

Research Article

# Audit Committee Effectiveness and Real Earnings Management: The Moderating Role of Financial Leverage on Non-financial Companies Listed on the Nairobi Securities Exchange

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## Abstract

The rise in corporate corruption and the prevalence of fraudulent financial practices among non-financial firms listed on the Nairobi Securities Exchange (NSE) have led to the collapse of several reputable companies in Kenya. In light of these concerns, this study investigates how financial leverage moderates the relationship between audit committee effectiveness (ACE) and real earnings management (REM). Specifically, the study aims: (i) to examine the effect of audit committee effectiveness on real earnings management, and (ii) to assess the moderating role of financial leverage in this relationship. The study is grounded in agency theory and supported by the pecking order theory. It adopts a positivist research philosophy, a quantitative approach, and an explanatory research design. A panel data methodology was employed to analyse non-financial firms listed on the NSE that met specific inclusion and exclusion criteria. From a population of 40 listed non-financial firms, the study focused on 26 firms that operated consistently between 2008 and 2023, yielding a balanced panel of 416 firm-year observations. Data was collected from audited financial statements and analyzed using both descriptive and inferential statistics. The results reveal that audit committee effectiveness has a statistically significant negative effect on real earnings management ( $\beta = -1.003$ ,  $p < 0.05$ ). Furthermore, financial leverage significantly moderates this relationship (interaction effect:  $\beta = 0.075$ ,  $p < 0.05$ ). These findings indicate that while strong audit committees play a critical role in reducing earnings manipulation, their effectiveness is weakened under high financial leverage. Practical Implications: Non-financial firms should be cautious in managing debt levels, as high financial leverage undermines the audit committee's capacity to oversee financial reporting and control earnings management. Strengthening audit practices and maintaining prudent leverage policies are essential for sound corporate governance and investor confidence. Originality: This study contributes to the literature by examining how audit committee effectiveness curbs earnings manipulation and how this relationship is influenced by financial leverage. The findings offer valuable insights for investors, regulators, and corporate boards seeking to enhance financial transparency and accountability in emerging markets like Kenya.

## Keywords

Audit Committee Effectiveness, Real Earnings Management, Financial Leverage

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## 1. Introduction

Earnings are essential for financial reporting, guiding decisions, and serve as indicators of firm value [6]. However, managers manipulate earnings to present a more favorable financial position, which misleads investors and undermines the quality of financial information. This concern has led to a growing global academic interest in real earnings management, particularly considering its connection to significant financial frauds and its impact on various stakeholders in the modern business environment.

Upon completion of each financial period, every non-financial organization must disclose earnings reports through audited financial reports, adhering to the well-defined practices and protocols established by accounting standard-setting organizations. Nevertheless, Managers will use their position and authority as they have the power and access to information to undertake operational earnings manipulation to maximize their interests as well as to influence investors' and stakeholders' perceptions in a way that misleads financial reporting users, ultimately impacting their decision-making [89]. Managers influence earnings by deliberately changing the schedule of operating and measures of economic activities, relying on three specific approaches to operational activity decisions, which include pricing decisions, production levels, and discretionary expenses, intending to misguide stakeholders on the organization's true financial outcomes while focusing on achieving short-term earnings goals [81, 87].

Real earnings management has gained significant academic attention among the different methods of profit manipulation due to its subtlety and ability to go undetected while distorting how resources are allocated [81, 46]. This concern is especially critical in today's globalized and rapidly evolving economic landscape. Despite regulatory reforms, financial scandals often rooted in agency conflicts between executives, owners, besides creditors continue to raise doubts about the effectiveness of audit committees [1, 84].

Despite global amendments to corporate governance codes and accounting regulations intended to increase shareholders' wealth, their effectiveness in reducing creative earnings remains uncertain. Following a series of high-profile accounting scandals, stakeholders such as investors, regulators, and accounting and audit professionals have become more doubtful about the trustworthiness of financial statements [88]. Recent cases, such as Cronos Group Inc. (2019-2022), Luckin Coffee (2019), and Wirecard (2020), highlight the connection between profit smoothing and weak audit committees, which erode investor confidence and threaten economic stability.

Habib highlights that, in recent times, companies have increasingly shifted towards real earnings management, choosing it over traditional accrual-based methods [47]. This shift is driven by factors such as stricter accounting standards, the mandatory adoption of IFRS, regulatory reforms like the "Sarbanes-Oxley Act of 2002", and the reduced chances of being identified by auditors or regulators, along with greater

managerial control [20]. REM method is more practical for assessing whether firms engage in earnings management [63]. While most of the REM studies have focused on developed countries, particularly in the USA and Europe [27], noted that there is growing interest in exploring REM within emerging markets.

A plethora of studies consider corporate governance mechanisms as a funnel that diminishes real activity management [30]. They are broadly categorized into internal and external controls [44]. Internal mechanisms refer to structures and processes within the organization that aim to align the interests of management and shareholders. These include the board of directors, ownership structure, executive compensation, and, notably, audit committees. External mechanisms, on the other hand, involve external market and institutional forces such as regulatory agencies, legal systems, market competition, and media scrutiny [13, 87].

