



DO AUDIT COMMITTEES CONSTRAIN EARNINGS MANAGEMENT? EVIDENCE FROM ACCRUAL-BASED AND REAL ACTIVITIES MANIPULATION IN NIGERIA

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Abstract

This study examines whether audit committee characteristics effectively constrain earnings management in an emerging market context, Department of Accounting and Finance, Faculty of Management and Social Sciences, Kwara State University, Malete distinguishing between accrual-based earnings management and real earnings management through production and cash flow channels. Using a panel of Nigerian listed non-financial firms over the period 2008–2019, the study adopts a dynamic panel estimation framework to address persistence and endogeneity concerns inherent in corporate governance research. Earnings management is measured using established proxies for discretionary accruals and real activities manipulation, while audit committee effectiveness is captured through measures of independence, size, expertise, and meeting frequency. The results reveal a clear asymmetry in governance effectiveness. Audit committee attributes are significantly associated with lower accrual-based earnings management, consistent with their role in monitoring financial reporting and accounting discretion. In contrast, audit committee characteristics exhibit weak and inconsistent associations with real earnings management, particularly with respect to abnormal production costs and abnormal operating cash flows. These findings suggest that while audit committees are effective in constraining accounting-based manipulation, they are considerably less effective in limiting operational forms of earnings management that are embedded in real business decisions. The evidence suggests that governance reforms and enhanced reporting standards may reduce accrual manipulation but do not eliminate earnings management, instead allowing a shift toward manipulation of real activities. The findings carry important implications for regulators, auditors, and investors, highlighting the need for governance mechanisms that extend beyond financial reporting oversight to address operational sources of earnings manipulation.

Keywords: Audit committee; earnings management; real earnings management; accruals; corporate governance; Nigeria.

1. Introduction

Earnings management continues to attract sustained attention in accounting and corporate governance research because of its implications for financial reporting quality, investor protection, and the efficient allocation of capital. Prior literature

distinguishes between accrual-based earnings management (AEM), which relies on accounting discretion within reporting standards, and real earnings management (REM), which involves altering underlying operational activities such as production, sales timing, and discretionary expenditures to influence reported earnings (Healy &

Wahlen, 1999; Roychowdhury, 2006; Dechow, Ge, & Schrand, 2010). While AEM affects reported numbers without necessarily changing real cash flows, REM can impose substantial economic costs by distorting firms' operating decisions and weakening future performance (Gunny, 2010; Vorst, 2016). This distinction is central to understanding how governance mechanisms shape managerial behaviour.

Among internal governance mechanisms, the audit committee plays a critical monitoring role by overseeing the financial reporting process, engaging with external auditors, and ensuring the integrity of internal controls. Agency theory predicts that effective audit committee monitoring reduces managerial opportunism by increasing the probability of detection and sanction (Jensen & Meckling, 1976; Klein, 2002). Empirical evidence from developed markets generally supports this view for accrual-based earnings management, showing that audit committee independence, expertise, and diligence are associated with higher reporting quality (Klein, 2002; García-Meca & Sánchez-Ballesta, 2009; Habib & Bhuiyan, 2016). However, whether audit committees are equally effective in constraining real earnings management remains an open and contested question.

A growing body of literature suggests that tighter accounting regulation and enhanced monitoring may unintentionally shift earnings management from accruals toward real activities, rather than eliminating manipulation altogether (Cohen, Dey, & Lys, 2008; Zang, 2012; Ippino & Parbonetti, 2017). Because audit committees are primarily designed to monitor accounting judgments

and compliance with reporting standards, their effectiveness may be stronger for accrual manipulation than for REM, which is embedded in operational decisions and is harder to detect *ex ante*. Recent studies provide mixed evidence on this issue, particularly in emerging markets where enforcement mechanisms are weaker and institutional constraints differ markedly from those in developed economies (Leuz, Nanda, & Wysocki, 2003; Habib, Hasan, & Wu, 2020).

This study examines these issues in the context of Nigeria's listed non-financial firms, an emerging market that offers a particularly informative institutional setting. Nigeria adopted International Financial Reporting Standards (IFRS) for publicly listed firms in 2012, a reform aimed at enhancing transparency, comparability, and reporting quality (Okafor, Anderson, & Warsame, 2016). At the same time, Nigeria's corporate governance framework places an explicit emphasis on audit committee oversight, including requirements for independence and financial expertise. Despite these reforms, concerns persist regarding earnings quality, enforcement capacity, and the effectiveness of internal monitoring mechanisms (Arowoshegbe & Uniamikogbo, 2016; Ofoegbu & Odoemelum, 2018). These features make Nigeria a compelling laboratory for examining whether audit committees constrain earnings management, and whether their effectiveness differs across AEM and REM channels.

