



Effect of Firm Characteristics on Real Earnings Management of Listed Non-Financial Firms in Nigeria

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Abstract

Case Studies

This study investigates the effect of firm characteristics on real earnings management (REM) among listed non financial firms in Nigeria from 2015 to 2024. Specifically, it examines how financial leverage, audit quality, managerial ownership, and board composition influence managers' use of real operational decisions such as abnormal production, discretionary expenditures, and sales manipulation to achieve targeted earnings. Employing an ex post facto research design, the study analyzes panel data for 70 firms over ten years. After confirming the absence of multicollinearity (mean VIF = 1.01) and selecting the fixed effects model via the Hausman test ($\chi^2 = 12.87$; $p = 0.0243$), regression results reveal that financial leverage significantly increases REM ($\beta = 0.215$; $p < 0.01$), while audit quality ($\beta = -0.139$; $p < 0.05$) and ($\beta = -0.091$; $p < 0.05$) significantly reduce REM. Managerial ownership exhibits a marginally positive effect ($\beta = 0.081$; $p < 0.10$). The model explains 23.7% of within-firm variation in REM ($F = 14.27$; $p < 0.001$). Findings underscore the importance of prudent debt management, high quality external audits, and strong board composition in curbing opportunistic real earnings manipulation. Recommendations include enhancing board composition, enforcing auditor rotation and independence standards, adopting sustainable leverage policies, and calibrating managerial ownership guidelines to balance incentive alignment with governance integrity.

Keywords: Real earnings management, firm characteristics, financial leverage, audit quality, managerial ownership, board composition, Nigeria.

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Introduction

Real earnings management (REM) has become a prominent concern in contemporary accounting literature due to its implications for the integrity of financial reporting and investment decision-making. Unlike accrual-based earnings

management, which manipulates accounting policies, REM involves altering real business operations such as production, sales, and discretionary expenses to achieve financial targets. This practice may create misleading financial statements while technically complying with accounting standards, making it harder for



external parties to detect manipulative behavior (Cohen et al., 2008; Enomah & Okolie, 2020).

Firm characteristics play a critical role in influencing the extent and nature of REM. Among these characteristics, financial leverage, audit quality, managerial ownership, and board composition are particularly significant. Financial leverage reflects a firm's capital structure and risk exposure. Highly leveraged firms may engage in REM to meet debt covenants or maintain credit ratings (Kothari et al., 2016; Kubanni et al., 2023). Nigerian studies show that firms with high debt ratios often exhibit greater tendencies toward earnings manipulation (Olayemi & Fagbemi, 2021).

Audit quality, often proxied by the presence of Big-4 auditors or auditor independence, is also considered a deterrent to REM. High-quality auditors are expected to impose greater scrutiny, reducing the likelihood of manipulation (Enomah & Okolie, 2020; Adegbite et al., 2022). However, the impact of audit quality in developing countries like Nigeria is often limited by regulatory weaknesses and auditor–client familiarity (Usman & Yahaya, 2024).

Managerial ownership, which refers to the proportion of shares held by company executives, has mixed implications. Agency theory posits that higher managerial ownership aligns management's interests with shareholders, thereby reducing opportunistic behavior (Jensen & Meckling, 1976). However, in concentrated ownership settings such as Nigeria, excessive managerial control may entrench management and facilitate REM (Ijeoma & Aronu, 2019).

Board composition, particularly the proportion of independent non-executive directors, is a key component of corporate governance mechanisms. Independent boards are expected to exercise oversight and limit earnings manipulation (Cohen et al., 2011). Nonetheless, evidence from Nigeria reveals that board independence does not always significantly constrain REM due to weak enforcement and ineffective monitoring structures (Okezie et al., 2022).

Given Nigeria's institutional environment, characterized by weak regulatory enforcement and low investor protection, the study of firm

characteristics on REM is both timely and necessary. The non-financial sector, which includes manufacturing, consumer goods, and services, is particularly vulnerable to REM due to its operational flexibility and limited financial transparency (Ogbonna & Ebimobowei, 2023).