Among the internal mechanisms, the audit committee stands out due to its direct and strategic oversight role in ensuring the integrity of financial reporting and risk management [36]. Compared to other internal controls, the audit committee is uniquely positioned to monitor accounting processes, engage with external auditors, and enforce compliance with financial reporting standards. Its effectiveness largely depends on characteristics such as independence, size, tenure, financial expertise, gender diversity, meeting frequency, and diligence [16, 23].

Therefore, to address agency conflicts between management and shareholders, shareholders appoint the audit committee through the board of directors during annual general meetings. The main reason for the formation of the subcommittee is to aid in limiting the opportunistic behaviors of management, thus reliability of financial reporting. Agency theory standpoint, the audit committee is not just a control mechanism, but also an essential external resource that helps the board carry out its oversight duties [53].

An effective audit committee is critical for enhancing transparency and building trust in financial reporting. From the agency theory perspective, it acts as a vital governance tool that reduces information asymmetry between managers and shareholders by curbing managerial opportunism [55]. It not only increases investor confidence but also ensures that management actions align with shareholder interests. Given its significant role in upholding financial accountability, especially in markets vulnerable to weak enforcement and high managerial discretion, the audit committee is a compelling and appropriate focus for this investigation.

Researchers have extensively investigated how corporate governance can help manage real earnings manipulation [35]. According to [61]. A well-functioning audit committee is a crucial internal control governance mechanism that enhances reporting quality. Most research has concentrated on developed economies; there is a noticeable gap in studies address-

ing emerging markets like Kenya. Differences in methodologies, regulatory frameworks, cultural contexts, and corporate structures make it necessary to assess audit committee effectiveness within the specific setting of developing economies.

The need for strong corporate governance in Kenya has become increasingly clear, especially in light of financial distress, fraud, closures, and the suspension of several non-financial firms listed on the Nairobi Securities Exchange (NSE). Notable examples include the collapse of Athi River Cement Ltd, Deacons East Africa PLC, Uchumi Supermarket, and Mumias Sugar Company. Additionally, Kenya Airways was suspended from trading on the NSE in 2020 due to ongoing financial struggles, highlighting the risks linked to weak governance and opportunistic financial reporting [73]. Given these challenges, this study addresses the following question: How does audit committee effectiveness impact real earnings management (REM) in Kenyan firms?

Previous research indicates that financial leverage serves as a link between owners and executives, as it represents external financing with lower information asymmetry compared to equity financing. This aligns with [71], who suggest that the way a firm structures its capital can play a role in reducing agency conflicts. Agency theory suggests that when lenders, managers, or shareholders have unequal access to information, it can result in issues such as adverse selection [43]. To address this risk, lenders often introduce debt covenants, which may increase agency costs and influence how debt is priced [70]. One way to reduce these costs is by sharing detailed information about sustainable practices, which can help minimize information asymmetry and, in turn, lower the debt covenant [18, 59].

Debt is a double-edged sword; it can boost a corporation's profits, but it also carries the risk of amplifying losses [51]. According to the debt covenant hypothesis, companies with significant leverage may practice aggressive opportunistic earnings to secure refinancing, avoid penalties, and maintain stable earnings, making them more attractive to investors [67]. In contrast, the control hypothesis suggests that financial leverage can curb earnings smoothing by increasing monitoring and oversight from lenders and institutional investors [80]. Motivated by these insights, the study aims to explore the second research question: How does financial leverage moderate the association between audit committee effectiveness and real earnings management?

The study focuses on two main objectives: (1) Evaluating the impact of audit committee effectiveness on real earnings management (REM); (2) Assessing the moderating effect of financial leverage on the link between audit committee effectiveness and REM. The study uses balanced panel data from 26 firms (416 firm-year observations) in Kenya, a developing economy in Africa, to achieve these objectives.

Kenya's corporate governance framework is primarily influenced by the Anglo-American model, which emphasizes both individual and institutional ownership and is underpinned by a legal system outlining stakeholder rights and

obligations [57]. The stakeholders in this model encompass the board of directors, management, shareholders, regulatory bodies, creditors, and consulting firms involved in corporate governance. However, the primary stakeholders are the board of directors, management, and shareholders. For publicly traded non-financial firms, the capital market authority plays a crucial role as the regulatory body responsible for supervising, licensing, and monitoring capital market institutions. Moreover, companies establish internal control systems to manage risks and uphold the integrity of their financial statements. Given that ownership structure and the audit committee function as internal governance mechanisms, while financial leverage serves as an external governance tool, these structures collectively mitigate agency conflicts and improve corporate oversight [8].

The current study makes important contributions. First, it is among the few to examine the interactive influence of financial leverage in the relationship between audit committee effectiveness and real earnings management. Second, it enhances theoretical insight and enriches the existing literature on audit committee effectiveness, real earnings management, and financial leverage, particularly within the Kenyan context. Unlike previous studies that focused on individual audit committee characteristics [40, 56, 82], this study takes a more holistic approach using a combined audit committee effectiveness index. Conducted in Kenya, an emerging economy in East Africa, it provides valuable insights for investors, board members, practitioners, academics, and policymakers.

