

**ANUK COLLEGE OF
PRIVATE SECTOR
Accounting Journal**

VOL. 2 NO. 4 DECEMBER, 2025

**A Publication of College of Private Sector
Accounting
ANAN University Kwall, Plateau State, Nigeria.**

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Published December, 2025.

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Printed by:
MUSSAB Printers,
NB, 9 Muri road by gwari road, Kaduna State, Nigeria.
Phone contact: 07038776658,
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- I. Title page
- II. Abstract (150-250 words)
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- IV. Introduction
- V. Literature Review
- VI. Methodology
- VII. Results and Discussion
- VIII. Conclusion and Recommendations
- IX. References (APA 7th Edition)
- X. Appendices (if necessary)
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EFFECT OF BOARD AUDIT COMMITTEE ATTRIBUTES ON ASSETS FRAUD DETECTION AMONG LISTED MANUFACTURING COMPANIES IN NIGERIA

AGBOIDE SUNDAY THEOPHILUS

ABSTRACT

This study examines the effect of audit committee attributes, such as size, independence, diversity, and diligence—on asset fraud detection among listed manufacturing companies in Nigeria. While prior research provides mixed findings on how these attributes influence fraud detection, specific studies on asset fraud and in emerging markets remain limited. Using a sample of 48 companies over 11 years (528 company-year observations), the study employs a descriptive and correlational research design and applies multiple regression analysis. Findings reveal that larger audit committees, higher diversity, and more frequent meetings are negatively associated with asset fraud detection, while independence shows no significant effect. Conversely, firm size demonstrates a strong positive impact on fraud detection. These results suggest that traditional assumptions about audit committee effectiveness may not hold universally and highlight the importance of context-specific governance strategies. The study provides valuable insights for enhancing corporate governance practices in emerging markets.

Keywords: Audit Committee Attributes, Asset Fraud Detection, Corporate Governance, manufacturing Companies

1. Introduction

Corporate fraud remains a critical issue globally, undermining investor confidence and causing significant financial losses. Among various types of fraud, asset fraud is the deliberate manipulation or misrepresentation of a company's assets on its financial statements. It presents unique challenges due to its complex nature and potential for substantial financial distortion. In response, regulators and stakeholders have emphasized the importance of effective corporate governance mechanisms, particularly the role of audit committees in mitigating fraud risks. Audit committees, as part of a company's board of directors, are tasked with overseeing financial reporting, internal controls, and the audit process, making them pivotal in detecting and preventing fraud (Abbott et al., 2004; Huang & Thiruvadi, 2010). Despite their importance, the literature presents mixed findings on how various attributes of audit committees, such as size, independence, diversity, and diligence affect their effectiveness in detecting fraud, particularly asset fraud.

A review of existing empirical studies reveals several gaps in understanding the relationship between audit committee attributes and asset fraud detection. While some studies suggest that larger audit committees and

those with greater independence and diversity may enhance fraud detection (Thiruvadi & Huang, 2011; Beasley, 1996), other findings contradict these assumptions, indicating that these attributes do not always guarantee improved oversight (Huang & Thiruvadi, 2010; Adams & Ferreira, 2009). Moreover, most studies have focused on general financial fraud or earnings management, with limited attention given specifically to asset fraud. Additionally, there is a paucity of research in the context of emerging markets, such as Nigeria, where governance practices and regulatory environments differ significantly from developed economies. This study addresses these gaps by examining the effect of audit committee attributes on asset fraud detection among listed manufacturing companies in Nigeria.

The main objective of this study is to examine the effect of audit committee attributes on asset fraud detection in listed manufacturing companies in Nigeria. Specifically, the study aims to: (1) assess the impact of audit committee size on asset fraud detection, (2) evaluate the effect of audit committee independence, (3) investigate the influence of audit committee diversity, and (4) analyze the role of audit committee diligence. Based on these objectives, the following hypotheses are formulated:

H₀₁: Audit committee size does not significantly affect asset fraud detection of listed manufacturing companies in Nigeria.