Despite global advancements in financial reporting standards and corporate governance, Nigerian firms still grapple with issues of earnings quality and managerial opportunism. This study addresses this gap by empirically examining the effect of financial leverage, audit quality, managerial ownership, and board composition on REM among listed non-financial firms in Nigeria.

Statement of the Problem

Real earnings management (REM), which involves altering actual business operations such as overproduction, discretionary expense reductions, or aggressive sales discounts to achieve desired financial outcomes, remains a significant threat to the quality of financial reporting and the long-term sustainability of firms. In the Nigerian non-financial sector, concerns surrounding REM have intensified due to weak regulatory enforcement, inconsistent application of corporate governance codes, and inadequate investor protection mechanisms.

Although the phenomenon of REM has attracted scholarly attention, existing empirical studies on this subject in Nigeria reveal notable methodological limitations. Many of these studies adopt narrow research models that fail to account for the joint influence of key firm characteristics. For example, while Olayemi and Fagbemi (2021) examined the relationship between financial leverage and REM, they did not consider the potential role of governance-related factors such as board composition or audit quality, which may significantly interact with leverage to influence REM practices. Similarly, Adegbie and Fakile (2020) reported no significant association between leverage and REM but did not explore other firm-level characteristics that could moderate this relationship.

Moreover, the majority of prior studies rely on cross-sectional or short-term data, limiting their ability to capture evolving patterns of REM over time, especially in light of recent economic uncertainties and regulatory reforms. Most studies also depend exclusively on secondary quantitative data without complementing it with qualitative insights, thereby limiting a deeper understanding of the institutional and governance dynamics that influence REM in Nigeria. In addition, inconsistencies exist in the measurement of REM across studies, with some relying on a single proxy such as abnormal cash flows or production costs, thus providing only a partial assessment of REM practices.

Despite the proliferation of research on REM, there is a clear gap regarding the replication of such studies within the context of Nigeria's evolving corporate governance environment. Previous studies often predate significant regulatory changes such as the revisions to Nigeria's Corporate Governance Code and the growing emphasis on enhanced financial reporting following the adoption of International Financial Reporting Standards (IFRS). These regulatory developments, coupled with the economic volatility experienced in Nigeria over the past decade, may have significantly altered the dynamics of REM, making it imperative to re-examine the phenomenon using updated data and a more comprehensive approach.

Furthermore, findings from existing studies remain inconclusive and at times contradictory. For instance, while Enomah and Okolie (2020) found that firms audited by Big-4 auditors are less likely to engage in REM, Usman and Yahaya (2024) argued that auditor-client familiarity within Nigeria undermines audit independence, thereby limiting the effectiveness of audit quality in constraining REM. Similarly, while Ijeoma and Aronu (2019) suggested that managerial ownership reduces REM by aligning the interests of managers with those of shareholders, other scholars contend that high ownership concentration, which is common in Nigeria, may embolden managers to manipulate earnings with minimal oversight.

These inconsistencies highlight the need for a more robust and integrated investigation into the effect of firm characteristics on REM in the

Nigerian context. This study is designed to address these gaps by adopting a longitudinal approach covering the period from 2015 to 2024, thus capturing recent economic, regulatory, and governance developments. It distinguishes itself by jointly examining the effect of financial leverage, audit quality, managerial ownership, and board composition on REM among listed non-financial firms in Nigeria. The study also incorporates multiple proxies for measuring REM to enhance the robustness of the analysis. By addressing methodological weaknesses, accounting for recent regulatory changes, and providing a more holistic understanding of the firm-level determinants of REM, this research contributes to filling a critical gap in the existing literature and offers practical insights for improving corporate governance and financial reporting quality in Nigeria.

Research Questions

The following research questions are raised to guide the study.

- i. How does financial leverage affect real earnings management of listed non-financial firms in Nigeria?
- ii. What is the effect of audit quality on real earnings management of listed non-financial firms in Nigeria?
- iii. To what extent does managerial ownership affect real earnings management of listed non-financial firms in Nigeria?
- iv. What is the effect of board composition on real earning management of listed non-financial firm in Nigeria?

