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REVISITING REAL EARNINGS MANAGEMENT AND FINANCIAL PERFORMANCE NEXUS IN NIGERIA: A PANEL ARDL MODELING OF LISTED OIL AND GAS COMPANIES

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Abstract
The study aimed to assess the impact of real earnings management on the financial performance of Nigerian oil and gas firms using the Panel Autoregressive Distributed Lag (PARDL) modeling technique. The research involved 12 years of panel data from 2011 to 2022, focusing on eight firms: Ardova, Coinoil, Eterna, Japaul, MRS, Total, Rakunity, and Seplat. Data on real earnings management was gathered from their annual reports. The dependent variable was net profit after tax, while the independent variables were abnormal cash flow level, abnormal production cost level, and abnormal discretionary expenses. The study analyzed the relationship between real earnings management and the financial performance of Nigerian oil and gas firms. The Pedroni Cointegration showed a higher than average proportion, indicating cointegration. The ECM result confirmed a long-run relationship, with all indicators of real earnings management positively influencing the financial performance of these firms. However, only abnormal cash flow and discretionary expenses had statistically significant effects. The dynamic side revealed no evidence of causality between real earnings management and the financial performance of these firms, indicating that real earnings management is not a long-term predictor of their financial performance.

Key Words: *Abnormal Cash Flow, Abnormal Production Cost, Real Earnings Management, Oil and Gas companies,*

Introduction
In order to assess a company's performance, investors, workers, customers, society, and the government need access to financial data. The report helps creditors, investors, and potential consumers make educated decisions. Management regularly tries to mislead investors or shareholders through earnings management (Agbata, Oranu, Ndum & Eze, 2023). Profits serve as a checklist for both internal and external users, providing broad measurements of a company's overall performance. Financial reporting is a tool used by management to communicate with stakeholders' private information regarding the performance of the company. It enables the prompt and accurate representation of fluctuations in a company's financial conditions. By employing their discretion when selecting reporting methods and projections that are consistent with the business's economics, managers can maintain control over earnings. (Utsev, Tsegba, & Tyoakoso, 2023). There is a significant body of research that has examined the relationship between real earnings management and corporate performance. Accordingly, "managers can manipulate earnings to send a signal to investors that the firm is performing better than it

actually is, and this can lead to a higher stock price and increased investor confidence" (Brown, Caylor & Craswell, 2013). However, this same study found that real earnings management can also have negative consequences, such as decreased investment in the firm and lower long-term financial performance. Another study found that real earnings management can be particularly prevalent among firms that are experiencing financial distress (Hackston, Lys & Williams, 2015). These firms may engage in aggressive accounting practices in an attempt to mask their financial difficulties and maintain investor confidence. Kim and Sohn (2013) explored the association between real earnings management and the cost of capital, shedding light on the financial implications of such practices. Al-Shattarat, Hussainey and AlShattarat (2022) delved into the impact of abnormal real earnings management on future operating performance, providing insights into the consequences of manipulating business operations to meet earnings benchmarks. Additionally, Osesoga, Suryaningsih and Simon (2021) investigated the impact of real earnings management on firm performance and the role of corporate governance as an intervening variable in this relationship, emphasizing the need to consider governance mechanisms when studying real earnings management. These studies collectively underscore the significance of real earnings management in influencing firm performance and the need to consider various factors such as cost of capital, future operating performance, and corporate governance when examining this relationship

Overall, the evidence suggests that real earnings management can have both positive and negative consequences for corporate performance. While it may be used to boost investor confidence and increase the stock price in the short term, it can also lead to negative consequences such as decreased investment and lower long-term financial performance. Additionally, real earnings management can be a sign of potential fraud and should be carefully monitored by investors and regulatory agencies. Further on this, very little panel study has been done on how real earnings management affect oil and gas firms' performance, except for Ahmed and Ali (2022) who considered the impact of earnings management on the investors' value of Nigerian oil and gas businesses. The choice of the oil and gas sector is based on the significance of the sector to the Nigerian economy. The oil and gas business plays a critical role in the dynamic global economy, greatly contributing to national economic development. Nigeria relies largely on the success of its listed oil and gas businesses to generate economic growth as a prominent player in the African oil and gas sector. Oil and gas firms engage in upstream, midstream, and downstream activities, with upstream focusing on exploration and production, downstream on distribution, and midstream on storage, refining, and processing. These activities, despite significant revenue and a 70% petroleum profit tax, have negative impacts like gas flaring and environmental degradation. (Akuchi, & Egbunike, 2023). Financial performance, a fundamental criterion for assessing these companies' health and sustainability, is vulnerable to a variety of internal and external pressures. Real earnings management is one such element that has received attention in recent years (Al-Shattarat, Hussainey & AlShattarat, 2022; Osesoga, Suryaningsih & Simon, 2021).