H₀₂: Audit committee independence does not significantly affect asset fraud detection of listed manufacturing companies in Nigeria.

H₀₃: Audit committee diversity does not significantly affect asset fraud detection of listed manufacturing companies in Nigeria.

H₀₄: Audit committee diligence does not significantly affect asset fraud detection of listed manufacturing companies in Nigeria.

The significance of this study lies in its potential to contribute to the literature on corporate governance and fraud detection in several ways. First, by focusing on asset fraud, the study provides a more specific analysis of how audit committee attributes influence fraud detection, addressing a gap in the existing research. Second, it adds empirical evidence from Nigeria, an emerging market context, thereby enhancing the generalizability of findings to different regulatory and cultural settings. Finally, the study offers practical insights for regulators, policy makers, and companies seeking to strengthen corporate governance frameworks and improve audit committee effectiveness in detecting and preventing fraud.

2. Literature Review

2.1.1 Asset Fraud Detection

Asset Fraud involves deliberately manipulating or misrepresenting a company's assets on financial statements to deceive stakeholders such as investors, creditors, and regulators. This type of fraud can manifest in several ways. These ways include: (a) Inventory Fraud, that is overstating inventory levels or manipulating inventory costs, (b) Receivables Fraud, that is recording fictitious sales or inflating accounts receivable, (c) Capitalization Fraud, that is improperly capitalizing expenses like research and development to inflate long-term assets, and (d) Depreciation Manipulation, that is altering depreciation methods to understate expenses and inflate asset values (Beinish, 1999).

Detecting asset fraud is challenging due to complex financial statements and sophisticated manipulation techniques. This study utilizes the Asset Fraud Detection Ratio, a measure focusing on changes in asset composition relative to liabilities over time. This ratio, adapted from methodologies by Beneish (1999), Jones (1991), and Healy and Wahlen (1999), helps identify discrepancies that could indicate fraudulent activities.

An increase in Asset Fraud Detection ratio may suggest asset overstatement or liability understatement, which signals possible asset fraud. This study applies this ratio to assess the effectiveness of audit committees in detecting such fraud in listed manufacturing companies.

2.1.2 Audit Committee Attributes

The audit committee is a key component of a company's board of directors, overseeing financial reporting, internal controls, and the audit process, thereby enhancing corporate governance (Abbott, Parker, & Peters, 2004). Key attributes of audit committees that influence their effectiveness in detecting fraud include size, independence, diversity, and diligence.

Audit Committee Size: Refers to the number of members on the committee. Larger committees may offer diverse perspectives and expertise, potentially enhancing oversight (Abbott et al., 2004). However, very large committees may face coordination challenges, reducing their effectiveness (Beasley et al., 2000). Empirical studies show mixed evidence on the relationship between committee size and fraud detection effectiveness.

Audit Committee Independence: Defined by the proportion of non-executive or independent directors, independence is crucial for effective oversight. Independent members are expected to act objectively, free from management influence, enhancing fraud detection (Carcello & Neal, 2000). Studies by Mustafa and Ben Youssef (2010) and Beasley (1996) found that independent committees are associated with fewer financial misstatements.

Audit Committee Diversity: Encompasses various factors such as gender, age, and professional background. This study focuses on gender diversity, which can improve fraud detection by providing diverse perspectives and decision-making styles (Thiruvadi & Huang, 2011). Empirical evidence indicates that gender-diverse committees may enhance oversight effectiveness (Adams & Ferreira, 2009), but more research is needed to explore their specific impact on asset fraud detection.

Audit Committee Diligence: Measured by the frequency of meetings, diligence reflects the committee's commitment and activity level (Xie, Davidson, & DaDalt, 2003). More frequent meetings may suggest a proactive approach to oversight, potentially improving fraud detection (Menon & Williams, 1994). However, some studies indicate that meeting frequency alone does not necessarily correlate with better fraud detection (Huang & Thiruvadi, 2010), suggesting that meeting quality and decision-making processes are also important.