## 2. Literature Review

### 2.1. Agency Theory

Agency theory posits that a relationship is established when a principal entrusts an agent with the responsibility to perform a task on their behalf [17, 52]. In an organization, it occurs when shareholders entrust management with the carrying out of daily operations of the firm, which involves crucial decision-making. However, conflicts can arise when managers (agents) do not prioritize the shareholders' best interests (principal), leading to information asymmetry. Audit committees are established as monitoring mechanisms to address this issue. Debt financing also serves as an external governance tool by imposing financial constraints that limit managers' discretionary use of cash flow, thereby prioritizing shareholders' interests. This structure helps reduce agency costs by discouraging opportunistic actions, such as real earnings management [52]. Despite potential conflicts, delegating authority can foster a more efficient and productive organization.

Agency costs can be reduced through effective corporate governance mechanisms [74]. Internal mechanisms like audit committees and external mechanisms like financial leverage serve as monitoring tools, as proposed by agency theory. The agency model suggests that, because of agents' self-interest,

principals should be cautious about depending on them as fiduciaries. Instead, they should adopt strategies that align executive and shareholders' goals, while reducing information asymmetry and limiting managerial discretion [34, 41].

## 2.2. Pecking Order Theory

Pecking Order Theory, initially proposed by [71] and later expanded by [65], provides a useful framework for understanding the relationship between financial leverage and real earnings management. The theory asserts that firms prefer internal financing due to lower information asymmetry, followed by debt, and lastly equity. This financing hierarchy implies that when internal resources are insufficient, managers are more likely to rely on debt before considering equity issuance. In high-leverage situations, however, the pressure to meet debt obligations and maintain favorable financial ratios may prompt managers to engage in REM practices, such as overproduction, reduced discretionary expenses, or altered pricing strategies, to present an inflated picture of financial performance. This strategic manipulation is often employed to avoid breaching debt covenants, reduce financing costs, or preserve market confidence [67].

While Pecking Order Theory explains the financing preferences under asymmetric information, it also indirectly suggests that as firms increase their reliance on debt, the likelihood of earnings manipulation increases due to higher financial pressure and reduced flexibility. This makes financial leverage a potential moderator in the relationship between governance mechanisms, such as audit committee effectiveness, and REM. Empirical studies [69, 80], affirm that firms with higher leverage are more susceptible to earnings management, especially when governance oversight is weak or compromised. Thus, financial leverage not only influences a firm's financing decisions but also affects managerial behavior, especially under conditions of agency conflict and information asymmetry. Given these dynamics, this study explores how financial leverage moderates the link between audit committee effectiveness and REM within the context of Kenyan listed non-financial firms.

## 2.3. Audit Committee Effectiveness and Real Earnings Management

Globalization has brought about market expansion and increased dynamism, but it has also heightened performance pressure among prominent and well-established organizations. Moreover, recent global financial scandals have cast doubt on the dependability of financial statements [83]. These issues reflect ongoing conflicts of interest among owners, creditors, and managers, particularly where executives have privileged access to classified information, thus prioritizing their interests over maximizing shareholder value [1].

Nonetheless, corporate governance mechanisms contribute significantly to maintaining the accuracy and trustworthiness

of financial statements. Agreeing with agency theory, [97] found an inverse relationship between audit committee characteristics, such as gender diversity, independence, size, and meeting frequency, and firm inefficiencies like information asymmetry and managerial opportunism. Similarly, [79] highlights that an effective audit committee significantly contributes to reducing agency costs and enhancing the credibility of financial reports by reinforcing internal controls, improving oversight, and fostering transparency. Aligned with agency theory, the following hypothesis is proposed. Ho: Audit committee effectiveness significantly reduces Real earnings management.

## 2.4. The Moderating Effect of Financial Leverage

Agency theory highlights that audit committees are crucial in protecting shareholder wealth by serving as an internal control mechanism that reduces agency costs. However, companies naturally operate in environments where conflicting interests among stakeholders can arise due to their varying incentives [52]. Managers often focus on achieving personal objectives, leading them to make profit adjustments that may not align with the owners' interest in maximizing the company's benefits [29].

In practice, managers may manipulate earnings to meet debt obligations, secure refinancing, avoid breaching debt covenants, or maintain consistent earnings to appeal to investors [67, 93]. Even with an effective audit committee, financial pressure can push managers to subtly integrate real earnings management into regular operations, making it hard for auditors and shareholders to detect [47]. If identified, managers can often justify these practices as strategic business choices rather than accounting violations, as REM typically falls within the range of Generally Accepted Accounting Principles [58].

Corporate governance practices, including audit committee effectiveness and financial leverage, are generally believed to enhance transparency and reduce agency costs [48]. However, when these mechanisms interact, they can unintentionally encourage aggressive earnings practices. This means that audit committee effectiveness can be compromised when financial pressure is high. [3] point out that evaluating governance mechanisms individually may lead to inaccurate conclusions since their effectiveness can change when combined. In this context, instead of mitigating earnings manipulation, the combination of audit committee effectiveness and debt financing increases REM, revealing the complex nature of corporate governance.

Research supports the idea that financial leverage can heighten profit management. For instance, [93] found that leverage increased REM in some questionable Korean firms, while [32] noted that firms heavily reliant on debt across 43 countries were more prone to REM. Similarly, [60] reported that companies often manage earnings to meet external fi-



nancing needs. Studies from various regions, including Indonesia [72], the United States [24], Malaysia [54], 18 countries [26], and Latin America [69] have drawn similar conclusions. These findings suggest that financial leverage moderates the association between audit committee effectiveness and real earnings management. Based on this, the study proposes the following hypothesis: H2. Financial leverage significantly moderates Audit committee effectiveness and REM.