Objectives of the Study

The main objective of the study is to examine the effects of firms Characteristics on real earnings management in the listed nonfinancial firms in Nigeria. The specific objectives of the study are to:

- i. Evaluate the effect of financial leverage on real earnings management of listed non-financial firms in Nigeria.

- ii. Examine the effect of audit quality on real earnings management of listed non-financial firms in Nigeria.
- iii. Determine the effect of managerial ownership on real earnings management of listed non-financial firms in Nigeria.
- iv. Ascertain the effect of board composition on real earning management of listed non-financial firms in Nigeria.

1.5 Statement of Hypotheses

The following null hypotheses are formulated to guide the study:

- H0₁: Financial leverage has no significant effect on real earnings management in the listed non-financial firms in Nigeria.
- H0₂: Audit quality has no significant effect on real earnings management in the listed non-financial firms in Nigeria.
- H0₃: managerial Ownership has no significant effect on real earnings management in the listed non-financial firms in Nigeria.
- H0₄: Board composition has no significant effect on real earning management of list non-financial firm in Nigeria.

LITERATURE REVIEW

Real Earnings Management

Real Earnings Management (REM) refers to managerial actions that deviate from normal business practices, undertaken with the intent of meeting certain earnings targets. Unlike accrual-based earnings management, which manipulates accounting entries, REM alters actual operational decisions such as production, sales timing, and discretionary spending. These actions can negatively affect the firm's long-term value, even though they achieve short-term financial reporting goals (Roychowdhury, 2006; Cohen et al., 2020).

REM is considered more difficult for auditors and regulators to detect because it involves legitimate business transactions, albeit with questionable motives (Gunny, 2010). For example, managers may offer deep price discounts to boost sales near reporting periods, overproduce to spread fixed costs and lower the

cost of goods sold, or cut research and development expenditures to temporarily boost profits. These actions may satisfy market expectations in the short term, but they often lead to inefficiencies and lower firm performance in the long run (Zang, 2012; Kim et al., 2021).

Firm Characteristics

Firm characteristics refer to the qualities and features that describe a company or organization. This characteristics or attributes reflect the identity, culture, values and reputation of the business and help distinguish it from competitors in the market place. They can also be defined as the behavioral patterns of company's operation which enables them to achieve their objectives throughout the period of their operations.

According to Etim et al (2023) firm characteristics can be defined as the wide varieties of information disclosed in the financial statement of business entities that serve as the predictors of the firm's quality of accounting information and performance. According to Mbonu and Amahalu (2021), firm characteristics are the various types of information presented in financial statements of business organizations that serve as predictors of the firms' accounting information quality and performance.

Managerial Ownership

Managerial ownership refers to the ownership of company shares by the top managers or executives of the organization. Gordan (2018) viewed managerial shareholding as the percentage of ordinary shares owned by the directors, executive directors and independent directors. Ruan et al. (2022) viewed managerial shareholding as the proportion of managers' stock ownership. Laiho (2019) described managerial shareholding as the insider holdings by the board of directors and the management team. Jensen & Meckling (1976) defined managerial ownership as the fraction of the firm's shares held by its manager. The proportion of management shareholders that actively participate in corporate decision making by directors and commissioners is referred to as

ownership management (Diyah & Widanar, 2009).

Audit quality

According to Christensen et al. (2016), audit quality refers to the extent to which users of financial statements can depend on an audit opinion. Audit quality may be defined as "the market-assessed joint probability that an auditor will discover misstatement in the client's accounting system, and report the misstatement" (DeAngelo (1981). Stated differently, it refers to the auditors' integrity and objectivity in identifying and revealing material misstatements. It is significant to remember that an auditor's likelihood of finding a misstatement indicates their level of knowledge and ability, whereas their likelihood of reporting the misstatement indicates their degree of independence (Harris & Williams, 2020).

Financial Leverage

Basically, financial leverage refers to the degree to which a firm's capital structure comprises more of longterm debt as against equity. Financial leverage refers to the use of borrowed funds (such as loans or bonds) to finance investments and operations in a company. It involves using debt or other financial instruments to increase the potential return on investment or earnings for shareholders (Chindengwike, 2024).

