

## Exploring the Influence of Forensic Accounting Techniques on the Market Value of Selected Deposit Money Banks in Nigeria

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**Abstract:** Market value, a key indicator of investor confidence, reflects not only the financial performance but also the broader sentiment within the financial market. By examining how forensic accounting techniques influence market value, this study aims to unravel the nuanced impact of these practices on the banking industry's standing and investor perceptions. Data were sourced from annual records of deposit money banks listed on the Nigerian Exchange Group (NGX). The study focused on a population of ten (10) selected deposit money banks listed on NGX and they were selected due to the availability of data at the time conducting this study. The study employed a census sampling technique and the total population was investigated. The collected data in this study underwent analysis using both descriptive and inferential statistical methods. This study revealed that forensic accounting techniques exhibit a positive and significant effect on the market value of deposit money banks in Nigeria. This implies that the application of forensic methods holds meaningful influence, garnering positive responses from investors and the market at large. It was concluded that the positive and significant impact of forensic accounting techniques underscores their meaningful influence on market value, emphasizing their importance in financial practices. This study therefore recommends that banks should consider investing in forensic accounting techniques to bolster their financial practices and enhance market value.

**Keywords:** Foresing accounting techniques; fraud cases disclosure; compliance with anti-fraud agencies disclosure; whistleblowing mechanisms disclosure; training and education programs disclosure; market value

### 1. Introduction

The financial landscape of Nigeria is undergoing rapid transformations, with its banking sector serving as a vital catalyst for economic development (Awotomilusi et. al, 2023; Oluwagbade et. al, 2023). As deposit money banks play a pivotal role in the country's financial ecosystem, ensuring their stability, transparency, and effective risk management becomes imperative (Chukwuma et. al, 2022). The financial performance of deposit money banks in Nigeria is of paramount importance for stakeholders,

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including investors, regulators, customers, and policymakers. It provides insights into the banks' operational efficiency, profitability, liquidity, solvency, and overall health, which are critical indicators of their ability to fulfill their primary functions, manage risks, and contribute to the nation's economic growth (Dagunduro et. al, 2023; Oluwagbade et. al, 2023). Banks in Nigeria have faced elevated operating expenses partly due to the high cost of doing business, including technology infrastructures, security measures, and compliance requirements. Inefficient cost management has negatively affected banks' profitability and competitiveness in Nigeria (Dada et. al, 2023; Nkama & Onoh, 2016; Okoroyibo & Omoregie, 2022).

Some deposit money banks in Nigeria have struggled to maintain adequate capital buffers to absorb potential losses due to financial irregularities such as granting unauthorized loans to their customers, coupled with fraudulent activities among the management team and employees of these banks, which have limited the ability of these banks to expand their lending activities and have forced them for a possible taken over and business combinations as an escape root for declining in profitability and liquidity (Chukwuma et. al, 2022). A robust evaluation of the financial performance of deposit money banks in Nigeria is crucial for making informed investment decisions, formulating effective regulatory policies, and ensuring the stability and resilience of the banking sector. Regular assessments enable stakeholders to identify potential risks, challenges, and areas of improvement, fostering a healthier and more prosperous banking landscape for the nation (Agbaore, 2021).

In this context, the application of forensic accounting techniques emerges as a critical strategy for fortifying the financial integrity of these institutions. Forensic accounting, a specialized field blending financial expertise with investigative acumen, is designed to unearth financial irregularities, prevent fraud, and enhance the overall integrity of financial reporting. Within the dynamic Nigerian financial market, the relationship between the utilization of forensic accounting techniques and the market value of deposit money banks becomes an intriguing subject of exploration (Aigienohuwa et. al, 2017). The adoption of forensic accounting practices is becoming increasingly critical to safeguard stakeholders' interests and protect investors' confidence. There are concerns regarding the accountability of key decision-makers, transparency of financial reporting, and the prevention of fraudulent activities have raised questions about the adequacy of existing governance mechanisms (Alaoubi & Almomani, 2021).

Market value, a key indicator of investor confidence, reflects not only the financial performance of banks but also the broader sentiment within the financial market. By examining how forensic accounting techniques influence market value, this study aims to unravel the nuanced impact of these practices on the banking industry's standing and investor perceptions. The deployment of forensic accounting techniques involves a multifaceted approach, encompassing in-depth financial analysis, internal control assessments, fraud detection mechanisms, and risk management strategies. Understanding how these techniques interplay with the market valuation of deposit money banks is pivotal for comprehending the sector's resilience to financial risks and its capacity to maintain a competitive edge in the market.