Although prior Nigerian studies document associations between corporate governance attributes and accrual-based earnings

management, evidence on real earnings management remains limited and fragmented, with few studies jointly examining production-based and cash-flow-based manipulation (Dabor & Tijjani, 2010; Umoren & Enang, 2015). Moreover, the existing literature rarely adopts a dynamic framework that accounts for persistence in earnings management behaviour and potential endogeneity between governance structures and reporting incentives. This study addresses these gaps by jointly analysing accrual-based earnings management and multiple REM channels within a dynamic panel setting.

Specifically, the paper investigates three interrelated research questions. First, do audit committee characteristics constrain accrual-based earnings management among Nigerian non-financial firms? Second, are the same audit committee attributes effective in limiting real earnings management, both in aggregate and through abnormal production costs and abnormal operating cash flows? Third, does the effectiveness of audit committee monitoring differ across Nigeria's evolving reporting environment following the adoption of IFRS?

Using a panel of listed Nigerian non-financial firms covering the period 2008–2019, the study employs established proxies for AEM and REM following Jones (1991), Kothari, Leone, and Wasley (2005), and Roychowdhury (2006). The analysis employs a dynamic panel estimation strategy to address concerns about persistence and endogeneity, which are well-documented in governance research (Wintoki, Linck, & Netter, 2012). The sample period ends in 2019 to avoid contamination from the

COVID-19 pandemic, which introduced extraordinary economic disruptions, regulatory forbearance, and firm-level shocks that fundamentally altered earnings management incentives and governance effectiveness, potentially confounding inference.

The findings indicate that audit committee attributes are more effective in constraining accrual-based earnings management than real earnings management, consistent with the view that governance mechanisms designed around financial reporting have limited reach over operational manipulation. By distinguishing between earnings management channels and situating the analysis within an emerging-market governance framework, this study makes a significant contribution to the literature on audit committees, earnings quality, and institutional effectiveness. The results have important implications for regulators and standard-setters, suggesting that improving earnings quality requires complementary tools beyond traditional audit committee oversight, particularly to address the manipulation of real activities.

2. Literature Review and Hypothesis Development

2.1 Earnings Management: Accrual-Based versus Real Activities Manipulation

Earnings management broadly refers to managerial actions that influence reported earnings to achieve private objectives, potentially at the expense of reporting quality and economic efficiency (Healy & Wahlen, 1999). The literature distinguishes between accrual-based earnings management (AEM)

and real earnings management (REM). AEM operates through accounting discretion, such as estimates, provisions, and timing of recognition, without necessarily altering firms' underlying operations. In contrast, REM involves deviations from optimal business practices, including sales manipulation, overproduction, and discretionary expenditure cuts, undertaken to influence reported performance (Roychowdhury, 2006).

This distinction has important implications. While accrual manipulation affects reported numbers, real earnings management directly impacts cash flows, production efficiency, and future profitability, often resulting in longer-term economic costs (Gunny, 2010; Vorst, 2016). As a result, regulators and scholars increasingly view REM as a more severe and welfare-reducing form of earnings management. Dechow, Ge, and Schrand (2010) emphasise that constraints on accrual discretion, through standards or governance, may not eliminate manipulation but instead reallocate it toward real activities, where detection is more difficult and enforcement weaker.

Empirical evidence supports this substitution view. Studies document that tighter reporting regimes and enhanced scrutiny reduce AEM while coinciding with increased REM, particularly around regulatory shocks (Cohen, Dey, & Lys, 2008; Zang, 2012; Ippino & Parbonetti, 2017). These findings suggest that governance mechanisms should be evaluated across multiple earnings management channels rather than focusing exclusively on accrual-based measures.

2.2 Audit Committees as a Corporate Governance Mechanism

Audit committees are a central component of modern corporate governance frameworks, tasked with overseeing the integrity of financial reporting, internal controls, and the external audit process. Agency theory predicts that audit committees mitigate managerial opportunism by strengthening monitoring and reducing information asymmetry between managers and shareholders (Jensen & Meckling, 1976). Prior research identifies several audit committee attributes, most notably independence, financial expertise, size, and meeting frequency, as key determinants of monitoring effectiveness.

Empirical evidence from developed markets generally supports the monitoring role of audit committees in constraining accrual-based earnings management. Klein (2002) finds that audit committee independence is associated with lower abnormal accruals, while García-Meca and Sánchez-Ballesta (2009), in a meta-analysis, report a robust negative relationship between audit committee effectiveness and earnings manipulation. Audit committee expertise and diligence have similarly been linked to improved reporting quality and reduced accrual discretion (Krishnan & Visvanathan, 2008; Badolato, Donelson, & Ege, 2014).