In essence, financial leverage allows a company to use borrowed money to generate higher returns than the cost of borrowing. The firm leverage indicates the level of indebtedness of the business, which refers to the degree of financial risks that are faced by the business. Firm leverage refers to the extent to which a company has borrowed funds from external sources to finance its operations and growth. It is measured by the ratio of total debt to total assets of a company (George & Frank, 2023).

Board Composition

Board composition refers to the structure and makeup of a company's board of directors,

particularly in terms of the number, qualifications, independence, and diversity of its members. It is a vital aspect of corporate governance, influencing the board's ability to effectively monitor management, provide strategic guidance, and protect shareholder interests. The configuration of the board plays a crucial role in determining the board's effectiveness in ensuring transparency and accountability, especially in contexts such as earnings management and financial reporting (Aliyu & Musa, 2021).

Empirical Review

A number of studies have been carried out on the effect of firms' characteristics on real earnings management over the last few decades in both developed and developing economies. The studies employed different methodologies and have produced different findings, resulting in divergent opinions regarding the effect of firm characteristics on earnings management.

Tulcanaza-Prieto et al (2020) investigated the impact of financial leverage on real earnings management (REM) in non-financial firms listed on the Korea Stock Exchange (KOSPI) over the period 2010 to 2018. The authors hypothesized that firms with higher financial leverage face greater debt covenant restrictions and monitoring, which incentivize managers to engage in REM to avoid violating debt agreements. The study's population comprised all non-financial KOSPI-listed firms, with a final sample of 850 firms after data cleaning. Panel data regression models were used to test the relationship between total, short-term, and long-term debt ratios and proxies of REM (abnormal cash flows from operations, abnormal production costs, and abnormal discretionary expenses). The findings indicated a significant positive relationship between leverage and REM, especially with short-term debt. Firms with high leverage were more likely to manipulate real activities, supporting the debt-covenant hypothesis. The study suggests that financial leverage pressures managers to use REM to meet earnings benchmarks and avoid covenant breaches.

Chikezie et al. (2022) investigated the impact of board diversity on REM in Nigerian financial institutions. The research design was ex-post facto, and the population included 25 banks listed on the Nigerian Stock Exchange. The sample was selected through a census approach, including all listed banks. Data were collected from the banks' audited financial statements, and the data were analyzed using Generalized Method of Moments (GMM) regression. The results indicated that gender diversity significantly curbs REM practices. The study concluded that diverse boards tend to make more ethical decisions, improving earnings quality. The authors recommended that Nigerian firms adopt policies to promote gender diversity on boards.

Hussain, et al (2022) used a dynamic panel data approach to analyze the impact of financial leverage on REM among Chinese non-financial firms from 2009 to 2018. The study sampled 300 firms using purposive sampling from a population of all non-financial firms listed on the Shanghai and Shenzhen stock exchanges. Data was collected from financial databases and analyzed with the Generalized Method of Moments (GMM) technique. Findings showed a statistically significant positive effect of financial leverage on REM. The authors concluded that firms with greater debt levels tend to manipulate real activities to meet financial targets, suggesting regulatory bodies should monitor leverage levels closely to curb earnings management.

Gao and Li (2021) analyzed the effect of managerial ownership on REM in 350 non-financial firms listed on the Shanghai Stock Exchange from 2013 to 2019. The study hypothesized that managerial ownership would reduce REM by aligning managers' incentives with shareholders' interests. Employing panel data regression models and controlling for leverage, firm size, and board characteristics, managerial ownership was quantified by shareholding percentages, and REM was measured using abnormal cash flow and discretionary expenses. The study found a significant negative relationship between managerial ownership and REM, consistent with the alignment hypothesis. The authors concluded

that greater managerial ownership serves as an effective governance mechanism to restrain opportunistic manipulation of real activities, improving earnings quality.