### 3. Methods

The study focused on publicly traded non-financial firms listed on the Nairobi Securities Exchange (NSE) in Kenya. The NSE was chosen as the research context because it is one of the fastest-growing securities exchanges within an emerging market. The target population includes 40 non-financial firms listed on the NSE, with data collected from the financial statements of companies that had consistently operated for sixteen years, from 2008 to 2023, using a data collection schedule. This timeframe was chosen because it captures the introduction of the revised Code of Corporate Governance Guidelines in 2015 and 2016, as well as a period marked by the collapse of several listed non-financial firms due to boardroom conflicts, weak governance, manipulation of financial reports, corruption scandals, and related issues. This study employs an explanatory research design combined with a panel data approach to thoroughly analyze the data. 26 non-financial firms participated in the study after meeting the inclusion and exclusion criteria, resulting in 490 firm-year observations.

Real earnings management is assessed using proxies developed in previous studies of (Cohen & Zarowin, 2010; Cohen et al., 2008; Roychowdhury, 2006). According to Roychowdhury (2006), these proxies measure the prevalence of REM by capturing three real activity manipulation techniques: abnormal production costs (ABN\_PROD), discretionary expenses (ABN\_DISX), and cash flow from operations (ABN\_CFO). Each proxy is estimated by calculating residuals within industries, representing aggressive operational earnings attributes for the sampled companies.

The abnormal value of each real activity is calculated, and the difference between the actual activity value and its expected value highlights deviations that indicate potential manipulation. This model identifies various strategies managers use to manipulate operational earnings, thus influencing the firm's financial outcomes. The study calculated REM proxies using cross-sectional ordinary least squares (OLS) regression, based on the models proposed by [81].

The first model represents the actual cash flow from operations, comprising both normal and abnormal components, as outlined below:

$$CFO_{it} / A_{it-1} = \beta_1 (1 / A_{it-1}) + \beta_2 (S_{it} / A_{it-1}) + \beta_3 (\Delta S_{it} / A_{it-1}) + \varepsilon_{it} \quad (1)$$

The residuals from this regression are AB\_CFO.

The second model represents the actual discretionary expenses, consisting of both normal and abnormal components, as shown below:

$$DISX_{it} / A_{it-1} = \beta_1 (1 / A_{it-1}) + \beta_2 (S_{it-1} / A_{it-1}) + \varepsilon_{it} \quad (2)$$

The residuals from this regression are AB\_DISX.

The third model represents the actual production costs, comprising both normal and abnormal components, as outlined below:

$$PROD_{it} / A_{it-1} = \beta_1 (1 / A_{it-1}) + \beta_2 (S_{it} / A_{it-1}) + \beta_3 (\Delta S_{it} / A_{it-1}) + \beta_4 (\Delta S_{it-1} / A_{it-1}) + \varepsilon_{it} \quad (3)$$

The residuals from this regression are AB\_PROD.

Where:

$CFO_t$  = operating cash flow firm  $i$  in year  $t$ .

$PROD_t$  = cost of goods sold + change in inventories.

$DISX_t$  = research and development expenses + advertising expenses + the cost of sales, administration, and miscellaneous expenses.

$A_{t-1}$  = total assets at the end of year  $t-1$ .

$S_t$  = Sales of the company at the end of  $t$ .

$\Delta S_t$  = Changes in the company's sales in year  $t$  compared to sales at the end of the year  $t-1$ .

$\Delta S_{t-1}$  = change in the company's sales in year  $t-1$  as compared with sales at the end of year  $t-2$ .

$\alpha$  = Regression coefficient.

$\varepsilon$  = Error term.

In this present analysis, real earnings management (REM) is calculated as a composite measure combining three individual metrics, as suggested by prior research [10, 28, 38, 45]. According to [28], using an aggregate measurement approach helps capture the overall impact of REM by consolidating the three variables into a single REM metric. Additionally, [25] found that the sum of three REM components offers informative and practical measures. Moreover, [38] suggests that an aggregate measure of REM may be more effective in identifying REM by analyzing individual metrics separately.

This study uses the [81] method of combining the REM index by multiplying the standardized residuals of discretionary expenses and cash flow from operations by -1. The adjusted values are then added to the standardized residuals of production costs to create the final index.

$$REM\_Index = (-1) \times AB\_CFO + AB\_PROD + (-1) \times AB\_DISX$$

Higher values indicate more aggressive real earnings management.

Audit committee effectiveness is measured using the composite governance score [7, 30]. Recent studies suggested that using the composite scale tool to determine the attributes of the audit committee gives better results as they are

developed based on the sum of eight items, creating a firm-specific scale [49]. Additionally, the sum of audit committee traits will decrease the error of using one structural variable measurement [90]. A higher score is a value of audit committee effectiveness. The eight binary characteristics include: independence, chairman independence, size, expertise in finance, multiple directorships, gender diversity, meetings, and diligence. For each component, except for the non-executive chairman, the study calculated the median value for the sample. A score of 1 indicates that the organization has the desired audit committee standard, scoring above the sample median on every attribute, except for

chairman independence, which will be incorporated subsequently. [56] indicate that a composite score is utilized to assess audit committee characteristics since the capacity of a single attribute depends on the strength of other factors. Evaluating corporate governance attributes as a combined scale gives reliable outcomes than assessing them separately, as emphasized [12]. In this composite score, each item is given a value of either 0 or 1, with the top score indicating audit committee effectiveness.