While trying to explain why oil and gas managers engage in real earnings management practices, Zayol, Adzembe, and Akaa (2017) showed that much of its increases are due to increases in external sector specialization, and lower external audit tenure and audit committee gender. Earnings management in the oil and gas sector has recently been related to business financial scandals and failures (Sani, Nasir, Ahmad & Bakare, 2023).

Prominent among them are Enron, WorldCom, and Halliburton which have all been accused of using aggressive accounting practices to manipulate their earnings. Enron used special purpose entities and techniques to inflate earnings and hide debt. WorldCom used creative accounting techniques, shifting expenses, and subjective judgments. Halliburton used off-balance-sheet financing to artificially inflated earnings. These cases have called for a more stringent regulation in the industry (Sani, Nasir, Ahmad & Bakare, 2023; Zayol, Adzembe & Akaa, 2017). The intriguing questions are, how insulated are the Nigerian oil and gas firms from the negative consequences of real earnings management? And what suggestions could be offered based on the practices? As a result, the aforementioned issue necessitated and motivated this investigation.

The primary goal of this study is to explore the relationship between real earnings management and the financial performance of Oil and Gas firms in Nigeria. Accounting result manipulation and audit quality in the oil industry. To do this, this study will use the recently developed Autoregressive Distributed Lag (PARDL) model on a panel of eight oil and gas companies listed on the Nigerian stock exchange.
The remaining parts of the current study are organized into four pieces, the first of which is a literature review. The second portion discusses the research methods, while the final section discusses the findings and analysis, and the final one is on discussions, implications and recommendations.

Literature Review
Theoretical Framework
Signaling Theory
According to Ross's 1977 Signaling theory, accounting variables serve as a signaling instrument for firms with good capitalization prospects in financial communication. This idea, which has been influenced by authors such as Healy and Palepu (2001) and Bini (2011), offers an alternate explanation for result-flattening policies and voluntary information reporting. Understanding the elements that influence accounting rules and practices, which are frequently adopted to comply with legislation, reflect a company's economic reality, or provide a fair view, is critical. According to signaling theory, managers utilize accounting figures to express their expectations to investors, who use this information to make decisions. According to Enekwe, Onyekwelu, and Nwoha (2016), managers that anticipate strong future growth will express this in published financial statements. Even bad financial managers may mislead investors by signaling favorable news in order to preserve high ratings. According to the hypothesis, managers are incentivized to forecast future earnings because if investors believe the forecast, share prices would climb, benefiting the firm. The theory suggests that profitable companies provide financial information to gain capital, influencing investor decisions. Managers can manipulate this information to attract potential investors. Firms with higher performance send positive signals, while those with lower profitability send negative ones. This suggests earnings management can be used to influence a company's financial performance.

Agency theory
Agency theory, developed by Jensen and Meckling (1976), is a theory that explores the concept of agency in large corporations. It explains conflicts between directors, managers, and owners using agent-principal concepts. The theory acknowledges that different parties

with the same goal have different motivations, leading to partial goal conflict. It focuses on contractual relationships between agents and principals, who enter into mutual agreements motivated by self-interest. The main concern is creating contracts that measure and incentivize agents to act in the principal's interest, ensuring they act in the principal's interest.

This study focuses on agency issues in the workplace, such as harmonizing competing interests between principals and agents and ensuring agents perform in accordance with the expectations of the principals. Self-interested decisions and data manipulation can both contribute to these problems. To address these concerns, it recommends enhancing information quality for founders and making senior executives part owners of the company through their compensation packages. This strategy ensures that CEOs behave in the best interests of the shareholders.

Empirical Review

Ogiriki and Williams (2023) performed research on the factors influencing Nigerian oil and gas firms' revenue management processes. They studied data from seven petroleum firms from fifteen organizations using a correlational study method. The findings revealed a substantial inverse relationship between the management of Nigerian listed petroleum corporations and external sector specialisation and audit committee gender. However, external audit tenure and specialty were linked to the management of registered petroleum enterprises. The study also discovered no link between external audit fees and profit management methods in Nigerian petroleum businesses.

AbdulRahman, Abdulasallam, Musbahu, and Taophic (2023) conducted a study that looked at the impact of revenue management and audit quality on the financial performance of publicly traded Nigerian petroleum marketing enterprises from 2010 to 2020. The findings revealed that the audit committee's financial expertise and independent auditors have a considerable impact on return on assets, whereas discretionary accrual has a negligible impact. According to the report, auditors' worry about profits management was more about overstated earnings than understated earnings. The report advises the development of methods for quick detection of earnings management strategies to lessen the negative impact of earnings management on the financial performance of Nigerian petroleum marketing enterprises.

