro-Wilk test with respect to normality tests. In the case of DA, skewness and kurtosis probabilities are both significant ($p = 0.000$), and the adjusted chi-square test is significant ($\text{Prob} > \text{Chi}^2 = 0.000$). Likewise, the Shapiro-Wilk test has a W statistic of 0.41246 and a p-value of 0.000, which is significant against the null hypothesis of normality. This implies that DA is not normally distributed. There is also significant skew and kurtosis in the REM ($p = 0.000$), and the value of the joint chi-square is significant ($\text{Prob} > \text{Chi}^2 = 0.000$). This is proved by the Shapiro-Wilk test that identifies a p-value of 0.000, which means that REM does not follow the normal distribution. Besides, FL have a non-significant skew probability ($p = 0.7006$), which implies that it is symmetrically distributed. This is, however, not the case, as the kurtosis is significant ($p = 0.0001$), and the joint chi-square is significant ($\text{Prob} > \text{Chi}^2 = 0.0005$), which is a sign of non-normality. The Shapiro-Wilk test ($p = 0.00194$) also supports the fact that FL does not follow normal distribution. Hence, this study employs panel data regression to ascertain the effect of independent and control variables on dependent variables.

Table 4: Correlation Matrix

Variable	DA	REM	LEV	SIZE	PROF	GROWTH	WC
DA	1						
REM	0.6134	1					
FL	-0.2017	-0.5245	1				
FS	-0.0330	-0.0585	0.4328	1			
PROF	-0.3979	-0.0887	-0.0823	0.3132	1		
FG	0.1221	-0.3885	0.5953	0.1755	-0.4152	1	
WC	0.0578	-0.3259	0.5948	0.3088	-0.1206	0.5363	1

Source: Author’s Computations (2026)

Table 4 depicts how study variables are related to each other. FL and DA have a weak negative relationship with $r = -0.2017$. An increase in FA correlates with reduced DA. In addition, FL and Real REM ($r = -0.5245$) indicate that FL and REM have a strong negative relationship. Companies that have increased leverage would indulge less in the manipulation of real earnings. These findings indicate that debt can serve as a disciplinary tool, which limits opportunistic behaviour of managers in oil and gas companies. The correlation between two measures of earnings manipulation, DA and REM, is $r = 0.6134$; there exists a positive and strong relationship between DA and REM. This implies that the companies that practice one form of manipulation will most likely practice the other, which means that the behaviour is

complementary but not substitutive. FL and FS $r = 0.4328$ means that greater firms have higher leverage. FL and FG $r = 0.5953$ imply that the high-growth firms are more dependent on debt financing. FL and WC have $r = 0.5948$; thus, it can be said that the firms having better working capital positions are also more likely to be leveraged. FL and PROF $r = -0.0823$, which means there is a weak negative dependence between FL and PROF, which is expected by the pecking order theory (profitable firms do not depend on debt as much). The remainder of the correlation coefficients are less than 0.70, which indicates that there is no critical issue of multicollinearity. The strongest correlations (FL and FG = 0.5953; FL and WC = 0.5948) are not above the reasonable level.

Table 5: Panel regression results

Variable	Robust RE for DA	Robust FE for DA	Robust RE for REM	Robust FE for REM
FL	-3.84 (0.000)**	-3.07 (0.003)**	-3.90 (0.000)**	-3.64 (0.000)**
FS	2.35 (0.019)**	2.99 (0.004)**	3.65 (0.000)**	3.44 (0.001)**
PROF	-4.09 (0.000)**	-3.98 (0.000)**	-4.08 (0.000)**	-3.96 (0.000)**
FG	0.72 (0.468)	-1.22 (0.226)	-2.39 (0.017)**	-2.23 (0.029)**
WC	1.46 (0.145)	0.41 (0.686)	-0.30 (0.764)	-0.50 (0.615)
Constant	-0.80 (0.426)	-0.43 (0.669)	-0.19 (0.850)	0.03 (0.975)
F/Wald χ^2 (p-value)	35.29 (0.000)**	7.03 (0.000)**	48.26(0.000)**	9.22 (0.000)**
R ² (within)	0.2540	0.3190	0.3772	0.3806
R ² (Between)	0.7314	0.1297	0.3684	0.3578
R ² (Overall)	0.3009	0.0716	0.3468	0.3254
Adjusted R ²	0.2785	0.0689	0.3056	0.2903
Observations	88	88	88	88
Hausman	-9.29		0.9042	
Breusch-Pagan	340.14 (0.000)**		32.33 (0.000)**	

Source: Author's Computations (2026), Note: ** $p < 0.05$, p-values are in parentheses while the numbers outside the parentheses are coefficient estimates (β).

Table 5 presents findings of the panel least squares regression model to examine the influence of FL on earnings manipulation. The robust Random Effects (RE) and Fixed Effects (FE) of the two measurements of earnings manipulation (DA and REM) are used for comparison and robustness evaluation. The DA model choice according to the Hausman Test shows that the test is negative (-9.29) which contravenes the asymptotic requirement that the test statistic should be non-negative. This is usually the result of a non-positive definite difference between the covariance matrices of the fixed and random effects estimators, frequently because of finite sample considerations or because of robust standard errors. This means that the Hausman test of the DA model is statistically inconclusive and cannot be used as the sole model selection criterion. As is common practice in econometric studies, this paper supplements the Hausman finding with the Breusch-Pagan Lagrange Multiplier test, which is very significant ($p = 0.000$), indicating the existence of panel effects and justifying the use of the random effects model.