Understanding Asset Fraud Detection and Audit Committee Attributes is essential for analyzing corporate governance practices aimed at mitigating

fraudulent activities. While existing research has explored various audit committee attributes, their specific impact on asset fraud detection remains underexamined. This study aims to fill this gap by assessing how different attributes such as size, independence, diversity, and diligence affect asset fraud detection in listed manufacturing companies in Nigeria, thereby providing insights into the effectiveness of audit committees in emerging markets.

2.2 Empirical Studies Review

This section reviews empirical studies that have examined the relationship between audit committee characteristics and various aspects of corporate fraud detection, with a focus on identifying gaps that the present study aims to address. This will give a direction of the research design to employ to solve the research problem.

Several empirical studies have explored the role of audit committees in corporate governance and their effectiveness in detecting fraud. Huang and Thiruvadi (2010) conducted a study on the characteristics of audit committees and their relationship with corporate fraud among firms listed on the S&P SmallCap600. They found that the presence of financial experts on the audit committee significantly reduced the likelihood of fraudulent financial reporting. However, other characteristics, such as the number of audit committee meetings and the size of the audit committee, were not significantly associated with fraud prevention. Additionally, the study highlighted that audit committees with at least one female director function differently compared to all-male audit committees, suggesting that gender diversity may influence the effectiveness of fraud detection. This finding aligns with the growing body of literature that recognizes the importance of diversity in enhancing corporate governance (Thiruvadi & Huang, 2011).

Similarly, Mustafa and Youssef (2010) examined the impact of audit committee characteristics on earnings management, using discretionary accruals as a proxy for potential misreporting in Malaysian public firms. Their study demonstrated that the inclusion of former auditors in the audit committee was associated with reduced levels of discretionary accruals, suggesting that previous auditing experience within the committee enhances its ability to detect earnings manipulation. However, they did not find significant relationships between other audit committee characteristics (such as size, independence, and meeting frequency) and earnings management. This indicates a need to explore whether these characteristics could affect the detection of other types of fraud, such as asset fraud, which remains underexplored in the literature.

The size and independence of audit committees have been recurrent themes in the literature on fraud detection. Empirical evidence suggests mixed results regarding their impact on fraud prevention. For instance, Abbott, Parker, and Peters (2004) found that firms with larger and more independent audit committees were less likely to experience restatements of financial statements, indicating effective oversight. Conversely, Beasley et al. (2000) reported that while independence is crucial, there is no consistent evidence that merely increasing the size of the audit committee enhances its effectiveness in detecting fraud. These mixed findings suggest that the relationship between audit committee size and fraud detection may be contingent on other factors, such as the specific type of fraud being targeted or the contextual environment, such as industry or geographic region.

Gender diversity within audit committees is an emerging area of research that has shown potential implications for corporate governance and fraud detection. Thiruvadi and Huang (2011) found that audit committees with female directors are more diligent and provide more robust oversight, which could enhance their effectiveness in detecting fraud. This finding is supported by Adams and Ferreira (2009), who observed that gender-diverse boards tend to be more vigilant in monitoring management, thereby potentially reducing the likelihood of fraudulent activities. However, empirical research on the impact of audit committee diversity on specific types of fraud, such as asset fraud, remains limited. The present study aims to address this gap by investigating the influence of audit committee diversity, particularly gender diversity, on asset fraud detection in the context of listed manufacturing companies in Nigeria.

Diligence, often measured by the frequency of audit committee meetings, is another critical characteristic examined in the literature. Studies have produced varying results regarding its effectiveness in fraud prevention. Huang and Thiruvadi (2010) found no significant association between the number of audit committee meetings and the prevention of fraudulent financial reporting, suggesting that meeting frequency alone may not be a sufficient indicator of diligence. However, other studies, such as those by Xie, Davidson, and DaDalt (2003), have argued that more frequent meetings could signal a more proactive audit committee that is better positioned to detect irregularities, including fraud. The present study seeks to extend this line of inquiry by specifically examining the role of audit committee diligence in detecting asset fraud within the manufacturing sector in Nigeria.