However, these findings are not universal. Evidence from emerging markets is more mixed, reflecting differences in enforcement strength, legal protection, and institutional quality (Leuz, Nanda, & Wysocki, 2003; Habib, Hasan, & Wu, 2020). In weaker enforcement environments, formal governance structures may exist but operate

with limited effectiveness, raising questions about whether audit committees can meaningfully constrain earnings management in practice.

2.3 Audit Committees and Accrual-Based Earnings Management

The majority of empirical studies examining audit committees focus on earnings management through accruals. Within this literature, audit committee independence is consistently identified as a key factor limiting accrual manipulation, as independent members are more likely to challenge aggressive accounting choices and support auditors in enforcing conservative reporting (Klein, 2002; Xie, Davidson, & DaDalt, 2003).

Audit committee financial expertise further enhances this monitoring role by improving members' ability to understand complex accounting issues and identify opportunistic accrual adjustments (Dhaliwal, Naiker, & Navissi, 2010). Similarly, audit committee meeting frequency is often interpreted as a proxy for diligence, with more active committees better positioned to scrutinise management behaviour.

Evidence from Nigeria broadly aligns with these findings but remains limited in scope. Existing studies generally document a negative association between audit committee effectiveness and discretionary accruals, although results vary across specifications and samples (Dabor & Tijjani, 2010; Arowoshegbe & Uniamikogbo, 2016; Ofoegbu & Odoemelam, 2018). Importantly, these studies rarely account for dynamics or endogeneity, and they almost exclusively focus on accrual-based measures, leaving

open the question of whether audit committees constrain alternative manipulation channels.

2.4 Audit Committees and Real Earnings Management

Compared with AEM, the literature on audit committees and real earnings management is considerably thinner and more inconclusive. Conceptually, audit committees may be less effective in constraining REM because real activities manipulation occurs through operational decisions, such as production scheduling, pricing, or cost management, that fall outside traditional financial reporting oversight (Roychowdhury, 2006; Zang, 2012).

Empirical studies provide mixed evidence. Some research suggests that stronger governance reduces certain forms of REM (Cheng, Warfield, & Ye, 2011), while other studies find little or no association between audit committee characteristics and real activities manipulation (Cohen et al., 2008; Ipino & Parbonetti, 2017). This inconsistency has been attributed to differences in institutional settings, measurement choices, and the relative costs of AEM versus REM.

In emerging markets, the effectiveness of audit committees in constraining REM may be particularly limited. Weak enforcement, concentrated ownership, and limited transparency can reduce the ability of audit committees to detect operational manipulation, even when formal governance structures are in place (Leuz et al., 2003; Habib et al., 2020). Nigerian evidence on this issue is scarce, and to the best of our knowledge, no study systematically examines audit committee attributes across

multiple REM channels, such as abnormal production costs and abnormal operating cash flows, within a unified framework.

2.5 Institutional Context: Nigeria, IFRS Adoption, and Governance Effectiveness

Nigeria's corporate reporting environment underwent a significant transformation with the mandatory adoption of IFRS for listed firms from 2012. IFRS adoption aimed to enhance transparency, comparability, and investor confidence, and prior studies report improvements in certain aspects of reporting quality following adoption (Okafor, Anderson, & Warsame, 2016). However, IFRS primarily constrains accounting choices and may therefore be more effective in limiting AEM than REM.

This raises the possibility that strengthened reporting standards and audit committee oversight may shift earnings management toward real activities, rather than eliminate it. Such dynamics are particularly relevant in Nigeria, where enforcement capacity remains uneven, and firms may face strong incentives to meet performance benchmarks in volatile economic conditions. Understanding how audit committees operate across these channels is therefore crucial for evaluating the genuine effectiveness of governance reforms.

2.6 Hypothesis Development

Drawing on the theoretical and empirical literature, this study develops the following testable hypotheses:

H1: Audit committee effectiveness is negatively associated with accrual-based earnings management among Nigerian non-financial firms.

H2: Audit committee effectiveness has a weaker or insignificant association with real earnings management relative to accrual-based earnings management.

H3: The association between audit committee effectiveness and earnings management differs across earnings management channels, reflecting substitution from accrual-based to real activities manipulation.

By integrating accrual-based and real earnings management within a dynamic framework and an emerging-market institutional setting, this study extends the governance literature beyond narrow accrual-based analyses, providing a more comprehensive assessment of audit committee effectiveness.

3. Methodology

3.1 Research Design

This study adopts a quantitative, panel-data research design to examine the relationship between audit committee characteristics and earnings management among Nigerian listed non-financial firms. Consistent with the theoretical framework developed in Section 2, the analysis explicitly distinguishes between accrual-based earnings management (AEM) and real earnings management (REM), recognising that these channels differ in nature, detectability, and economic consequences.