This study aligns with the growing global recognition of forensic accounting as an integral component of corporate governance, risk management, and regulatory compliance. By specifically focusing on the Nigerian banking sector, we seek to contribute nuanced insights that can inform industry practices, regulatory frameworks, and strategic decision-making. Through empirical investigation and rigorous analysis, our research aims to provide a comprehensive understanding of the intricate relationship between forensic accounting techniques and the market value of deposit money banks in Nigeria. By

doing so, we aspire to contribute valuable knowledge that can guide industry practitioners, policymakers, and academics in fostering a resilient and transparent financial environment within the Nigerian banking sector.

## **2. Literature Review**

### **2.1. Forensic Accounting Techniques**

Forensic accounting is a specialized field of accounting that combines accounting principles and investigative techniques to analyze financial information, detect and prevent fraud, and provide evidence for legal proceedings (Crumbley, 2003). It involves the application of accounting knowledge and skills to investigate financial irregularities, assess financial damages, and uncover financial misconduct. Forensic accountants often work closely with law enforcement agencies, lawyers, and corporate entities to investigate and resolve financial disputes, including fraud, embezzlement, money laundering, and other financial crimes (Degboro & Olofinsola, 2007). Forensic accounting is a specialized branch of accounting that combines accounting, auditing, and investigative skills to examine financial transactions, records, and statements with the aim of uncovering fraud, financial irregularities, or potential misconduct within an organization. It involves the application of accounting principles and techniques in a legal context to support investigations, disputes, and legal proceedings. Forensic accountants use their analytical skills to identify fraudulent activities, including embezzlement, misappropriation of assets, accounting manipulations, and other financial crimes (Howard & Sheetz, 2006; Rezaee, 2002).

In the event of legal disputes or litigation, forensic accountants assess financial damages, losses, or economic impact to determine the extent of financial harm caused by a specific event or wrongdoing (Crumbley, 2009). Forensic accountants are often called upon as expert witnesses to present their findings and analyses in legal proceedings, providing objective and credible testimony to support their conclusions. Forensic accountants play a crucial role in resolving financial disputes between parties by providing an independent and unbiased assessment of financial matters. By conducting thorough examinations and implementing robust internal controls, forensic accountants help organizations deter potentially fraudulent activities and enhance their fraud prevention measures (Ali & Fathyah, 2020; Olaoye & Olanipekun, 2018).

Forensic accounting involves a systematic approach to gathering and analyzing financial data, often in collaboration with legal professionals and law enforcement agencies. Forensic accountants are skilled professionals with a strong background in accounting, auditing, financial analysis, and investigative techniques (Okoye et. al, 2019). They are often engaged by law enforcement agencies, law firms, corporations, government entities, and other organizations to address financial concerns, prevent fraud, and uphold legal integrity. They utilize various techniques such as data analysis, financial statement analysis, interviewing witnesses, and reconstructing financial transactions to uncover evidence and present findings in a clear and concise manner suitable for legal proceedings (Onyekwelu et. al, 2016). The goal of forensic accounting is to provide accurate and reliable financial information and analysis that can be used in legal settings to support litigation, arbitration, or dispute resolution processes.

#### **2.1.2. Market Value**

Market value refers to the current worth of an asset, commodity, or financial instrument in the marketplace. It is the price at which a particular item can be bought or sold based on the forces of

supply and demand (Dada et. al, 2023; Dagunduro et. al, 2023). Market value is influenced by various factors, including investor perceptions, economic conditions, company performance, and overall market trends (Awotomilusi et. al, 2023; Oluwagbade et. al, 2023). In the context of stocks, the market value of a publicly traded company is often calculated by multiplying the current stock price by the total number of outstanding shares. This valuation provides a real-time estimate of what investors are willing to pay for an asset, reflecting the collective expectations and sentiments of the market participants (Dagunduro et. al, 2023; Odelabu, 2014).

In the context of deposit money banks, the market value reflects investors' perceptions and expectations about the bank's performance, profitability, risk, and overall outlook (Kaoje et. al, 2020). It is influenced by factors such as financial indicators, economic conditions, regulatory environment, and market sentiment. The market value of deposit money banks is a dynamic figure that can fluctuate based on market conditions and investor sentiment (Awotomilusi et. al, 2023; Oluwagbade et. al, 2023). The market value of deposit money banks refers to the current total worth of a deposit money bank in the financial marketplace. It is the valuation of the bank's equity, representing the total market capitalization or the total market worth of the bank's outstanding shares of stock. This value is determined by multiplying the current market price per share by the total number of outstanding shares of the deposit money bank (Ezekwesili, 2021; Nwaiwu & Aaron, 2018).