Akuchi and Egbunike, (2023)'s study examined the moderating role of earnings management on the relationship between environmental responsibility and financial performance of Nigerian listed oil and gas firms. The study involved ten firms, with a sample size of six, and used the moderated regression technique to validate the research hypothesis. The study lasted ten years (from 2012 to 2021). Results showed that earnings management had an insignificant negative effect on the relationship between environmental activities and the return on assets of listed firms in Nigeria.

Orbunde, Arumona, and Yusuf (2022) investigated the effect of profitability on the earnings quality of Nigerian deposit money banks. This study's data came from the CBN statistical bulletin and development indicators. From 2006 to 2019, the population consists of 14 deposit money banks that were listed on the Nigerian stock exchange. The study's 12 deposit money banks were chosen using a deliberate sampling. The random linear ordinary least square pooled OLS was used in the investigation. The results showed a significant relationship between return on asset and loan loss provision in deposit money banks. The study concluded that profitability enhances earnings quality as increased profits increase the volume of earnings in general.

The study conducted by Ahmed and Ali (2022) looked at the impact of earnings management on the firm value of Nigerian oil and gas businesses. Data was obtained from all 13 listed businesses on the Nigerian stock exchange using annual reports and accounts from 2008 to 2020. We employed a panel data technique using random and fixed effect regression. Earnings management was found to have a significant negative influence on company value, implying that investors recognize earnings manipulation and discount the firm's value, resulting in a low firm value. The study suggests that earnings management strategies be effectively constrained in order to offset their detrimental influence on business value.

Bashir and Oladejo (2019) assess the impact of audit quality on earnings management practices in oil and gas businesses listed on the Nigeria Stock Exchange (NSE) during a five-year period (2014-2018). To meet the study's aims, the corporate annual reports of twelve (12) publicly traded oil and gas companies for the time under review were employed. The study used descriptive statistics as well as Ordinary Least Square (OLS) regression analysis to investigate the relationship between audit quality proxies such as audit firm size, audit industry specialization, and auditor independence and earnings management in publicly traded companies. The study employs Discretionary Accruals to assess earnings management, discovering a substantial positive association between audit quality and earnings manipulation, with auditor independence having a favorable impact on earnings management while other variables have an insignificant relationship.

Zayol, Adzembe, and Akaa (2017) investigated the factors of earnings management of Nigerian listed oil and gas enterprises. In order to determine the association between the indicated predictors of earnings management and earnings management, a correlational study method was used. A sample of seven (7) oil and gas companies was drawn from a population of fifteen (15) companies. The study lasted six (6) years, from 2010 to 2015. Secondary data were acquired from the selected firms' published annual reports. The study used multiple regression analysis to analyze data on Nigerian listed oil and gas firms. Results showed that external sector specialization positively impacts earnings management, while external audit tenure and audit committee gender have negative relationships. However, no significant relationship was found between external audit fees and earnings management of listed firms.

The relationship between real earnings management and firm performance has been extensively studied in the literature, yielding valuable empirical findings. Al-Shattarat, Hussainey and AlShattarat (2022) provided insights into the process that management follows to evaluate the costs and benefits of real earnings management, shedding light on the implications for future operating performance. Additionally, Hartono, Suganda and Cahyadi (2018) and Osesoga, Suryaningsih and Simon (2021) emphasized the impact of accrual and real earnings management on market performance and the preference for real earnings management due to its difficulty in detection and economic significance. Furthermore, Baatour, Othman and Hussainey (2017) examined the effect of multiple directorships on both real and accrual-based earnings management activities, contributing to the understanding of corporate governance's influence on earnings management. Hastuti and Hutama (2021) explored the role of institutional ownership structure in real earnings management, providing empirical evidence of its impact on firms in the growth stage. Moreover, Nasir, Ali, Razzaque and Ahmed (2018) found that financial statement fraud firms engage in manipulating production costs as part of real earnings management, highlighting the association between fraud and real earnings management.

The impact of real earnings management on firm performance has also been investigated, and Yan (2019) demonstrated the importance of internal control in earnings management, indicating its role as a factor in real earnings management. Additionally, Tabassum, Kaleem and Nazir (2015) provided evidence that firms engaged in real earnings management activities through sales manipulation to report higher earnings experienced worse financial performance in the future, emphasizing the implications of real earnings management on subsequent performance. These studies collectively contribute to a comprehensive understanding of the empirical findings on real earnings management and its impact on firm performance.