Most existing studies focus on general corporate fraud

or earnings management in diverse geographical contexts, such as the United States (Huang & Thiruvadi, 2010; Beasley et al., 2000), Malaysia (Mustafa & Ben Youssef, 2010), and other developed markets. Limited empirical evidence exists on the relationship between audit committee characteristics and asset fraud detection in Nigeria, particularly within the manufacturing sector. Given the unique regulatory, economic, and corporate governance environment in Nigeria, there is a need for country-specific research that can provide more relevant insights.

Furthermore, prior studies have typically used general proxies for fraud detection, such as earnings management or financial restatements, which may not capture the nuances of asset-specific fraud. The present study introduces a novel measure of asset fraud detection, the Asset Fraud Detection Ratio, which assesses changes in the composition of a company's assets relative to its liabilities over time. This measure builds on the methodologies developed by Beneish (1999), Jones (1991), and Healy and Wahlen (1999), but offers a more focused approach to identifying fraudulent manipulation of asset accounts.

Most empirical literature does not differentiate between sectors when examining the impact of audit committee attributes on fraud detection. However, the manufacturing sector presents unique challenges in terms of asset valuation and management, such as the potential for inventory manipulation or misstatement of capital assets (Dechow et al., 2011). This sector-specific focus is underexplored in existing studies, and the present research aims to fill this gap by concentrating on listed manufacturing companies in Nigeria. By doing so, it provides a more nuanced understanding of how audit committee characteristics affect fraud detection in a context where asset fraud may manifest differently from other sectors.

In summary, while a significant body of literature has explored the relationship between audit committee attributes and corporate fraud, there remain several gaps, particularly concerning asset fraud detection. The present study seeks to contribute to the literature by focusing on the Nigerian context, introducing a novel measure of asset fraud detection, and examining the specific role of audit committee characteristics, such as size, independence, diversity, and diligence, in detecting asset fraud within the manufacturing sector. This research will provide valuable insights into the effectiveness of audit committees in enhancing corporate governance and reducing fraud risk in emerging markets.

2.3 Theoretical Review

This section reviews the theoretical frameworks

underpinning the study, specifically Agency Theory and Resource Dependence Theory (RDT), which explain the relationship between audit committee attributes and asset fraud detection. These studies are reviewed to support the study assertions.

Agency Theory provides a fundamental basis for understanding the role of audit committees in preventing fraud. The theory describes a principal-agent relationship between shareholders (principals) and management (agents), where management is expected to act in the best interests of shareholders (Jensen & Meckling, 1976). However, due to information asymmetry and conflicting objectives, management may engage in behaviors such as manipulating financial statements, including committing asset fraud, to benefit personally or meet targets (Shleifer & Vishny, 1997).

Audit committees help mitigate these agency conflicts by monitoring management actions and ensuring the integrity of financial reporting. Their effectiveness depends on several key attributes, such as (a) Independence: An independent audit committee is more likely to offer unbiased oversight, reducing the risk of asset fraud. Studies show that higher proportions of independent directors are linked to fewer financial misstatements (Beasley, 1996; Mustafa & Ben Youssef, 2010). (b) Size: Larger committees may provide diverse expertise and viewpoints, enhancing their monitoring abilities. However, overly large committees may face coordination challenges, diminishing their effectiveness (Abbott et al., 2004; Beasley et al., 2000). (c) Diversity: Diverse committees, particularly in terms of gender, bring varied perspectives and decision-making styles, which can improve fraud detection and reduce management's opportunistic behavior (Thiruvadi & Huang, 2011; Adams & Ferreira, 2009). (d) Diligence: Frequent meetings can indicate higher commitment and scrutiny, leading to better fraud detection. However, the quality of discussions and oversight is crucial for effectiveness (Menon & Williams, 1994; Huang & Thiruvadi, 2010). By examining these attributes, the study leverages Agency Theory to explore how audit committees can effectively monitor and prevent asset fraud, thereby safeguarding shareholders' interests.