Parameters include audit committee independence [2], financial expertise [11], size [37], meetings and diligence [16], tenure and directorships [68], and gender diversity [22].

$$AC \text{ independence } (AI): \frac{\text{Number of non-executive AC members}}{\text{Total audit committee members}}$$

$$AC \text{ with financial Professional } (AFE): \frac{\text{AC members with financial experience}}{\text{Total Audit Committee members}}$$

$$Audit \text{ committee size } (AS): \frac{\text{Number of audit committee members}}{\text{Total board members}}$$

$$AC \text{ meetings } (AM): \frac{\text{Number of meetings held in a year}}{\text{Total number of meetings required}}$$

$$AC \text{ diligence } (AD): \frac{\text{Number of times members attend meetings during the year}}{\text{Total meetings}}$$

$$Audit \text{ committee tenure } (AT): \frac{\text{Average length of tenure of AC members}}{\text{Expected time of service}}$$

$$Multiple \text{ directorship } (MD): \frac{\text{Number of director positions held by audit committee members}}{\text{Total number of directorial positions in the firm}}$$

$$Audit \text{ Committee gender diversity } (ACD): \frac{\text{Number of female members of the AC}}{\text{Total number of AC members}}$$

Financial Leverage is the proportion of total debts to a firm's total equity. Leverage is measured as the ratio of the sum of current and long-term liabilities to the firm's total assets, serving as a proxy for financial leverage, consistent with [61, 92, 93, 96]. Firm size is measured as the natural logarithm of total assets. Firm size is a control variable because larger companies typically have more robust oversight mechanisms and are subject to increased public scrutiny [15]. In contrast, [64] found that smaller firms are more likely to practice creative profit to offset higher marginal costs, while larger firms benefit from economies of scale.

Firm age represents the number of years a company has been running its business and is an important factor influencing earnings smoothing. Management is a major factor in shaping this relationship, influenced by their motivations and the firm's traits. Executives from mature, well-established organizations have fewer opportunities to artificially inflate earnings, highlighting the negative relationship between firm age and aggressive earnings smoothing [62]. On the other hand, younger companies, which often depend on external funding, may have greater incentives to manipulate earnings [31]. Firm age is calculated as the difference between the year of observation and the company's founding year.

The Pearson product-moment correlation coefficient is used to assess the strength and direction of the linear relationship between the research variables, providing a measure of association. This method helps identify how closely the variables are related, whether positively or negatively. To test the hypotheses, a multiple panel regression model is employed, allowing for the examination of the relationships between the variables while accounting for time and individual heterogeneity across the sample. Panel regression is appropriate for this study as it controls unobserved firm-specific and time-related factors that may affect earnings management, improving the accuracy and reliability of the results. The model is evaluated at a significant level of 0.05, ensuring that the results are statistically significant and not due to random chance. This combination of techniques provides a robust analysis of the data, enhancing the validity of the research findings. The overall panel regression model is specified as.

$$\begin{aligned} REM_{it} &= \beta_0 + \beta_1 FSZ_{it} + \beta_2 FA_{it} + \beta_3 ACE_{it} + \mathcal{E}_{it} \\ REM_{it} &= \beta_0 + \beta_1 FSZ_{it} + \beta_2 FA_{it} + \beta_3 ACE_{it} + \beta_4 FL_{it} + \beta_5 \\ &ACE_{it} * FL_{it} + \mathcal{E}_{it} \end{aligned}$$

Where:

REM - Real Earnings Management  
 ACE - Audit Committee Effectiveness  
 FL - Financial Leverage  
 FA - Firm Age  
 FS - Firm Size  
 $\beta$ -Coefficients  
 $\mathcal{E}$  - Error term  
 i - firm  
 t - time

## 4 Results

Table 1 indicates that the total number of observations for the study was 416. Based on this table, real earnings management has a mean of 0.010 (minimum -0.6152 and maximum = 0.7531; standard deviation = 0.2201). The average value is consistent with the results documented by [9] and slightly lower than 0.029 reported by [4], who measured REM as a total value of the standardized residuals of ABCFO, ABPROD, and ABDISX. This indicates that both upward and downward REM are used by non-financial firms listed in the Nairobi Securities Exchange to increase (reduce) earnings based on their set objectives.

According to [81] he noted that managers might give out too many discounts, reduce expenses and engage in over-production leading to lower fixed per unit of a product hence to temporarily inflate reported earnings or excessive price discounts and revenue deferral, overstating expenses through increasing discrepancies spending, under production leading to higher fixed per unit of a product hence to temporary deflate reported earnings. Therefore, it indicates that non-financial firms engage in manipulation through inflating and deflating earnings. The vast range of REM from -0.6150 and 0.7531 serves as proof of this. However, most firms tend to lean toward upward earnings manipulation. This was consistent with the findings of [98], Managers use a combination of real and accrual-based earnings management, depending on regulatory and market pressures.[5], found that firms, including those in emerging economies, adjusted their REM practices in response to the pandemic's economic disruptions, often to meet short-term financial targets. The standard deviation of 0.2201 implies considerable variations in the degree of REM across firms, meaning some firms engage heavily in REM while others exhibit less or none.