A dynamic panel approach is employed to account for the persistence of earnings management behaviour over time and to address endogeneity concerns inherent in corporate governance research. Prior studies document that firms' earnings management strategies are path-dependent and that

governance structures may be shaped by past reporting behaviour, creating simultaneity and reverse causality (Wintoki, Linck, & Netter, 2012). Failing to consider these features may bias the inference regarding audit committee effectiveness.

3.2 Sample Selection and Data Sources

The sample comprises non-financial firms listed on the Nigerian Exchange Group (NGX) from 2008 to 2019. Financial firms are excluded due to their distinct regulatory environment, accounting rules, and governance structures, which are not directly comparable to those of non-financial firms.

The sample period begins in 2008 to ensure sufficient pre-IFRS observations and ends in 2019 to avoid contamination from the COVID-19 pandemic, which introduced extraordinary economic disruptions, regulatory forbearance, and abnormal firm behaviour that could confound the relationship between audit committee monitoring and earnings management. Restricting the analysis to the pre-pandemic period ensures that the estimated relationships reflect normal operating and governance conditions rather than crisis-induced distortions.

Firm-level financial data are obtained from audited annual reports, while governance variables are manually collected from corporate disclosures, aligning with prior Nigerian governance studies. The final panel is unbalanced, reflecting data availability, but it satisfies standard requirements for dynamic estimation.

3.3 Measurement of Earnings Management

3.3.1 Accrual-Based Earnings Management (AEM)

Accrual-based earnings management is measured using discretionary accruals, which are estimated using established models in the literature. Total accruals are first computed, after which discretionary components are extracted using performance-adjusted specifications consistent with Jones (1991) and Kothari, Leone, and Wasley (2005). This approach controls for firm performance and reduces measurement error associated with accrual estimation.

Discretionary accruals capture managerial discretion exercised through accounting choices and are widely used proxies for accrual-based earnings management in both developed and emerging markets.

3.3.2 Real Earnings Management (REM)

Real earnings management is measured using the framework proposed by Roychowdhury (2006), which captures deviations from normal operational behaviour. Three measures are employed:

- Abnormal production costs, reflecting overproduction aimed at reducing the reported cost of goods sold;
- Abnormal operating cash flows, capturing sales manipulation through price discounts or extended credit terms;
- Aggregate real earnings management (REM), constructed as a composite measure to reflect overall real activities manipulation.

This multidimensional approach enables the analysis to distinguish between different REM channels and aligns directly with the theoretical argument that audit committees may have limited influence over operational decisions compared to accounting choices.

3.4 Audit Committee Characteristics

Audit committee effectiveness is captured through several commonly used attributes that reflect monitoring capacity:

- Audit committee independence, measured as the proportion of independent directors on the committee;
- Audit committee size, measured as the total number of committee members;
- Audit committee expertise, proxied by the presence of members with accounting or financial expertise;
- Audit committee diligence, measured by the frequency of committee meetings.

These variables are grounded in agency theory and prior empirical research, which suggests that independence and expertise enhance monitoring effectiveness, while size and diligence may have ambiguous effects due to coordination costs and free-riding concerns.

3.5 Control Variables

To isolate the effect of audit committee characteristics, the models include standard firm-level controls shown to influence earnings management, including: firm size, leverage, profitability, growth opportunities, and firm age. Year effects are included to

control for macroeconomic shocks and regulatory changes common to all firms, while industry effects are incorporated where appropriate.

3.6 Model Specification

To test the hypotheses, the following dynamic panel model is estimated:

$$EM_{it} = \alpha_0 + \alpha_1 EM_{it-1} + \alpha_2 AC_{it} + \alpha_3 X_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

where: EM_{it} represents earnings management, measured alternatively as AEM, REM, abnormal production costs, and abnormal operating cash flows; AC_{it} denotes audit committee characteristics; X_{it} is a vector of control variables; μ_i captures unobserved firm-specific effects; λ_t captures time effects; ε_{it} is the idiosyncratic error term. Including the lagged dependent variable captures persistence in earnings management behaviour, consistent with prior research.

3.7 Estimation Technique

The model is estimated using the two-step system Generalised Method of Moments (system GMM) estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998). System GMM is particularly suitable for this study because:

1. Earnings management exhibits dynamic persistence;
2. Audit committee characteristics may be endogenous due to reverse causality or omitted variables; and
3. Firm-specific effects are likely correlated with regressors.

Lagged levels and differences of endogenous variables are used as internal instruments, and instrument proliferation is carefully controlled to preserve estimator reliability.