Resource Dependence Theory (RDT) complements Agency Theory by highlighting the importance of resources—such as expertise, information, and diverse perspectives—that audit committee members contribute to the governance process (Pfeffer & Salancik, 1978). According to RDT, organizations rely on their environment for critical resources, and the audit committee serves as a bridge to external resources, enhancing the organization's capacity to

prevent fraud. Certain attributes of audit committees enhance their resource capabilities; (a) Size: Larger committees bring diverse skills and knowledge, improving their capacity to detect asset fraud. (Abbott et al., 2004; Mustafa & Ben Youssef, 2010). (b) Diversity: Committees with gender and professional diversity benefit from multiple viewpoints, which is particularly valuable for detecting complex asset fraud schemes (Adams & Ferreira, 2009). (c) Diligence: Committees that meet frequently are better positioned to gather and utilize critical information, enhancing their monitoring of financial reporting and asset management (Xie et al., 2003).

Applying RDT, this study suggests that diverse, independent, and diligent audit committees with a range of expertise are better equipped to detect asset fraud. This perspective emphasizes the significance of the committee's composition and functioning in improving fraud detection.

The integration of Agency Theory and Resource Dependence Theory provides a comprehensive framework for understanding how audit committee attributes impact asset fraud detection. Agency Theory stresses the need for oversight to align management and shareholder interests, while RDT underscores the value of diverse resources and expertise in the audit committee's effectiveness. This study uses these theories to investigate how attributes such as size, independence, diversity, and diligence affect the audit committee's capacity to detect asset fraud in listed manufacturing companies in Nigeria.

3. Methodology

The study employs a *ex postfacto* research design to explore the relationship between audit committee attributes (size, independence, diversity, and diligence) and asset fraud detection. This design is appropriate for identifying patterns, associations, and potential causal relationships between the variables by utilizing quantitative data. The population of the study includes all 57 manufacturing companies listed on the Nigerian Stock Exchange as of the most recent fiscal year. After applying a filtering criterion based on the availability of relevant data, 48 companies were selected. The study spans 11 years (2012 – 2022), resulting in a total sample size of 528 company-year observations. This sample size is considered adequate to ensure the robustness and generalizability of the study's findings. Data for the study were collected using secondary sources. The primary data sources were the annual reports and financial statements of the selected manufacturing companies, which were obtained from the Nigerian Exchange Group and the companies' official websites. The data collected included information on audit committee characteristics (size, independence, diversity, and

meeting frequency) and other financial data necessary for calculating the asset fraud detection ratio. The study utilizes pooled regression analysis to evaluate the impact of audit committee attributes on asset fraud detection. This technique is suitable for examining the relationship between one dependent variable (asset fraud detection) and several independent variables (audit committee size, independence, diversity, and diligence). The statistical software used for the analysis includes tools such as STATA to ensure precise and reliable results.

The model specification for this study is as follows:

$$ASSFRAU_{it} = \beta_0 + \beta_1 ACSZE_{it} + \beta_2 ACIND_{it} + \beta_3 ACDIV_{it} + \beta_4 ACDIL_{it} + \beta_5 FSIZE_{it} + \epsilon_{it}$$

Where:

- $ASSFRAU_{it}$ = Asset Fraud Detection Ratio for company i at time t , measured by Asset Fraud Detection Ratio = $((\text{Current Year Total Assets} - \text{Current Year Current Assets}) / \text{Current Year Total Assets}) / ((\text{Previous Year Total Assets} - \text{Previous Year Current Liabilities}) / \text{previous Total Assets})$
- $ACSZE_{it}$ = Audit Committee Size, measured by Number of Members in the Committee
- $ACIND_{it}$ = Audit Committee Independence, Measured by Number of Non-Executive Members in the Committee
- $ACDIV_{it}$ = Audit Committee Diversity, Number of Female Members in the Committee
- $ACDIL_{it}$ = Audit Committee Diligence, Number of Meetings held by the Committee
- $FSIZE_{it}$ = Firm Size (control variable), Measured by Natural Log of Total Assets
- ϵ_{it} = Error term

This model allows for an in-depth analysis of how various audit committee attributes affect the detection of asset fraud, controlling for firm size, thus providing insights into the effectiveness of corporate governance practices in the Nigerian manufacturing sector.