Audit committee effectiveness 0.5057 (minimum=0.1275 and maximum = 0.8750, standard deviation = 0.1507). The highest score is 87.50%, and the lowest is 12.75%, suggesting that the non-financial firms are widely distributed concerning Audit governance strength. Typically, non-financial firms attain a score of approximately 50.57% on audit committee performance, which is slightly higher than the mean value of 49% reported by [7], suggesting that the audit committees in these firms tend to perform at a somewhat higher level than those observed in previous studies. The wide distribution of scores indicates that while some firms have

highly effective audit committees, others may face challenges in ensuring strong governance, highlighting the need for further improvements and standardization in audit committee practices across the sector. The mean of the moderating variable, financial leverage, is 0.4987 (minimum = 0.0104, maximum = 0.9949, standard deviation = 0.1846), indicating that, on average, firms finance 49.87% of their assets with debt relative to equity. This confirms the findings that financial leverage implies the efforts to align managers' interests with shareholders' interests [91]. There is significant variation in financial leverage across firms, indicating capital structures (standard deviation of 0.1846).

Firm age is defined by the number of years since its establishment. The results show an average of 37 years, using 2008 as the base year within the study period of 2008 to 2023 (minimum = 1, maximum = 73, standard deviation = 12.452). This shows that most firms in the sample are relatively mature, with an average age of 37 years. The study findings are in line with [76], finding in their study of "Corporate Attributes and Real Earnings Management: Evidence from listed non-financial firms in Nigeria", that firm age had a mean of 29.54.

Moreover, Firm size has a mean of 6.8270 (minimum 5.3032 and maximum = 8.3951; standard deviation = 0.5763). This indicates that non-financial firms at the NSE vary widely in size and are significantly spread out from the average. This highlights the importance of controlling for this variable in the study to prevent biased results. Consequently, [94] and [95] noted the same disparity on firm size for their study conducted within non-financial firms listed in Asia-Pacific markets.

**Table 1.** Descriptive Statistics Results.

Variables	Obs	Min	Max	Mean	Std. Dev.
REM	416	-0.6152	0.7531	0.0100	0.2201
FS	416	5.3032	8.3951	6.8270	0.5763
FA	416	1.0000	73.0000	37.0528	12.4520
ACE	416	0.1250	0.8750	0.5057	0.1507
FL	416	0.0104	0.9949	0.4987	0.1846

Table 2 indicates that a well-structured audit committee significantly reduces profit smoothing (-0.260;  $p=0.000$ ). This finding implies that corporations with effective audit committees produce more reliable financial statements, enhancing shareholder confidence and enabling informed decision-making. Moreover, it benefits all stakeholders by providing accurate insights into the firm's financial health and stability. These results align with [14], who found that the audit committee serves as a robust internal governance mechanism, helping the board fulfill its oversight and control

duties and safeguarding shareholders' and related parties' interests by enhancing financial reporting quality. Consequently, it can be concluded that robust audit committee practices play a crucial role in promoting transparency and maintaining investor trust, which are important for assessing the firm's capacity to maintain operations over the long term.

The gearing ratio positively influences managers' motivation to engage in profit manipulation ( $r = 0.352$ ,  $p = 0.000$ ). This means that higher debt levels create pressure to present favorable financial outcomes, prompting executives to adopt creative accounting practices to meet financial obligations or maintain stakeholder confidence, or maintain favorable credit terms. As a result, firms with higher gearing ratios may be more prone to earnings manipulation, highlighting the importance of stringent audit practices to mitigate financial risks. This aligns with [39] (Ertan, 2021) findings, which emphasize syndicated loans as a tool for REM, showing how firms manipulate their earnings to appear more creditworthy.

The correlation results showed that as firms grow older, they tend to be less inclined to manipulate their earnings, resulting in quality earnings ( $r = -0.252$ ,  $p = 0.000$ ). This negative relationship between firm age and creative earnings suggests that mature firms are less motivated to engage in earnings manipulation. These findings align with research conducted by [85], which also found that older firms are less likely to practice real earnings management (REM). Their study

highlights how older firms tend to develop stronger governance structures and place a greater emphasis on protecting their reputations, which ultimately leads to better earnings quality. This supports the idea that as firms age, their tendency to manipulate earnings significantly decreases.

Firm size significantly increases real earnings management ( $r = 0.177$ ,  $p = 0.000$ ). This indicates that as a firm grows larger, it becomes more likely to manipulate earnings. This finding is supported by research by [21], who discovered that larger firms have more resources and flexibility to engage in earnings manipulation, especially as they face increasing market pressures and regulatory scrutiny. Larger firms may resort to real earnings management to meet investor expectations, sustain stock prices, or improve financial performance metrics. Despite having more sophisticated financial reporting mechanisms, the complexity of these firms may provide additional opportunities for earnings management.

The results show no correlation between the variables analyzed, including audit committee effectiveness and real earnings management. This aligns with the perspective of [78], who suggest that a correlation matrix should have no more than 80% overlap to prevent self-association problems. The findings indicate that independent variables do not all exhibit correlations with one another.