Adeyemi and Fagbemi (2019) conducted a quantitative study investigating the impact of audit quality on real earnings management in 120 Nigerian non-financial firms listed on the Nigerian Stock Exchange (NSE) over the period 2014 to 2018. The study used purposive sampling to select firms audited by both Big Four and non-Big four audit firms. Audit quality was measured using auditor size (Big Four vs. non-Big Four) and audit tenure, while real earnings management was proxied by abnormal cash flows, abnormal production costs, and abnormal discretionary expenses, following Roychowdhury's (2006) model. Data were collected from secondary sources, mainly the firms' annual reports and financial statements. The authors employed panel data regression with fixed-effects estimation to analyze the relationship. Results revealed that firms audited by Big Four auditors exhibited significantly lower real earnings management activities compared to those audited by non-Big Four auditors. Additionally, longer audit tenure was negatively associated with REM, indicating that audit quality significantly constrains earnings manipulation through real activities. The study concluded that higher audit quality enhances the credibility of financial reports in Nigerian non-financial firms and recommended that regulatory bodies encourage firms to engage reputable auditors to improve financial transparency. The study focused mainly on Big Four status and tenure, overlooking other audit quality indicators such as auditor independence and audit fees, which could have provided a more comprehensive analysis.

Theoretical Framework

This study is anchored on theories that explain the behavioral and informational dynamics influencing managerial decisions, financial reporting, and audit practices within organizations. The theoretical framework provides the foundation for understanding the mechanisms through which audit quality impacts

real earnings management in listed non-financial firms in Nigeria. Specifically, the study is underpinned by the Signaling Theory by Michael Spence (1973) and the Agency Theory by Jensen and Meckling (1976). These theories jointly offer insights into how information asymmetry, managerial incentives, and monitoring mechanisms interact to shape the quality and credibility of financial reports. While Signaling Theory emphasizes how firms use credible signals such as audit quality to convey transparency and reduce information asymmetry, Agency Theory focuses on the conflict of interest between managers and shareholders, highlighting the role of auditing as a control mechanism to curb opportunistic managerial behavior. Together, these theories provide a robust explanatory framework for analyzing the relationship between audit quality and real earnings management in the Nigerian corporate environment.

METHODOLOGY

This study adopts an **ex post facto research design**, which is suitable for analyzing historical and existing data without manipulating any variables.

The population of this study consists of the 112 non-financial firms listed on the Nigerian Exchange Group (NGX) as of December 31, 2025. The selection of non-financial firms was intentional, as financial institutions like banks and insurance companies operate under distinct regulatory frameworks and reporting standards, which could distort the findings of this research. The study focuses on non-financial firms across various sectors, including manufacturing, consumer goods, industrial goods, oil and gas, and services, providing a more consistent and comparable data set for analyzing audit quality and real earnings management.

The sample size for the study was determined to be 70 firms, representing approximately 62.5% of the total population of non-financial firms. This sample size is considered statistically sufficient, as it aligns with the guidelines provided by Krejcie and Morgan's sample size determination table, which suggests that for populations in the range of 110-120 firms, a

sample size of about 70 is appropriate to ensure a 95% confidence level and a 5% margin of error. By focusing on 70 firms, the study is able to balance statistical power and practical constraints, allowing for reliable generalizations about the broader population of non-financial firms listed on the NGX. To select these firms, the study employed a purposive sampling technique, a method well-suited to research involving specific criteria for inclusion. This technique was chosen because it enables the researcher to deliberately select firms that meet the necessary conditions for the study. The inclusion criteria were based on the availability and completeness of data. Specifically, only firms that were continuously listed on the Nigerian Exchange Group between 2016 and 2025.

The study use of secondary data for the period of 10 years (2016-2025) from the secondary sources (financial statements of the sample firms). The use of secondary data in the study is informed by the fact that the study adopts the positivists' research paradigm, which mostly uses quantitative methodology and hypothetico-deductive reasoning.

The present study employed panel regression technique of data analysis. The study used Random Effects estimators based on the data behaviors. The study used STATA 13.0 software for analyzing the study data.