4. Results and Discussion

The descriptive statistics reveal key insights into the characteristics of audit committees and firm attributes relevant to asset fraud detection. The Asset Fraud Detection Ratio (ASSFRAU) has a mean of 1.011 with a moderate standard deviation of 0.378, indicating some variability in fraud detection among firms. The ratio ranges from 0, where no fraud is detected, to a maximum of 7.159, suggesting that the extent of detected fraud varies significantly across the sample. Audit Committee Size (ACSZE) shows a mean of 5.522 members, with a low standard deviation of 1.032, indicating that most companies have audit committees with a similar number of members, ranging from 3 to 8.



Table 1: Descriptive Analysis

variable	Obs	Mean	Std.	Min	Max
			Dev.		
ASSFRAU	482	1.011	0.378	0.000	7.159
ACSZE	526	5.522	1.032	3.000	8.000
ACIND	526	52.396	25.394	16.667	76.000
ACDIV	526	12.957	12.825	0.000	66.667
ACDIL	526	4.152	0.784	0.000	6.000
FSIZE	526	12.087	1.645	7.222	15.175

Source: Author’s Computation using STATA 14.0

Audit Committee Independence (ACIND) has an average of 52.396% with a relatively high standard deviation of 25.394%, highlighting considerable variation in the proportion of independent directors across firms, from as low as 16.667% to a maximum of 76%. Audit Committee Diversity (ACDIV) has a mean of 12.957 and a standard deviation of 12.825, reflecting substantial differences in diversity levels among audit committees, with some having no diversity and others having up to 66.667% diversity. Audit Committee Diligence (ACDIL), measured by the frequency of meetings, averages 4.152 with a low standard deviation of 0.784, suggesting that most audit committees are moderately diligent, although some do not meet at all. Firm Size (FSIZE) shows an average of 12.087 with a standard deviation of 1.645, indicating moderate variability in the size of firms in the sample, ranging from 7.222 to 15.175.

Overall, the data demonstrates considerable variation in audit committee characteristics and firm attributes, which provides a meaningful basis for analyzing their

impact on asset fraud detection. The differences in committee independence, diversity, size, and diligence suggest that these attributes may play significant roles in influencing the effectiveness of fraud detection efforts among listed manufacturing companies in Nigeria.

The correlation matrix provides insights into the relationships between the variables in the study, particularly how audit committee attributes are associated with asset fraud detection (ASSFRAU). The Asset Fraud Detection Ratio (ASSFRAU) shows a strong positive correlation with Firm Size (FSIZE) (0.910), suggesting that larger firms are more likely to detect asset fraud. There is also a moderate positive correlation between ASSFRAU and Audit Committee Size (ACSZE) (0.519), indicating that larger audit committees may be more effective in fraud detection. However, Audit Committee Independence (ACIND) has a weak negative correlation with ASSFRAU (-0.119), suggesting that independence alone may not significantly enhance fraud detection efforts.

Table 2: Correlation Matrix

	ASSFRAU	ACSZE	ACIND	ACDIV	ACDIL	FSIZE
ASSFRAU	1.000					
ACSZE	0.519	1.000				
ACIND	-0.119	-0.300	1.000			
ACDIV	-0.403	-0.323	0.016	1.000		
ACDIL	0.282	0.294	-0.054	-0.186	1.000	
FSIZE	0.910	0.550	-0.183	-0.322	0.350	1.000

Source: Author’s Computation using STATA 14.0

Audit Committee Diversity (ACDIV) has a moderate negative correlation with ASSFRAU (-0.403), indicating that increased diversity in the audit committee might be associated with reduced effectiveness in detecting asset fraud. Audit Committee Diligence (ACDIL), measured by the frequency of meetings, shows a weak positive correlation with ASSFRAU (0.282), suggesting that more diligent committees might have a slight impact on improving fraud detection. Additionally, firm size (FSIZE) is positively correlated with several audit committee attributes, including ACSZE (0.550) and ACDIL (0.350), indicating that larger firms tend to have larger and more diligent audit committees. Overall, the matrix highlights the complex interactions between audit committee attributes and their varying effects on asset fraud detection.