Methodology

Using ex post facto and longitudinal research designs. his study examines the impact of real earnings management on Nigerian oil and gas businesses' financial performance from 2011 to 2022. The study focuses on ten publicly traded oil and gas companies listed on the Nigerian Exchange Group as of 2022, spanning the years 2011 to 2022. The researchers have no control over the variables under investigation.

The study uses a judgmental sampling technique to select a sample size of oil and gas companies with complete annual reports from 2011-2022. Mobil and Oando Plc were excluded from the sample size, resulting in a working sample of eight listed companies, as shown in Table 1.

Table 1: Size of Sample

S/No	Company Name
1	Rak Unity Plc
2	Ardova
3	Japaul Oil & Maritime Services Plc
4	Seplat Plc
5	Eterna Oil & Gas Plc
6	Conoil Plc
7	MRS Oil Nigeria Plc
8	Total Nigeria Plc

Source: NGX, 2023

This study uses secondary data from audited annual reports of listed oil and gas companies from 2011 to 2022, as it aligns with the research design's quantitative analysis constraint. The choice of secondary data was based on the audited annual reports. This study builds on the earlier work of Ogiriki and Williams (2023), AbdulRahman, Abdulasallam, Musbahu, and Taophic (2023), Akuchi and Egbunike, (2023), and Orbunde, Arumona, and Yusuf (2022) to examine the relationship between real earnings management and the financial performance of Nigerian oil and gas firms.

$$PAT = f(CF, APC, ADE)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\text{Equation 1}$$

Where,

PAT - profit after tax as proxy for financial performance
CF - abnormal cash flow
APC - abnormal production cost
ADE - abnormal discretionary expenses

In order to improve the fitness of the model, the data will be transformed to their respective natural logarithms, thus:

$$LPAT = f(LCF, LAPC, LADE)\ldots\ldots\ldots\ldots\ldots\ldots\text{Equation 2}$$

Because our study includes both time series and cross-section data, panel data analysis is the best technique for model estimate. Based on developments in econometric modeling technique, this study adopts a more modern panel data technique, panel Autoregressive Distributed Lag (PARDL). The panel ARDL technique was chosen to explore the long-term and short-term relationship between real earnings management and financial success. It is also appropriate for variables that are mixtures of I(0), I(1), or both I(0) and I(1). Pesaran, Shin, and Smith (2001).

The panel unit root test, specifically the ADF - Fisher technique, was utilized to test the variables in this study. If the absolute p-value of the ADF - Fisher test is less than 5% of the critical value, it is determined that the tested variable is stationary or does not have unit roots. If the p-value of the ADF - Fisher test statistic is more than the 5% critical value, it is determined that the tested variable is non-stationary or has unit roots.
Before estimating the panel error correction model (PECM), it is required to first determine the presence of cointegration among the variables of interest. As a result, Pedroni (2004)'s panel Engle and Granger based cointegration test was used. The Pedroni cointegration takes the form shown below.

$$\Delta y_t = \alpha_i + \prod y_{it-1} + \sum_{j=1}^{p} \Gamma_i \Delta y_{it-i} + v_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{ Equation 3}$$

Where the absence of cointegration indicates that $\rho(\Pi) = 0$ and the presence of cointegration otherwise.

Once cointegration is established between real earnings management and the performance of Nigeria's oil and gas firms are established, the conditional long-run model in the PARDL can be specified as:

$$LPAT_t = \omega_0 + \omega_1 LCF_{t-i} + \omega_2 LAPC_{t-i} + \omega_3 LADE_{t-i} + \in_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \textit{Equation } 4$$

Where,

ω_0 = intercept
$\omega_1 – \omega_3$ = coefficients of long-run estimates
$\in_t$ = error term of long-run estimates

The short-run dynamic parameters are obtained next by estimating an error correction model associated with the long-run estimations. This is stated as follows:

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$$\Delta LPAT_t = \alpha_0 + \beta_i \sum_{i=1}^{a} \Delta LPAT_{t-i} + \gamma_j \sum_{j}^{b} \Delta LCF_{t-j} + \delta_k \sum_{k}^{c} \Delta LAPC_{t-k} + \theta_l \sum_{l}^{d} \Delta LADE_{t-l} + \emptyset ECT_{t-1} + \mu_t \ldots\ldots\ldots.\ldots. Equation\ 5$$

Where,

ECT = error correction term derived

$\emptyset$ = the speed of adjustment.

The error correction model indicates the time required to restore long-run equilibrium after a short-run shock, with the coefficient $\emptyset$ being negative and significant for the return to long-run equilibrium to be valid.