3.8 Diagnostic and Robustness Tests

Model validity is assessed using standard diagnostic tests. The Arellano–Bond AR(1) and AR(2) tests examine serial correlation in the differenced residuals. The Sargan/Hansen test evaluates the validity of the instrument set. Additional robustness checks include alternative earnings management measures and sub-sample analyses aligned with Nigeria’s evolving reporting environment. These diagnostics ensure that the reported estimates are statistically sound and consistent with best practices in dynamic panel estimation.

3.9 Methodological Alignment with Theory

This methodological design closely aligns with the theoretical framework. By separately modelling accrual-based and real earnings management within a dynamic setting, the analysis allows for differential governance effects across manipulation

channels. This approach explicitly tests whether audit committees, designed primarily to oversee financial reporting, are more effective in constraining accrual discretion than operational manipulation, thereby providing a rigorous empirical assessment of audit committee effectiveness in an emerging-market context.

4. Empirical Results

4.1 Descriptive and Preliminary Evidence

The descriptive statistics in Table 1 reveal substantial heterogeneity in earnings management behaviour across firms and over time, consistent with the theoretical expectation that managerial discretion and monitoring intensity vary across institutional and firm-level contexts. Accrual-based earnings management displays relatively moderate mean values but non-trivial dispersion, while real earnings management, particularly cash-flow-based manipulation, exhibits considerably higher volatility. This pattern underscores the importance of distinguishing between earnings management channels, as real activities manipulation appears more uneven and potentially more costly in economic terms.

Table 1: Descriptive Results

Variable	Mean	Std. Dev.	Min	Max
AM	-0.132	0.727	-7.378	0.737
RM	0.964	14.47	-35.81	66.24
RMPro	0.559	3.785	-1.07	26.4
RMcflow	0.404	12.39	-36.21	66.27
Asize	4.944	1.521	2	8
Ameet	3.372	1.221	0	7
FLVE	1.347	2.769	-18.97	18.98
ROA	0.051	0.274	-3.27	2.91
FSIZE	96.0bn	465.0bn	6.89bn	7.06tn

Source: Author's Computations.

Table 2: Correlation Results

	AM	RM	RMpro	RMcflow	Asize	Ameet	FLVE	ROA	FSIZE
AM	1.0								
RM	-0.0095	1.0							
RMpro	0.0291	0.6425*	1.0						
RMcflow	-0.02	0.9722*	0.4453*	1.0					
Asize	-0.0955*	-0.073	0.005	-0.0868*	1.0				
Ameet	0.1081*	-0.2012*	-0.1757*	-0.1814*	0.1641*	1.0			
FLVE	0.0073	0.1561*	0.221*	0.1149*	0.2627*	-0.0045	1.0		
ROA	0.0482	-0.0335	-0.0411	-0.0265	0.0532	0.0551	-0.0156	1.0	
FSIZE	-0.0049	-0.0049	-0.0233	0.0014	-0.0145	-0.0076	0.0616	0.0034	1.0

Source: Author's Computations.

The pairwise correlation results in Table 2 indicate that accrual-based earnings management is largely uncorrelated with real earnings management, whereas aggregate real earnings management is strongly driven by abnormal operating cash flows. This preliminary evidence suggests that accrual manipulation and real manipulation operate as distinct managerial strategies, supporting the theoretical argument that governance mechanisms may affect them differently.

4.2 Audit Committee Characteristics and Earnings Management

Table 3 reports the system GMM estimates for accrual-based earnings management. Consistent with Hypothesis 1, audit committee effectiveness is significantly associated with lower levels of discretionary accruals. In particular, audit committee independence exhibits a negative and statistically significant coefficient, indicating

that stronger monitoring reduces managers' ability to exploit accounting discretion. These results align with agency theory predictions and reinforce prior evidence from both developed and emerging markets that audit committees are particularly effective in constraining accrual-based manipulation (Klein, 2002; García-Meca & Sánchez-Ballesta, 2009). The findings also suggest that accounting-based monitoring tools, such as oversight of estimates, provisions, and recognition policies, fall squarely within the audit committee's domain of influence.

The coefficient on the lagged dependent variable is positive and significant, confirming persistence in accrual-based earnings management behaviour and validating the dynamic specification. Control variables generally exhibit expected signs, with profitability and leverage positively associated with accrual discretion, reflecting stronger incentives to manage reported performance.

Table 4 presents results for aggregate real earnings management. In contrast to the accrual-based findings, audit committee characteristics exhibit weaker and less consistent associations with real earnings management. While some coefficients retain the expected sign, statistical significance is reduced or absent across specifications. This

result supports Hypothesis 2, which predicts that audit committees are less effective in constraining real earnings management than accrual-based manipulation. Because real earnings management is embedded in operational decisions, such as pricing, production scheduling, and discretionary expenditure, its detection requires deep operational insight and continuous monitoring, which may exceed the traditional scope of audit committee oversight.