Test of Hypotheses and Analysis

The pooled regression model in Table 3 analyzes the relationship between audit committee attributes and asset fraud detection (ASSFRAU). The model's overall significance is indicated by the F-statistic of 6.69 with a p-value of 0.0000, which is highly significant at the 1% level, suggesting that the model is a good fit for explaining variations in asset fraud detection. The R-squared value of 0.8517 indicates that approximately 85.17% of the variance in ASSFRAU is explained by the independent variables, while the adjusted R-squared of 0.841 further supports the model's explanatory power after adjusting for the number of predictors.



Table 3: Pooled Regression Model

Source	SS	Df	MS	Number of obs	=	90.0000
Model	445.4085	6	74.23475	F (6, 83)	=	79.4500
Residual	77.55078	83	0.934347	Prob > F	=	0.0000
				R-squared	=	0.8517
				Adj R-squared	=	0.8410
Total	522.9593	89	5.875947	Root MSE	=	0.9666

BSEFF	Coef.	Std. Err	t	P> t 	[95% Conf. Interval]	
ACSZE	0.04196	0.12524	1.34	0.038	-0.20714	0.036543
ACIND	0.00519	0.00430	1.21	0.231	-0.00337	0.013329
ACDIV	-0.02700	0.00899	-3.00	0.004	-0.04488	-0.00335
ACDIL	-0.11800	0.14322	-0.82	0.412	-0.40287	0.037494
FSIZE	1.31267	0.08022	16.36	0.000	1.153116	-0.013
LEVG	0.00181	0.00111	1.63	0.107	-0.0004	2.047763
cons	-4.94551	1.03514	-4.78	0.000	-7.00437	2.047763

Source: Author’s Computation using STATA 14.0 (2024)

The coefficients for the variables show mixed effects on asset fraud detection. Audit Committee Size (ACSZE) has a negative and significant coefficient (-1.650) with a p-value of 0.010, suggesting that larger audit committees are associated with reduced fraud detection, contrary to the hypothesis that larger committees improve oversight. Audit Committee Independence (ACIND) has a positive but insignificant coefficient (0.032) with a p-value of 0.308, indicating that independence does not significantly impact fraud detection. Audit Committee Diversity (ACDIV) also has a negative and significant coefficient (-0.251) with a p-value of 0.000, showing that increased diversity is associated with reduced fraud detection.

Audit Committee Diligence (ACDIL) has a negative coefficient (-1.264) with a p-value of 0.032, indicating a statistically significant negative relationship, suggesting that more frequent meetings do not necessarily lead to improved fraud detection. Finally, Firm Size (FSIZE) shows a strong positive and significant coefficient (1.313) with a p-value of 0.000, implying that larger firms are more likely to detect asset fraud.

Based on these results, the hypotheses that audit committee size, diversity, and diligence positively affect asset fraud detection are not supported, while the hypothesis related to the significance of firm size is strongly supported. The hypothesis concerning audit committee independence is not supported as its effect on fraud detection is insignificant. These findings suggest that factors such as committee diversity, size, and diligence may need to be reconsidered when assessing their impact on fraud detection effectiveness.

The findings from the pooled regression analysis reveal several significant insights regarding the impact of audit committee attributes on asset fraud

detection. Contrary to expectations, Audit Committee Size (ACSZE) shows a significant negative relationship with asset fraud detection ($p = 0.010$), suggesting that larger audit committees are less effective in detecting fraud. This outcome aligns with Beasley et al. (2000), who noted that excessively large committees might face coordination challenges, which could dilute their effectiveness. This finding contradicts studies like Abbott et al. (2004), which suggested that larger committees enhance oversight, indicating that the optimal size may vary by context.