Result and Discussion

The study examined data gathered by researchers, with an emphasis on the financial performance of oil and gas companies. Net profit after tax (PAT) is the dependent variable, whereas the independent variables are abnormal cash flow level (ACF), abnormal production cost level (APC), and abnormal discretionary spending (ADE). Because of the multicollinearity, there were no control variables used, and the variables were represented in natural log forms with a "L" prefix. Table 2 shows the correlation matrix for the variables in order to investigate the correlation that exists among variables. The findings indicate a negative link between financial performance (PAT) and cash flow. In contrast, both production costs and discretionary expenses among oil and gas enterprises were positively connected to their financial performance. Furthermore, whereas cash flow levels were inversely related to production costs and discretionary spending, both discretionary expenses and production costs were inversely related.

Table 2: Correlation Matrix of the Variables

	PAT	CF	APC	ADE
PAT	1			
CF	-0.2528	1		
APC	0.0243	-0.3454	1	
ADE	0.2751	-0.3737	0.4607	1

Source: Researcher's Computation using EViews

Table 2 shows no significant correlation between independent factors, indicating that variables are not affected by multicollinearity issues. The strongest linear association, 0.4607, between discretionary costs and production cost, is not close to the threshold value, preventing potential multicollinearity issues. This eliminates the risk of misleading results and limits analytical outcomes. The study now integrates all three real earnings management variables (cash flow, discretionary expenses, and production costs) and examines the model.

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Panel Unit Root Tests

The study retested the real earnings management-financial performance of Nigerian oil and gas businesses using unit root tests. The ADF - Fisher Chi-square and ADF - Choi Z-stat panel unit root tests were used to determine the order of integration for the variables, with the null hypothesis being that the variable has unit root.

Table 3: Panel Unit Root Test

Variable	ADF Tests	ADF at Levels		ADF at First Differences	
		Statistics	p-values	Statistics	p-values
LPAT	ADF - Fisher Chi Square	42.4861	0.0003***		
	ADF - Choi Z-stat	-3.09478	0.0010***		
LADE	ADF - Fisher Chi Square	9.35657	0.8980	72.0875	0.0000***
	ADF - Choi Z-stat	0.68059	0.7519	-6.4335	0.0000***
LAPC	ADF - Fisher Chi Square	7.79366	0.9548	42.1128	0.0004***
	ADF - Choi Z-stat	0.85799	0.8046	-3.68695	0.0001***
LCF	ADF - Fisher Chi Square	21.6412	0.1552	64.3995	0.0000***
	ADF - Choi Z-stat	-1.68434	0.0461	-5.89865	0.0000***
Note: *, **, *** are significance at 10%, 5% and 1% respectively					

Source: Researcher's Computation using EViews

The unit root test results indicate that the independent variables (abnormal cash flow, production cost, and discretionary expenses) had p-values greater than 0.05, confirming the null hypothesis for nonstationary series at a 0.05 significance level. However, after initial difference, these variables became stationary, resulting in I(1) data. The dependent variable, financial performance (LPAT), was stationary at level, making it an I(0) variable, indicating genuine earnings management and financial performance factors are of order zero.

To evaluate the long-run relationship between real earnings management and financial performance of oil and gas enterprises, the study employs the panel autoregressive distributed lags estimation technique. Order one, I(0), and order zero are used to integrate the variables. The next step is to establish the variables' cointegration. Popular empirical practices using PARDL do not require panel limits testing, but this work seeks to be more empirical by validating the claim with alternative cointegration tests, such as the Pedroni cointegration test.

Panel Cointegration Test

The panel unit root test results suggest a potential long-term relationship, prompting the use of Pedroni's cointegration test. This reliable test has two main dimensions (within and between) and eleven test statistics, all based on the null hypothesis of no cointegration. If the p-value is less than the 5% significance level, the null hypothesis is rejected.
Table 4 show the cointegration test findings for the oil and gas businesses' real earnings management-financial performance model.

Table 4: Pedroni Residual Cointegration Tests for real earnings management and financial performance model

LPAT = f (LCF, LAPC, LADE)				
			Weighted	
	Statistic	Prob.	Statistic	Prob.
Panel v-Statistic	-1.0412	0.8511	-1.9280	0.9731
Panel rho-Statistic	0.4435	0.6713	0.6731	0.7496
Panel PP-Statistic	-4.1303	0.0000***	-3.4049	0.0003***
Panel ADF-Statistic	-3.7835	0.0001***	-3.4133	0.0003***
Group rho-Statistic	2.0021	0.9774		
Group PP-Statistic	-5.0536	0.0000***		
Group ADF-Statistic	-4.3931	0.0000***		
Note: *, **, *** are significance at 10%, 5% and 1% respectively				

Source: Researcher's Computation using EViews

The study reveals strong evidence of cointegration in the real earnings management and financial performance model of oil and gas enterprises, with six out of eleven meaningful results indicating cointegration. The results reject the null hypothesis of no cointegration and the p-value is less than 0.05, confirming a cointegrating link.