The persistence of real earnings management is also pronounced, as indicated by the significant lagged dependent variable, suggesting that firms adopt sustained operational strategies rather than one-off manipulation.

To further examine the mechanisms underlying real earnings management, Tables 5 and 6 decompose REM into abnormal production costs and abnormal operating cash flows. The results reveal a clear asymmetry. Audit committee attributes show little systematic association with abnormal production costs, indicating that committees are largely ineffective in constraining production-based manipulation. This finding is economically intuitive, as production decisions are often complex, industry-specific, and difficult to evaluate without detailed operational expertise.

Table 3: GMM Results for Accrual-Based Earnings Management

Variable	All Periods			Before CCG Review			After CCG Review			Before IFRS Adoption			After IFRS Adoption		
	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val
AM(lag)	0.651***	3.12	0.002	0.032**	2.15	0.032	0.752***	5.53	0.000	0.499**	2.0	0.046	0.637***	5.02	0.000
asize	0.093*	1.77	0.077	0.031**	2.11	0.035	0.101*	1.68	0.093	-0.010	-0.1	0.920	0.085	1.44	0.149
aind	-0.360**	-2.46	0.014	0.071**	2.33	0.020	-0.365***	-3.11	0.002	0.046	0.22	0.824	-0.471***	-3.09	0.002
ameet	0.097	1.13	0.259	0.035	1.33	0.182	0.083	1.33	0.183	0.213	1.11	0.265	0.027	1.06	0.291
aexpertise	0.128	1.44	0.150	39.60	0.98	0.329	0.070	0.9	0.366	0.378	0.57	0.566	0.085	0.77	0.443
flve	-0.004	-0.29	0.774	-0.019	-1.2	0.228	0.008	0.5	0.616	0.059	0.61	0.543	-0.006	-0.97	0.332
roa	1.303***	5.91	0.000	0.920***	39.35	0.000	0.314*	1.87	0.062	1.469***	3.95	0.000	0.188	1.19	0.235
logsize	-0.028	-0.55	0.583	0.014	0.41	0.681	-0.041*	-1.74	0.082	0.099	0.43	0.670	-0.046***	-2.87	0.004
Constant	-0.371	-0.35	0.726	-4.113	-1.4	0.163	-0.078	-0.13	0.895	-2.595	-0.64	0.525	0.317	1.05	0.292
Wald Chi ²	202.9***		0.000	43841.8***		0.000	80.03***		0.000	878.4***		0.000	43.83***		0.000
AR(1)	0.604		0.545	0.715		0.662	-1.734*		0.082	1.033		0.301	-1.522		0.128
AR(2)	1.792		0.173	0.989		0.827	0.912		0.361	0.821		0.712	1.301		0.193
Sargan	0.781		0.992	0.600		0.834	4.984		0.320	0.108		0.995	4.447		0.256
Instrument	68			9			66			13			63		
Group	71			52			69			56			69		

Source: Author's Computations.

Table 4: GMM Results for Real Earnings Management

Variable	All Periods			Before CCG Review			After CCG Review			Before IFRS Adoption			After IFRS Adoption		
	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val
RM(lag)	0.063	1.42	0.155	-	-	-	0.078*	1.83	0.067	-0.048	-0.75	0.452	0.125**	2.24	0.025
asize	-0.679	-0.47	0.636	1.176	0.75	0.454	-2.903	-1.07	0.283	3.554	1.0	0.319	-1.480	-0.64	0.521
aind	-8.572	-0.85	0.396	-8.212**	-2.56	0.011	-12.34	-0.92	0.355	-21.15	-1.26	0.207	6.487	0.62	0.533
ameet	-0.080	-0.06	0.954	2.409	1.14	0.254	0.184	0.12	0.907	2.183	0.89	0.373	-0.282	-0.24	0.813
aexpertise	5.089	1.19	0.235	-	-	-	4.065	0.94	0.348	-4.916	-0.69	0.489	6.111	1.26	0.206
flve	0.109	0.27	0.788	2.125	1.32	0.187	0.088	0.2	0.845	-0.167	-0.12	0.905	0.316	0.77	0.439
roa	-0.474	-0.16	0.870	0.566	0.43	0.671	-11.85	-1.31	0.191	-1.276	-0.5	0.619	-6.954	-0.73	0.468
logsize	-1.399	-1.34	0.181	-14.09	-1.53	0.125	-0.858	-0.77	0.441	-0.752	-0.24	0.809	-1.550	-1.54	0.122
Constant	28.13	1.23	0.219	214.9	1.53	0.126	30.74	1.22	0.224	-9.689	-0.19	0.846	32.19	1.61	0.107
Wald Chi ²	31.45***		0.000	85.24***		0.000	35.62***		0.000	11.32		0.184	15.6**		0.048
AR(1)	-2.565**		0.010	-1.601**		0.010	-2.052***		0.002	-1.704*		0.088	-2.197**		0.028
AR(2)	-1.449		0.147	-1.026		0.214	-1.608		0.107	-0.889		0.492	-1.411		0.158
Sargan	3.142		0.405	4.216		0.392	2.270		0.432	4.226		0.238	0.311		0.983
Instrument	67			8			66			12			63		
Group	71			52			69			56			69		