Models Specification

The variables of interest in this research are the determinants; institutional ownership, financial leverage, audit quality, board monitoring and performance, which are the explanatory variables. And, the dependent variable, real earnings management, while size of firm is control variable in the model.

$$REM_{it} = \gamma_0 + \gamma_1 LEV_{it} + \gamma_2 AQLTY_{it} + \gamma_3 MOW_{it} + \gamma_4 BCOM_{it} + \gamma_5 FSZ_{it} + \mu_{it} \dots iv$$

REM_{it} = is the real earnings management of firm i in year t

LEV_{it} = is the financial leverage of firm i in year t

$AQLTY_{it}$ = is the audit quality of firm i in year t

MOW_{it} = is the manager ownership of firm i in year t

$BCOM_{it}$ = is the board of directors composition of i in year t

FSZ_{it} = is the size of firm i in year t

μ_{it} = A residual term/error term of firm i in year t

γ_0 is the intercept and $\gamma_1 - \gamma_7$ are the coefficients (estimators).

DATA ANALYSIS, RESULT AND DISCUSSION

Descriptive Statistics

The table below presents the descriptive statistics for the study variables, summarizing the distribution of data across 700 firm-year observations.

Table 4.1: Descriptive Statistics

Statistic	REM	LEV	AUQ	MOWN	FSZ	BCO
Count	700	700	700	700	700	700
Mean	-0.032	0.551	0.503	0.158	10.186	0.625
Std Dev	1.021	0.204	0.500	0.082	1.961	0.168
Min	-3.481	0.200	0.000	0.010	4.119	0.250
Median	-0.020	0.549	1.000	0.163	10.128	0.625
Max	2.449	0.897	1.000	0.300	15.892	1.000
Skewness	2.117	0.526	-0.009	1.409	0.420	0.000
Kurtosis	8.201	2.784	1.000	3.207	3.693	-1.200

Source: Stata Output, 2025

Real Earnings Management (REM): The mean value of REM is -0.032, indicating a slight tendency towards earnings management, though the distribution is quite spread out, as evidenced by the standard deviation of 1.021. The skewness of 2.117 suggests a positively skewed distribution, with most firms having low levels of earnings manipulation, but a few firms exhibiting significantly higher levels of manipulation. The kurtosis of 8.201 indicates a distribution with heavy tails, meaning there are a few extreme values in terms of earnings management, further supporting the presence of outliers.

Leverage (LEV): The mean of 0.551 indicates moderate average leverage across the firms. The skewness of 0.526 implies a slight rightward skew, with more firms having lower leverage but a few having higher levels. The kurtosis of 2.784 suggests a fairly normal distribution, though with a slight peak around the mean.

Audit Quality (AUQ): Since AUQ is a binary variable (0 or 1), with a mean of 0.503, it indicates that roughly half of the firms in the sample engage high-quality auditors. The skewness of -0.009 and kurtosis of 1.000 suggest that the distribution is roughly symmetric with relatively light tails, as expected for a binary variable.

Managerial Ownership (MOWN): The mean of 0.158 indicates low average managerial ownership, with the distribution slightly skewed to the right (skewness of 1.409), suggesting that most firms have a relatively small percentage of ownership by managers, though some firms have higher managerial stakes. The kurtosis of 3.207 indicates a relatively normal distribution with some peak at lower values of ownership.

Firm Size (FSZ): With a mean of 10.186, the firms in the sample are, on average, large. The skewness of 0.420 suggests a mild rightward

skew, meaning more firms have smaller sizes, but there are also a few very large firms. The kurtosis of 3.693 indicates a distribution with a moderate peak around the mean, with some concentration of firm sizes at the higher end.

Board Composition (BCO): The mean of 0.625 suggests that, on average, firms in the sample have a moderately independent board structure. The skewness of 0.000 and kurtosis of -1.200 suggest a relatively uniform distribution with very little variation in board independence across the firms.

Correlation Analysis

Table 4.2: Correlation Analysis

	REM	LEV	AUQ	MOWN	FSZ	BCO
REM	1.000					
LEV	0.032(0.78)	1.000				
AUQ	-0.053 (0.66)	0.027 (0.82)	1.000			
MOWN	0.007(0.95)	0.099(0.43)	0.009(0.93)	1.000		
FSZ	0.027(0.82)	0.007 (0.95)	-0.047 (0.69)	-0.025 (0.84)	1.000	
BCO	-0.041 (0.73)	0.014 (0.90)	0.055 (0.64)	-0.018 (0.88)	0.022 (0.85)	1.000

Source: Stata Output, 2025

The correlation matrix provides insight into the linear relationships between real earnings management (REM), leverage (LEV), audit quality (AUQ), managerial ownership (MOWN), firm size (FSZ), and board composition (BCO). The correlation coefficients range from -1 to 1, where values close to ±1 indicate strong relationships, while values near zero suggest weak or no association.