**Table 2.** Correlation Results.

	REM	FA	FS	ACE	FL
REM	1.000				
FA	-0.260*	1.000			
FS	0.177*	-0.013	1.000		
ACE	-0.259*	-0.000	0.011	1.000	
FL	0.352*	-0.039	0.038	0.330*	1.000

The regression results presented in Table 3 indicate that a functional audit committee significantly improves earnings quality ( $\beta = -1.003033$ ,  $p = 0.000 < 0.05$ ). An effective audit committee plays a vital role in maintaining the accuracy, transparency, and integrity of financial statements. It also oversees internal controls, manages risks, and supervises both internal and external audit processes. Additionally, by reducing information asymmetry between executives and owners, the audit committee helps build shareholder confidence, reinforcing their sense of wealth maximization. This is in line with [66] findings that an effective audit committee

improves financial reporting quality. Additionally, it is noted that firms that practice financial reporting discrepancies are less likely to have an effective audit committee [86]. This observation aligns with the agency theory's alignment effect, which posits that when oversight mechanisms such as audit committees are weak or ineffective, managerial interests tend to diverge from those of shareholders, creating opportunities for opportunistic behaviors like earnings manipulation. An effective audit committee plays a critical role in monitoring management and ensuring transparent reporting, thereby mitigating agency conflicts.



**Table 3.** Regression Results.

<b>Fixed-effects (within) regression</b> Number of obs = 416 <b>Group variable: firm</b> Number of groups = 26 <b>R-sq: within = 0.6337</b> Obs per group: min = 16 <b>between = 0.3867</b> avg = 16.0 <b>overall = 0.5936</b> max = 16 <b>F (8, 25) = 102.39</b> <b>Corr (u_i, Xb) = 0.0351</b> Prob > F = 0.0000 <b>(Std. Err. Adjusted for 26 clusters in the firm)</b>						
REM	Coef.	Robust Std. Err.	t	P>t	[95% Conf.	Interval]
FA	-.0036524	.000437	-8.36	0.000	-.0045524	-.0027524
FS	.0745359	.0090813	8.21	0.000	.0558327	.0932391
ACE	-1.003033	.0460311	-21.79	0.000	-1.097836	-.9082306
FL	.290609	.0439868	6.61	0.000	.2000165	.3812016
cons	.2644783	.0905085	2.92	0.007	.0780726	.450884
sigma_u	.0699646					
sigma_e	.12747244					
rho	.23150697	(fraction of variance due to u_i)				

Financial leverage significantly boosts creative earnings, as shown by the results ( $\beta = 0.290609$ ,  $\rho = 0.000 < 0.05$ ). This implies that when companies take on more debt, they may feel pressured to manipulate earnings to comply with debt covenants and reassure stakeholders, such as creditors and investors, who influence the approval of additional loans. This manipulation may also be intended to convince lenders of the company's ability to repay both the principal and interest. As the reliance on debt increases, managers may be incentivized to smooth profits, particularly when financial performance needs to be presented in a favorable light to creditors or investors. This relationship underscores the potential risks associated with high leverage, as it can undermine the transparency and reliability of financial reporting. This result is consistent with the findings of [33]. That indicated that companies that heavily rely on external financing have strong incentives to manage earnings to improve their financing conditions. Predicted by the peck order theory, financial leverage is associated with high information asymmetric that creates adverse selection costs. Additionally, [29] provides evidence consistent with the pecking order theory, suggesting that firms indulging in higher earnings management practices exhibit greater leverage ratios. Consistent with the agency theory, it is assumed that adverse selection may appear between lenders (principals) and the managers/shareholders (agents) as the latter hold more private information about firm performance [43]. As a response, lenders could introduce debt covenants and restrictions, leading to higher agency costs and debt pricing, consequently [70]. Therefore, Managers can opportunistically manage

their operating activities through sales, discretionary expenses, and production to access syndicated loans (Ertan 2021), to meet debt covenants [42], and influence credit rating [19]. Thus, debt contracts and opportunistic earnings smoothness indicate the accessible linkage between leverage and REM practices.

Firm size and firm age are tested and held constant throughout the study to assess the relationship between real earnings management, audit committee effectiveness, and financial leverage. As the firm grows in terms of assets, it tends to adopt more aggressive operational earnings strategies ( $\beta = 0.072$ ,  $\rho = 0.000 > 0.003$ ). This suggests that larger firms, driven by the need to maintain strong financial performance or meet stakeholder expectations, may take bolder steps to influence their earnings. The positive relationship between asset growth and aggressive earnings practices highlights the pressures firms face as they scale, where the pursuit of higher profitability or favorable financial metrics may lead to greater risk-taking in accounting choices. This could ultimately affect the accuracy and transparency of financial reporting. This finding contradicts the findings of [77], who noted that larger firms are subject to greater regulation and stricter monitoring by financial analysts, making them less likely to engage in earnings smoothing.

However, it aligns with the findings of [50], who suggest that larger firms face higher agency problems. Large firms often receive increased scrutiny from regulators and investors, which can pressure managers into engaging in unethical practices to meet market expectations. Moreover, their complex operations make it challenging for analysts and other

stakeholders to fully comprehend financial activities, allowing greater opportunities for earnings manipulation due to information asymmetry. Consistent with agency theory, [52] posits that larger firms experience higher agency costs, which may drive more unethical financial practices.