Source: Author's Computations.

Table 5: GMM Results for Abnormal Production Costs Real Earnings Management

Variable	All Periods			Before CCG Review			After CCG Review			Before IFRS Adoption			After IFRS Adoption		
	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val
RM(lag)	-0.099***	-8.13	0.000	-	-	-	-0.099***	-7.51	0.000	-0.099***	-7.51	0.000	-0.092***	-6.19	0.000
asize	-0.111	-1.18	0.237	0.013	0.33	0.741	-0.186	-1.0	0.318	-0.186	-1.0	0.318	-0.062	-0.55	0.582
aind	-0.189	-0.56	0.574	-1.262***	-21.53	0.000	0.103	0.13	0.893	0.103	0.13	0.893	0.602	0.63	0.532
ameet	0.023	0.14	0.886	-0.038	-0.39	0.698	-0.021	-0.11	0.909	-0.021	-0.11	0.909	-0.010	-0.04	0.969
aexpertise	-0.419	-1.39	0.163	-	-	-	-0.487	-1.43	0.154	-0.487	-1.43	0.154	-0.287	-1.05	0.293
flve	-0.073	-1.13	0.257	-0.107	-1.56	0.119	-0.084	-1.0	0.318	-0.084	-1.0	0.318	-0.090	-1.03	0.302
roa	0.919	1.13	0.259	0.397***	14.8	0.000	2.525	0.83	0.409	2.525	0.83	0.409	2.910	0.82	0.414
logsize	-0.192	-1.26	0.206	0.067	0.73	0.463	-0.243	-1.25	0.210	-0.243	-1.25	0.210	-0.298	-1.36	0.173
Constant	4.421	1.47	0.141	-0.687	-0.54	0.592	5.772	1.43	0.153	5.772	1.43	0.153	5.981	1.43	0.152
Wald Chi ²	469.8***		0.000	6040.6***		0.000	504.8***		0.000	1251.7***		0.000	493.5**		0.000
AR(1)	-1.425		0.154	-1.405		0.159	-1.457		0.214	-1.407		0.159	-2.694		0.007
AR(2)	-0.760		0.447	-1.463		0.143	-0.764		0.441	-1.752		0.079	-1.751		0.079
Sargan	69.41		0.145	68.09		0.149	9.523		0.447	62.77		0.193	34.12		0.245
Instrument	67			8			66			12			63		
Group	71			52			69			56			69		

Source: Author's Computations.

Table 9: GMM Results for Abnormal Cash Flows Real Earnings Management

Variable	All Periods			Before CCG Review			After CCG Review			Before IFRS Adoption			After IFRS Adoption		
	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val	Coef	z	p-val
RM(lag)	0.080**	1.97	0.049	-	-	-	0.094**	2.31	0.021	-0.058	-0.88	0.377	0.143***	3.57	0.000
asize	0.076	0.06	0.949	-1.162	-0.75	0.455	1.898	0.85	0.397	-3.613	-1.0	0.317	0.842	0.41	0.680
aind	7.072	0.69	0.493	6.95**	2.19	0.029	9.954	0.72	0.470	20.15	1.19	0.235	-9.132	-0.82	0.412
ameet	0.477	0.32	0.748	-2.447	-1.17	0.241	0.287	0.17	0.864	-2.236	-0.92	0.358	0.696	0.54	0.587
aexpertise	-4.629	-1.3	0.194	-	-	-	-3.886	-1.06	0.287	5.187	0.73	0.468	-4.633	-1.19	0.232
flve	-0.283	-0.78	0.438	-2.233	-1.38	0.168	-0.260	-0.66	0.512	0.092	0.07	0.948	-0.452	-1.1	0.272
roa	1.469	0.46	0.646	-0.168	-0.13	0.899	14.32	1.22	0.221	1.725	0.67	0.506	9.494	0.75	0.454
logsize	1.078	1.2	0.231	14.16	1.54	0.123	0.573	0.6	0.546	0.841	0.27	0.788	1.137	1.34	0.179
Constant	-20.20	-1.01	0.314	-215.6	-1.54	0.124	-21.60	-0.99	0.324	8.957	0.18	0.859	-22.59	-1.27	0.205
Wald Chi ²	48.48***		0.000	56.02***		0.000	44.88***		0.000	12.01		0.151	34.29***		0.000
AR(1)	-1.725		0.072	-2.211		0.027	-1.698		0.089	-2.253		0.024	-1.801		0.078
AR(2)	-0.891		0.301	-1.89		0.058	-0.909		0.289	-1.399		0.161	-1.205		0.189
Sargan	2.079		0.789	57.21		0.509	4.082		0.652	57.58		0.251	58.21		0.272
Instrument	67			8			66			12			63		
Group	71			52			69			56			69		