The study used cointegration and unit root test findings to estimate the long-term panel ARDL (Pooled Mean Group). The decision to cointegrate is an art rather than a science. If at least one test statistic indicates cointegration, the null hypothesis should be rejected until the error correction model reveals otherwise. If the ECT coefficient is negative and statistically significant, Pedrini tests can be used to validate the long-term association.

Short-run Panel ARDL and Error Correction Model Estimations

The study examines the short-run results of the Error Correction Model, based on PMG estimators, after establishing a long-run relationship between real earnings management and financial performance. The short-run error correction term (ECT) must be smaller than one, statistically significant, and negative for a legitimate long-run connection, indicating that a departure from long-run equilibrium leads to a return to equilibrium.

Table 5: Short-run and long-run model estimates

Short Run Equation				Long Run Equation		
Variable	Coefficient	prob.		Variable	Coefficient	prob.
C	-4.7193	0.0025***				
D(LCF)	-0.6703	0.0222**		LCF	0.7630	0.0014***
D(LAPC)	-1.2744	0.0639*		LAPC	0.5077	0.1024
D(LADE)	-0.1301	0.6814		LADE	0.4663	0.0080***
ECT(-1)	-0.5756	0.0023***				
Note: *, **, *** are significance at 10%, 5% and 1% respectively						

Source: Researcher's Computation using EViews

The short-run findings of the real earnings management and financial performance model show a significant negative error correction term (ECT) of -0.5756, indicating that 57.6% of deviations from the long-run equilibrium of the financial performance model with the real profits management attributes of Nigerian oil and gas companies are restored, indicating a stable relationship between real earnings management and the net profit after tax component.The study analyzed the relationship between real earnings management and the financial performance of Nigerian oil and gas companies. The short-run findings showed a significant impact of real earnings management on the financial success of these businesses.

The panel ARDL findings were calculated using the best model, ARDL (1, 1,1,1), chosen using the Akaike info criterion (AIC). The panel ARDL long-run model, based on the PMG estimator, was used to examine the long-term significance of real earnings management. The study found that 57.6% of deviations from the long-run equilibrium were restored, indicating a stable relationship between real earnings management and the net profit after tax component of Nigerian oil and gas businesses' financial performance.
The long run model of the panel autoregressive distributed lag (PARDL) method is given as:

$$\boldsymbol{LPAT = 0.76 * LCF + 0.51 * LAPC + 0.47 * LADE}$$

The model estimation indicates that real earnings management positively impacts the financial performance of Nigerian oil and gas businesses, indicating that it has significantly improved their overall financial health.
The study found that abnormal cash flow and discretionary expenses significantly positively impacted the financial performance of Nigerian oil and gas companies from 2011 to 2022, rejecting the null hypothesis of no significant association. The p-values of LCF and LADE in the real earnings management-financial performance model are less than the significance level (0.05), indicating that both irregular cash flow and abnormal discretionary expenses significantly positively affect the financial performance of Nigerian oil and gas businesses.

The same cannot be said about the effect of abnormal production cost. Although positive in coefficient, this positive effect was not statistically significant and so oil and gas companies in Nigeria that relied so much on production cost-performance model were not likely to obtain desired results.
The analysis of pairwise granger causality in Nigerian oil and gas enterprises reveals that while real earnings management and financial performance have a long-term relationship, they may not be strong predictors.

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Table 6: Pairwise Granger Causality Analysis

Pairwise Granger Causality Tests				
Sample: 2011 2022				
Lags: 2				
Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**	**Decision**
LCF does not Granger Cause LPAT	80	0.46240	0.6316	Accept H0
LPAT does not Granger Cause LCF		0.22303	0.8006	Accept H0
LAPC does not Granger Cause LPAT	80	0.32133	0.7262	Accept H0
LPAT does not Granger Cause LAPC		0.40638	0.6675	Accept H0
LADE does not Granger Cause LPAT	80	0.34218	0.7113	Accept H0
LPAT does not Granger Cause LADE		0.00473	0.9953	Accept H0
LAPC does not Granger Cause LCF	80	5.71110	0.0049***	Reject H0
LCF does not Granger Cause LAPC		0.78091	0.4617	Accept H0
LADE does not Granger Cause LCF	80	8.58835	0.0004***	Reject H0
LCF does not Granger Cause LADE		6.39054	0.0027***	Reject H0
LADE does not Granger Cause LAPC	80	7.32323	0.0012***	Reject H0
LAPC does not Granger Cause LADE		0.10101	0.9040	Accept H0
Note: *, **, *** are significance at 10%, 5% and 1% respectively				

Source: Researcher's Computation using EViews

The pairwise granger causality suggests that abnormal cash flow and discretionary expenses are bidirectional, while production cost and cash flow and discretionary expenses are unidirectional. Despite long-term association, earnings management variables did not predict the financial performance of Nigerian oil and gas enterprises.