Besides, the fact that the magnitude, direction and statistical significance of the coefficients are similar in both the fixed and random effects estimation (as seen in Table 5) is also an added guarantee as to the strength of the findings. Thus, the estimates of random effects are saved to be interpreted in the DA model and the fixed effects estimates are reported to check the robustness and consistency. Moreover, the overall F/Wald statistic is significant ($p = 0.000$; < 0.05), which provides the evidence of the model fitness. R² (within): FE for DA = 0.3190, FE for REM = 0.3806, The model explains more of the variation in REM as opposed to the

variation in DA, indicating FL, FS, PROF, FG, and WC are better explanations for real earnings management. The reason why the Breusch-Pagan test was carried out was to understand whether to apply panel data methods or ordinary OLS regression. The two models' values were highly significant ($p = 0.000$), which implies that there are panel effects; pooled OLS is inappropriate. Hausman (DA: $p=0.9042$) and (REM: $p=0.9042$) indicate that the random effects model is suitable in both the models. Therefore, the RE results of the DA model disclose that FL ($\beta = -3.84$, $p = 0.000$) has a negative and statistically significant effect on DA. The accrual-based earnings manipulation is significantly decreased with a one-unit increase in financial leverage. In terms of the REM model, FL ($\beta = -3.90$, $p = 0.000$) has a negative and significant impact on REM. Highly leveraged firms engage less in real operational manipulation (abnormal production, discretionary expenses). Moreover, the results reveal a positive and significant influence of FS on both DA and REM ($\beta = 2.35$, $p = 0.019$) and ($\beta = 3.65$, $p = 0.000$). However, PROF ($\beta = -4.09$, $p = 0.000$) and ($\beta = -4.08$, $p = 0.000$) display negative and highly significant values in both DA and REM, respectively. Besides, FG ($\beta = 0.72$, $p = 0.468$) and ($\beta = -2.39$, $p = 0.017$) show insignificant and negative relationships to DA and REM, respectively. Also, WC ($\beta = 1.46$, $p = 0.145$) and ($\beta = 0.30$, $p = 0.764$) indicate non-significance in DA and REM, respectively.

Discussion of Findings

The negative and statistically significant influence in both DA and REM models suggests that the highly leveraged firms are less likely to report the earnings with accounting adjustments or manipulations in the operations. This implies that debt does not just inhibit accounting manipulation but also the distortive operational decisions as well. These results are in line with the findings of Tijani et al. (2023) and Rigamonti et al. (2024) and align with the debt monitoring hypothesis, which assumes that debt financing creates an ex-post discipline for the management by subjecting them to creditor monitoring, restrictive covenants, and forced disclosure. Therefore, the results suggest that financial leverage is a governance tool and not an incentive for opportunistic earnings manipulation among oil and gas companies in emerging economies. Furthermore, the positive and significant effect of firm size on accrual and real earnings management implies that the bigger oil and gas companies further indulge in both the DA and REM. The results align with the findings of Khanh and Thu (2019). This can be indicative of more complexity in its operations, increased political and market focus, and more flexibility in its accounting decisions. Nonetheless, profitability indicates negative and significant DA, and REM means that the more lucrative companies will be less prone to earnings management. Companies that make profits are not as motivated to manipulate the earnings because they are already performing as expected. This is in line with the outcome of (Ghaleb et al., 2020). Besides, decreases the REM. This differs from the work of Nanik & Nur (2019). Moreover, working capital indicates non-significance for both DA and REM. In this sample, working capital is not a significant factor in explaining earnings manipulation.

5. Conclusion and Recommendations

This study investigated how financial leverage influences the earnings manipulation proxies (Discretionary Accruals (DA) and Real Earnings Management (REM)) in the oil and gas companies in Nigeria. The population of the study comprises of oil and gas companies listed on the Nigerian Exchange Group (NXG), while eight (8) were chosen due to the availability of data needed for the study for eleven years from 2013 to 2023. Using panel least squares regression as the method of data analysis, the study potentially addressed potential endogeneity issues and provided reliable estimates. The empirical results revealed that financial leverage has a negative and significant effect on DA and REM. However, firm size has a positive and significant influence on discretionary accrual and real earnings

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management. Furthermore, profitability has a negative and significant influence on DA and REM. Nonetheless, firm growth has no significant effect on DA, while it reveals a negative and significant influence on REM. In addition, working capital shows an insignificant effect on DA and REM. Thus, the study concludes that financial leverage negatively influencing DA and REM while firm size and profitability are significant factors that influence earnings manipulation in listed oil and gas firms. Moreover, firm growth only influences REM.

Therefore, the study recommended the following:

- i. Strict monitoring structures should be maintained by credit institutions and bondholders, and they should include performance-based covenants, frequent disclosures, and audit independence requirements.
- ii. Regulators and policymakers in the emerging economies should intensify corporate governance codes in capital-intensive industries such as oil and gas.
- iii. Promote more disclosure of highly leveraged companies. Efficient implementation will see to it that the punitive aspect of debt is maintained.
- iv. Regulators and investors need to subject bigger oil and gas firms to increased scrutiny.
- v. The management must be driven to the sustainable performance strategies but not short-term earnings goals. Long-term incentives can be incorporated in the form of policies that will promote long-term investment and operational efficiency.

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