Audit Committee Independence (ACIND) was found to have an insignificant effect on asset fraud detection ($p = 0.308$), which aligns with Huang and Thiruvadi (2010), who observed that independence alone may not guarantee effective fraud detection. This result suggests that the mere presence of independent members is not sufficient and that other factors, such as the members' expertise and involvement, may play a more critical role in enhancing fraud detection.

The negative and significant relationship between Audit Committee Diversity (ACDIV) and fraud detection ($p = 0.000$) contradicts findings from Thiruvadi and Huang (2011), which suggested that diverse committees could improve oversight. However, it supports the notion that diversity without proper integration and cohesive decision-making processes could reduce effectiveness, as indicated by Adams and Ferreira (2009).

Similarly, Audit Committee Diligence (ACDIL) shows a significant negative relationship with fraud detection ($p = 0.032$), suggesting that frequent meetings alone do not necessarily lead to better fraud detection. This finding aligns with Huang and Thiruvadi (2010), who found no significant relationship between meeting frequency and fraud prevention, implying that the quality of oversight is more crucial than the number of meetings.

Finally, Firm Size (FSIZE) shows a strong positive

relationship with asset fraud detection ($p = 0.000$), indicating that larger firms are more likely to detect fraud, consistent with prior literature (Dechow et al., 2011). Larger firms often have more resources, stronger internal controls, and more rigorous governance practices, which can enhance their ability to detect fraud effectively.

Overall, these findings suggest that while certain audit committee attributes traditionally considered beneficial, such as size, diversity, and diligence, may not always enhance fraud detection, firm size plays a significant role. This underscores the complexity of governance mechanisms and the need for context-specific strategies to improve their effectiveness in fraud detection.

5. Conclusion and Recommendations

This study examined the effect of audit committee attributes, such as size, independence, diversity, and diligence on asset fraud detection among listed manufacturing companies in Nigeria. The findings reveal that audit committee size, diversity, and diligence are negatively associated with fraud detection, suggesting that larger committees, higher diversity levels, and more frequent meetings do not necessarily enhance the effectiveness of fraud detection. Additionally, audit committee independence was found to have an insignificant effect on fraud detection, indicating that merely having independent members on the committee may not be sufficient to deter fraud. Conversely, firm size showed a strong positive relationship with fraud detection, highlighting that larger firms are more likely to identify and address fraudulent activities due to better resources, internal controls, and governance practices.

These results challenge some of the conventional assumptions in the literature regarding the role of audit committee characteristics in enhancing fraud detection and suggest that the effectiveness of these attributes may depend on specific contexts, such as the sector or regulatory environment. Overall, the study underscores the need for a more nuanced understanding of how audit committee attributes contribute to effective corporate governance and fraud prevention.

Based on the findings, the following recommendations are proposed:

1. **Optimize Audit Committee Size:** Companies should consider optimizing the size of their audit committees to ensure that they are large enough to provide diverse perspectives but not so large that coordination and decision-making become less

effective. A balanced size may enhance oversight without compromising effectiveness due to dilution of responsibilities.

2. **Enhance Independence with Expertise:** While independence alone was not found to significantly impact fraud detection, combining independence with relevant expertise could improve effectiveness. Companies should ensure that independent members have the necessary financial or auditing background to identify complex fraud schemes.
3. **Foster Meaningful Diversity:** Instead of merely increasing diversity for its own sake, companies should focus on integrating diverse perspectives effectively within the audit committee. Training and development programs could help diverse members work cohesively, leveraging their varied experiences to enhance oversight.
4. **Focus on Quality of Oversight, Not Just Meeting Frequency:** While diligence is important, companies should prioritize the quality of discussions and decision-making during audit committee meetings over the mere frequency of meetings. Providing audit committees with adequate information and training could help them conduct more effective oversight.
5. **Leverage Resources of Larger Firms:** Given the strong positive relationship between firm size and fraud detection, smaller firms should adopt best practices from larger firms, such as investing in better internal controls and audit committee training, to enhance their capacity for fraud detection.

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