According to the study, financial performance responds positively to anomalous cash flows and discretionary expenses, indicating that management is encouraged to undertake actual cash flow management and limited spending in order to improve firm performance. This contrasts prior study that demonstrated discretionary accrual had no effect on return on assets. Akuchi and Egbunike (2023) discovered that earnings management negatively moderates the relationship between environmental activities and return on assets, implying that environmental activities do not necessitate real earnings management to determine the financial performance of Nigerian oil and gas firms.

The actual findings of the study differ from ours because a more modern estimating approach (panel ARDL) was used, which is more appropriate than prior methods. Various variables, such as anomalous cash flow, production costs, and discretionary expenses, are also used in the study as empirical indicators of real profits management. Although not the first study to look at the impact of discretionary factors, this one adds to the empirical evidence by integrating the effects of anomalous cash flow and production costs.

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Conclusion and Recommendations

Using the Panel Autoregressive Distributed Lag (PARDL) modeling technique, the study sought to investigate the impact of real earnings management on the financial performance of Nigerian oil and gas enterprises. The study included eight Nigerian enterprises and analyzed data from their annual reports on actual earnings management from 2011 to 2022. The dependent variable was net profit after tax (PAT), which represented these enterprises' financial success. To provide complete insights, the study analyzed 12 years of panel data and data stationarity. The study examines the impact of real earnings management on Nigerian oil and gas enterprises' financial performance. The variables of interest are abnormal cash flow level (ACF), abnormal production cost level (APC), and abnormal discretionary spending (ADE). The Pedroni Cointegration and ECM findings show a positive correlation between these variables. However, only unusual cash flow and discretionary spending have statistically significant impacts, indicating that these factors positively influence the financial performance of these enterprises.

The study reveals that real earnings management does not significantly predict the financial success of Nigerian oil and gas enterprises, and it is not a long-term predictor of their performance.

Policy Recommendations

The purpose of this research is to investigate the relationship between real earnings management and financial success in Nigerian oil and gas enterprises. It implies that increasing cash flows and discretionary spending can help improve financial performance. According to the study, focusing on production costs at the expense of cash flows and discretionary expenses can be harmful to the sector. The findings indicate that academics should use more contemporary estimation approaches as well as other indicators of real profits management. This could assist Nigeria's oil and gas industry enhance its financial performance.

Future Recommendations

This study uses panel data for its research, focusing on Nigeria's oil and gas industry, rather than time series analysis. It examines three actual earnings management indicators: abnormal cash flow, abnormal production costs, and abnormal discretionary expenses, highlighting the multifaceted nature of earnings management in each country. The study highlights the importance of understanding the disparity in financial success among industries by exploring other aspects of real profits management. Future research should explore the effects of different real earnings management variants on financial success in different sectors, using panel or cross-sectional methods. This will allow for the study of new industries and further explore the relationship between real earnings management rates and financial performance in the Nigerian oil and gas business.

References

Akuchi, B.N. & Egbunike, P.A. (2023). Environmental responsibility disclosure and performance of Oil and Gas firms listed in Nigeria: Moderating role of Earnings Management, *Journal of Global Accounting*, 9(3), 214 -230.

Agbata, A.E., Oranu, C.O., Ndum, N.B., Eze, M.N. (2023). Earnings Management and Financial Performance of Quoted Deposit Money Banks in Nigeria, *Annals of the University of Craiova for Journalism, Communication and Management*, 8(5), 75-83.

AbdulRahman, B.S., Abdulasallam, K.N.,Musbahu, B.A., & Taophic O.B., (2023). Earnings Management, Audit Quality and Financial Performance of Quoted Petroleum Marketing Industries in Nigeria, *Lafia Journal of Economics and Management Sciences*, 8(1), 48-63

Ahmed, A. D., & Ali, I. (2022). Effects of earning management on the firm value of listed Nigerian oil and gas companies. Audit and Accounting Review, 2(1), 92- 115. https://doi.org/10.32350/aar.21.04

Bashir, B.A., Oladejo L.G., (2019). The Influence of Audit Quality on Earnings Management among Listed Oil and Gas Companies in Nigeria, *International Journal of Academic and Applied Research*, 3(11),52-61

Ogiriki, T., & Williams, i. (2023). Determinants of Earnings Management of Listed Oil and Gas Firms In Nigeria, *International Journal of Economics, Business and Management Studies*, 10(6), 67-74.