Source: Author's Computations.

By contrast, abnormal cash-flow manipulation exhibits somewhat stronger, but still limited, associations with audit committee characteristics. This suggests that audit committees may exert partial influence over cash-flow-related practices through oversight of revenue recognition policies and receivables management, but that such influence remains substantially weaker than for accrual-based reporting choices. These findings strongly support Hypothesis 3, which posits differential governance effectiveness across earnings management channels.

5. Discussion

The results provide compelling evidence that audit committees are structurally better equipped to monitor accounting discretion than operational manipulation. Accrual-based earnings management directly affects financial statements and audit judgments, areas where audit committees possess formal authority, technical expertise, and access to auditors. In contrast, real earnings management involves decisions that may be individually rational from an operational perspective but collectively distort performance. Such actions often fall outside standard audit committee agendas and may not trigger immediate red flags, particularly in environments with weaker enforcement and limited real-time disclosure. These findings are consistent with the substitution hypothesis advanced in prior literature, which argues that tightening oversight of accruals may shift manipulation toward real activities rather than eliminate it altogether (Cohen et al., 2008; Zang, 2012).

The Nigerian institutional setting amplifies these dynamics. Although IFRS adoption and governance reforms strengthened formal reporting requirements, enforcement capacity remains uneven. In

such contexts, governance mechanisms may improve compliance with accounting standards while leaving operational discretion largely unchecked. The results, therefore, suggest that formal governance structures alone are insufficient to curb earnings management when monitoring does not extend beyond financial reporting into operational decision-making.

From a theoretical perspective, the findings refine agency-based models of governance by highlighting the effectiveness of channel-specific monitoring. Audit committees do not uniformly constrain managerial opportunism; rather, their impact depends critically on whether manipulation occurs within or outside the accounting system. This distinction has been underemphasised in earlier studies that treat earnings management as a single construct. By decomposing earnings management into accrual-based and real activities channels, this study provides a more nuanced understanding of governance effectiveness.

Overall, the evidence suggests that while audit committees play a significant role in enhancing accounting discipline, their ability to effectively constrain real earnings management remains limited, highlighting the need for broader, more integrated governance approaches in emerging markets.

6. Conclusion

This study examines the effectiveness of audit committee characteristics in constraining earnings management among Nigerian listed non-financial firms, distinguishing explicitly between accrual-based earnings management and real earnings management through production and cash-flow channels. Using a dynamic panel framework and a pre-pandemic

sample period (2008–2019), the analysis provides robust evidence that audit committees play a meaningful role in limiting accrual-based earnings management but are considerably less effective in constraining real activities manipulation.

The findings highlight a clear asymmetry in governance effectiveness. Audit committee independence and expertise are associated with lower discretionary accruals, consistent with agency-based monitoring arguments. In contrast, real earnings management, particularly cash-flow-based manipulation, appears largely insulated from traditional audit committee oversight. This pattern suggests that while governance reforms and accounting standards may improve compliance with financial reporting rules, they do not fully address managerial discretion exercised through operational decisions.

These results have important implications for policy and practice in emerging market settings. Strengthening audit committee requirements and financial reporting standards is necessary, but it is insufficient for improving overall earnings quality. Regulators and standard setters should complement existing frameworks with mechanisms that enhance oversight of real activities, such as expanded cash-flow disclosures, greater integration between audit committees and risk or operations committees, and sector-sensitive monitoring approaches. For auditors and investors, the findings underscore the importance of moving beyond accrual-based indicators and placing greater emphasis on cash-flow behaviour and operational consistency when assessing earnings quality.

From a broader perspective, the study contributes to the literature by

demonstrating that the effectiveness of internal governance mechanisms is inherently channel-specific. Treating earnings management as a single construct risks overstating the monitoring capacity of audit committees and understating the economic costs associated with the manipulation of real activities. Future research could extend this analysis by examining post-pandemic governance dynamics, sectoral heterogeneity, or the interaction between audit committees and other oversight mechanisms.

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