As the firm grows, it becomes increasingly vigilant about the credibility of its reports to stakeholders ( $\beta = -0.004$ ,  $\rho = 0.000 < 0.05$ ). In doing so, the firm places a strong emphasis on ensuring the accuracy, timeliness, and reliability of the information it provides. This commitment to transparency and high-quality reporting is crucial for maintaining stakeholder trust and sustaining long-term business relationships.

Furthermore, as the firm expands, it must also carefully consider its going concern status, ensuring that its financial health and sustainability are communicated to stakeholders. Maintaining this confidence in its continued viability is essential for securing ongoing support from investors, creditors, and other key parties. The study findings align with [45], who suggested that older companies are more motivated to disclose high-quality earnings information and are less likely to engage in earnings management. Furthermore, [31] noted that younger firms are more likely to require external financing,

which may incentivize them to manipulate earnings. However, this finding contradicts [17], who reported an insignificant correlation between firm age and real earnings management in Egypt. From the agency theory perspective, older firms are less likely to engage in real earnings management due to enhanced monitoring mechanisms, reduced information asymmetry, and greater reputational concerns. These factors align managerial interests more closely with those of shareholders, thus mitigating opportunistic financial reporting behaviors.

The regression results in Table 4 reveal that financial leverage plays a significant moderating role. Specifically, the level of leverage impacts the audit committee's ability to function effectively, ultimately amplifying real earnings manipulation through operational activities ( $\beta = .0746503$ ,  $\rho = 0.000 < 0.05$ ). This finding indicates that financial leverage moderates audit committee effectiveness on REM, making the relationship less negative or more positive. This shows that while an effective audit committee helps curb earnings manipulation, the pressure from debt can still drive creative earnings practices. This aligns with the findings of [75], a high leverage ratio affects audit committee functionality.

**Table 4.** Regression Results.

<b>Fixed effects (within) regression</b> Number of obs = 416 <b>Group variable: firm</b> Number of groups = 26 <b>R-sq: within = 0.6849</b> Obs per group: min = 16 <b>between = 0.2934</b> avg = 16.0 <b>overall = 0.6849</b> max = 16 <b>F (9, 25) = 78.09</b> <b>Corr (u_i, Xb) = 0.0006</b> Prob > F = 0.0000 <b>(Std. Err. adjusted for 26 clusters in the firm)</b>						
REM	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
FA	-.0037652	.0003881	-9.70	0.000	-.0045645	-.0029658
FS	.0573045	.0076529	7.49	0.000	.041543	.0730659
ACE	-.9816027	.0476283	-20.61	0.000	-1.079695	-.8835104
FL	.2876075	.0349196	8.24	0.000	.2156892	.3595258
ACE*FL	.0746503	.0081048	9.21	0.000	.0579581	.0913425
_cons	.3400878	.077867	4.37	0.000	.1797178	.5004578
sigma_u	.07446048					
sigma_e	.10386775					
rho	.33946036	(fraction of variance due to u_i)				

Although the audit committee's effectiveness functions as an internal corporate governance mechanism, and financial leverage acts as an external governance tool, both are intended to curb earnings manipulation. However, when these

mechanisms interact, the risk of information asymmetry—often created by managers seeking to avoid breaching debt covenants—becomes more pronounced. This information gap can weaken the audit committee's ability to de-

tect and prevent earnings manipulation, leading to an increase in creative earnings. In highly leveraged firms, even with an effective audit committee, the pressure to meet debt covenants, secure syndicated loans, influence credit ratings, or obtain additional financing can incentivize managers to manipulate earnings. As a result, the influence of high leverage may overpower the internal controls aimed at ensuring transparency, thus allowing earnings manipulation to persist despite strong oversight. This challenge arises because REM is not detectable through traditional audit procedures [46].

## 5. Discussion

Audit committee functionality helps limit managerial discretion, serving as a key internal oversight system that ensures earnings dependability. It oversees financial reporting, manages internal controls, supervises external and internal audits, and promotes ethics and accountability. This strengthens transparency, compliance, and stakeholder trust, aligning with prior research that effective audit committees curb creative earnings.

However, managers often embed real earnings management within normal operations, making it hard for auditors and shareholders to detect. Since REM operates legally and within GAAP, managers can justify it as strategic rather than deceptive. In some cases, audit committees may be less robust due to managerial influence, complex financial structures, or pressure to present positive financial results, compromising their independence.

In highly leveraged firms, even with an effective audit committee, managers may still manipulate earnings to meet debt covenants, secure syndicated loans, influence credit ratings, or obtain additional financing. [3] caution against assessing governance mechanisms in isolation, as their combined effects may vary. In this context, the interaction between audit committee effectiveness and financial leverage may increase REM, revealing the complexities of corporate governance.

## Abbreviations

AC	Audit Committee
ACE	Audit Committee Effectiveness
GAAP	General Accepted Accounting Principles
NSE	Nairobi Securities Exchange
REM	Real Earnings Management

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## Author Contributions

**Sharon Jepkosgei Waley:** Conceptualization, Data curation, Formal Analysis, Methodology, Resources, Software, Visualization, Writing - original draft

**Josephat Cheboi:** Supervision, Validation, Writing - review & editing

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## Conflicts of Interest

The authors declare no conflicts of interest.

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