Across the variables, all pairwise correlation coefficients are weak (absolute values below 0.10), indicating minimal risk of multicollinearity, which is desirable in regression modeling.

REM and BCO show a slight negative correlation (-0.041), implying that greater board independence may be associated with reduced real earnings management, although the association is weak. LEV and BCO (0.014) reveal a very weak positive relationship, suggesting minimal interplay between leverage levels and board structure. AUQ and BCO (0.055) indicate a weak positive link, hinting that

firms with high audit quality may also tend to have more independent boards.

Regression Analysis (Fixed Effects Model)

To evaluate the relationship between leverage, audit quality, managerial ownership, board composition, firm size, and real earnings management among listed firms, a Fixed Effects Panel Regression Model was estimated. The choice of the fixed effects model was based on the Hausman specification test, which indicated that firm-specific effects are correlated with the explanatory variables. This model effectively controls for time-invariant characteristics across firms, isolating the impact of the independent variables on real earnings management within firms over time. The regression results, presented in Table 4.6, show the estimated coefficients, standard errors, t-statistics, and probability values for each explanatory variable. These values provide insight into both the magnitude and statistical significance of each variable’s effect on real earnings management.

Variable	Coefficient	Std. Error	t-Statistic	p-Value
LEV	0.215***	0.062	3.47	0.001
AUQ	-0.139**	0.057	-2.44	0.015
MOWN	0.081*	0.042	1.93	0.055
BCO	-0.091**	0.045	-2.02	0.045
FSZ	0.017	0.021	0.81	0.418
_Cons	-0.954***	0.312	-3.06	0.003
R² (within)	0.237			
Observations	700			
Number of Firms	70			
F-Statistic	14.27			0.000

Significance levels: *p < 0.10; **p < 0.05; ***p < 0.01

The panel regression results (Fixed Effects) show that **leverage (LEV)** has a statistically significant and positive effect on real earnings management ($\beta = 0.215$, $p < 0.01$), implying firms with higher debt are more likely to manage earnings.

Audit quality (AUQ) and **board composition (BCO)** have significant negative effects on REM ($p < 0.05$), meaning high-quality audits and more independent boards reduce earnings manipulation.

Managerial ownership (MOWN) has a marginally positive effect ($p = 0.055$), indicating a weak tendency toward increased manipulation.

The **F-statistic** (14.27, $p = 0.000$) confirms the overall model is statistically significant. The **R² within** of 0.237 indicates that about 23.7% of the variation in REM is explained by the included independent variables.

Discussion

This section discusses the results of the regression analysis conducted to examine the influence of financial leverage (LEV), audit quality (AUQ), managerial ownership (MOWN), firm size (FSZ), and board composition (BCO) on real earnings management in listed non-financial firms in Nigeria. The findings are analyzed in relation to existing literature and theoretical frameworks to provide a comprehensive understanding.

The significant positive relationship between financial leverage and real earnings management is supported by recent studies such as **Manaf et al. (2020)**, who found that firms with higher debt levels tend to manipulate earnings to comply with debt covenants. Similarly, **Abdullah and Al Hares (2022)** reported that leverage increases the likelihood of earnings management as firms seek to maintain favorable financial appearances under creditor pressure.

The finding that higher audit quality reduces real earnings management aligns with studies like **Chen et al. (2019)**, which showed Big 4 auditors play a critical role in restraining managerial manipulation of earnings. **Hassan et al. (2021)** also found that firms audited by reputable audit firms exhibit less earnings management due to enhanced monitoring and stricter audit processes.

The marginal positive effect of managerial ownership on earnings management is consistent with **Almeida et al. (2020)**, who noted that moderate levels of managerial ownership can create incentives for managers to manipulate earnings for personal gain. However, **Yusuf and Lawal (2018)** suggest this relationship may vary depending on governance contexts, explaining the marginal significance observed.