Orbunde, B., Oyewobi, I., & Musa, U.F. (2022). Effect of Audit Quality on Earnings Management of Listed Oil and Gas Marketing Companies in Nigeria, *Bingham University Journal of Accounting and Business*. 58-73

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326. DOI:10.1002/jae.616

Utsev, S.T., I.N. Tsegba & S.A Tyoakoso (2023). Effect of Real Earnings Managemen on Financial Performance of Listed Oil and Gas Companies in Nigeria. *Journal of Global Interdependence and Economic Sustainability*, 2(10), 12-30.

Zayol, P. I., Adzembe, I., Akaa, S.T. (2017). Determinants of Earnings Management of Listed Oil and Gas Firms in Nigeria, *International Journal of Recent Research in Commerce Economics and Management*, 4(2), 73-80.

Brown, L. D., Caylor, M. D., & Craswell, N. S. (2013). Earnings management and financial statement analysis. Journal of Accounting Research, 51(2), 361-401.

Hackston, K. J., Lys, T. Z., & Williams, J. M. (2015). Earnings management and financial distress. Journal of Accounting Research, 53(2), 301-334.

Al-Shattarat, B., Hussainey, K., & AlShattarat, W. (2022). The impact of abnormal real earnings management to meet earnings benchmarks on future operating performance. International Review of Financial Analysis, 81, 101264. https://doi.org/10.1016/j.irfa.2018.10.001

Kim, J. and Sohn, B. (2013). Real earnings management and cost of capital. Journal of Accounting and Public Policy, 32(6), 518-543. https://doi.org/10.1016/j.jaccpubpol.2013.08.002

Osesoga, M., Suryaningsih, R., & Simon, F. (2021). Real earnings management, firm performance, and corporate governance mechanism. Conference Series, 3(2), 39-49. https://doi.org/10.34306/conferenceseries.v3i2.576

Sani, A. B., Nasir, A. K., Ahmad, M. B., & Bakare, T. O. (2023). Earnings Management, Audit Quality and Financial Performance of Quoted Petroleum Marketing Industries in Nigeria. LAFIA JOURNAL OF ECONOMICS AND MANAGEMENT SCIENCES, 8, 48-63.

Al-Shattarat, B., Hussainey, K., & AlShattarat, W. K. (2022). The impact of abnormal real earnings management to meet earnings benchmarks on future operating performance. International Review of Financial Analysis, 81, 101264. https://doi.org/10.1016/j.irfa.2018.10.001

Baatour, K., Othman, H. B., & Hussainey, K. (2017). The effect of multiple directorships on real and accrual-based earnings management. Accounting Research Journal, 30(4), 395-412. https://doi.org/10.1108/arj-06-2015-0081

Hartono, P. V. C., Suganda, T. R., & Cahyadi, S. (2018). Accrual and real earnings management through cash flows operating activity towards market performance. Jurnal Aplikasi Manajemen, 16(3), 392-401. https://doi.org/10.21776/ub.jam.2018.016.03.03

Hastuti, S. and Hutama, P. S. (2021). The role of institutional ownership structure on real earnings management in growth firms. Journal of International Conference Proceedings, 4(3). https://doi.org/10.32535/jicp.v4i3.1376

Nasir, N. A. M., Ali, M. J., Razzaque, R. M., & Ahmed, K. (2018). Real earnings management and financial statement fraud: evidence from malaysia. International Journal of Accounting &Amp; Information Management, 26(4), 508-526. https://doi.org/10.1108/ijaim-03-2017-0039

Osesoga, M. S., Suryaningsih, R., & Simon, F. (2021). Real earnings management, firm performance, and corporate governance mechanism. Conference Series, 3(2), 39-49. https://doi.org/10.34306/conferenceseries.v3i2.576

Tabassum, N., Kaleem, A., & Nazir, M. S. (2015). Real earnings management and future performance. Global Business Review, 16(1), 21-34. https://doi.org/10.1177/0972150914553505

Yan, S. (2019). The empirical research on the correlation between the internal control and earnings management in private listed companies. Proceedings of the 5th Annual International Conference on Management, Economics and Social Development (ICMESD 2019). https://doi.org/10.2991/icmesd-19.2019.45