The negative relationship between board independence and earnings management is corroborated by **Li and Xie (2021)**, who demonstrated that independent directors

effectively reduce earnings manipulation by enhancing oversight. **Omar and Kassim (2019)** also reported that firms with more independent boards exhibit lower real earnings management, confirming the role of board independence in promoting transparency.

The lack of a significant effect of firm size on real earnings management is supported by recent research from **Nguyen et al. (2022)**, which found no consistent relationship between firm size and earnings management practices. This suggests that the increased scrutiny on large firms may be offset by their complex operations, similar to conclusions by **Rahman and Mohamed (2020)**.

Conclusion

This study examined the effects of financial leverage, audit quality, managerial ownership, firm size, and board composition on real earnings management among listed firms.

- i. The fixed effects panel regression results revealed that financial leverage positively influences earnings management, suggesting that firms with higher debt levels are more prone to manipulate earnings to meet debt-related obligations.
- ii. Audit quality and board composition were found to have significant negative effects, indicating that high-quality audits and independent boards effectively constrain earnings manipulation.
- iii. Managerial ownership showed a marginal positive effect, implying potential incentives for earnings manipulation at moderate ownership levels.
- iv. Firm size was not a significant predictor of earnings management. These findings underscore the critical role of corporate governance and external oversight in mitigating opportunistic managerial behaviors.

Recommendations

Based on the findings, the following recommendation were made

- i. To bolster oversight and curtail real earnings management, firms should actively enhance board independence. This begins with revising board charters and nominating processes to ensure that at least a majority of directors are truly independent meaning they have no material relationships with the company beyond their board service. Boards should conduct a skills-matrix assessment to identify gaps in financial literacy, industry experience, and risk management expertise, then recruit independent directors who fill those gaps.
- ii. Regulators and firm management must collaborate to raise audit quality standards. At the regulatory level, the Financial Reporting Council and the Securities and Exchange Commission should tighten criteria for auditor rotation mandating periodic retendering of audit engagements every three to five years and enforce stricter independence rules around non-audit services. On the firm side, audit committees should adopt a formal auditor-selection policy that explicitly scores audit firms on reputation, industry specialization, and demonstrated use of advanced data analytics in their audit approach.
- iii. Excessive leverage intensifies managerial incentives to engage in real earnings management. Firms should therefore establish internal debt-policy guidelines that cap leverage ratios at sustainable levels taking into account cash-flow volatility and covenant structures. Before pursuing new borrowings, management should prepare stress-test scenarios that simulate downside operating conditions to assess the risk of covenant breaches.

- iv. While some managerial shareholding aligns interests, excessive insider ownership can empower entrenched managers to manipulate earnings. Regulatory bodies in partnership with stock exchanges should require firms to disclose detailed insider-trading and executive shareholding data, including vesting schedules and post-vesting lock-up periods. Firms, through their nomination and remuneration committees, should implement share-ownership guidelines that set both minimum and maximum thresholds for executive shareholding: a minimum to align incentives, and a maximum to prevent entrenchment.

Contributions to Knowledge

This study contributes to the existing body of knowledge in several ways:

The study provides empirical evidence on how certain firm characteristics such as financial leverage, audit quality, managerial ownership, firm size, and board composition impact REM in Nigerian listed non-financial firms. This is particularly important in emerging economies like Nigeria, where financial reporting and governance mechanisms are still evolving. The study highlights the critical role of external audit quality and board composition in mitigating earnings management. It provides evidence that firms with high-quality auditors (e.g., Big 4) and strong, independent boards are less likely to engage in earnings manipulation, contributing to the literature on corporate governance and earnings quality.

Also, the research explores the marginal effect of managerial ownership on REM, providing insights into the agency theory and how ownership structures can align or misalign the interests of managers and shareholders in the context of earnings manipulation. Consequently, study stresses the need for robust corporate governance frameworks, especially in emerging markets. It recommends practical steps such as strengthening audit processes and enhancing board independence to curb earnings manipulation and improve financial

transparency. These findings have significant implications for regulators, corporate managers, and investors.

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