### **2.1.1. Forensic Accounting and Market Value**

Forensic accounting practices enhance the transparency and reliability of financial reporting within a company. By actively detecting and preventing financial irregularities, fraud, and misconduct, forensic accounting contributes to building trust among investors, stakeholders, and the market (Ohaka & Ordu, 2019; Taiya et. al, 2021). This increased trust can positively impact a company's market value. Forensic accounting helps identify and mitigate financial risks, including fraud and mismanagement. As investors perceive a lower level of risk associated with a company, it can positively influence market sentiment and, consequently, the market value of the company. Through the examination of financial records and internal controls, forensic accounting identifies areas for operational improvement. Enhanced operational efficiency can lead to improved financial performance, potentially boosting the market value of the company (Ekechukwu et. al, 2018).

Companies that actively employ forensic accounting practices signal a commitment to corporate governance, ethical conduct, and financial integrity. This commitment can enhance investor confidence and attract a broader investor base, positively impacting the company's market value. Forensic accounting ensures compliance with financial regulations and legal standards (Agbaore, 2021). Companies adhering to such standards may face fewer legal issues and regulatory penalties, which can contribute to a positive perception among investors and, consequently, influence market value. Forensic accounting helps safeguard a company's reputation by addressing financial misconduct promptly. A positive corporate reputation can attract and retain investors, positively influencing market value. The adoption of forensic accounting practices contributes to a more transparent, efficient, and trustworthy financial environment within a company. This, in turn, can positively influence investor perception and confidence, ultimately impacting the company's market value (Aigienohuwa et. al, 2017; Ali & Fathyah, 2020).

## **2.2. Theoretical Framework**

This study relies on Agency Theory, originally formulated by Jensen and Meckling (1976), as a theoretical framework to underpin the examination of corporate governance and the inherent conflicts of interest involving shareholders, managers, and significant debt providers within a company. The theory characterizes the agency relationship as a contractual agreement between a company's owners (principals) and its managers (agents), wherein the owners delegate decision-making authority to the management for the operation of the company on their behalf. Ideally, the owners anticipate that the agents will act in the shareholders' best interests. Nevertheless, establishing a flawless contract that ensures managers consistently prioritize the owners' interests is challenging, as managerial decisions can also influence their personal well-being. This raises a fundamental inquiry into how agents, in the form of managers, can be effectively incentivized or motivated to consistently act in the best interests of the shareholders (Eisenhardt, 1989).

According to agency theory, the principal-agent relationship is central to understanding the dynamics within organizations. Shareholders are the principals, entrusting decision-making authority to managers, who act as agents. In deposit money banks, shareholders aim to maximize their wealth, while managers may have divergent objectives, such as maximizing their own utility or pursuing riskier strategies. One key aspect of agency theory is the design of mechanisms to align the interests of principals and agents. In deposit money banks, this involves designing executive compensation packages, performance metrics, and governance structures to ensure that managerial actions contribute to shareholder wealth maximization. The effectiveness of these mechanisms can directly impact the market value of the banks (Dada et. al, 2023).

Forensic accounting techniques become relevant in the context of agency theory as tools that mitigate agency conflicts. By providing transparent and accurate information, forensic accounting helps in monitoring and controlling managerial actions. It acts as a mechanism to reduce information asymmetry between shareholders and managers, contributing to the alignment of interests. The impact of agency theory on the market value of deposit money banks is evident when effective governance mechanisms are in place. A well-designed governance structure, incorporating forensic accounting practices, enhances shareholder confidence and reduces the agency costs associated with managerial opportunism. As a result, investors perceive lower risks and uncertainties, positively influencing the market value of deposit money banks.

## **2.3. Empirical Review**

Nuta et al. (2024) conducted a study to examine the market performance disparities among listed firms in Romania and assess the impact of the COVID-19 crisis on this performance. Data were collected from 69 firms listed on the Bucharest Stock Exchange (BSE) spanning from 2018 to 2022, representing 11 different sectors. The study employed various analytical methods, including difference tests to compare the performance of Romanian companies before and during the COVID-19 crisis, both overall and across sectors. Regression analysis was also utilized to estimate the influence of the COVID-19 crisis and classification type on the performance of Romanian firms. The findings revealed a significant disparity in market performance between the pre-crisis and crisis periods, with the COVID-19 pandemic exerting a notable adverse impact on market performance. Despite an initial market contraction during the early stages of the pandemic, the stock market rebounded, surpassing pre-pandemic capitalization levels and outperforming regional and global indices. Additionally, the

study identified variations in market performance across different sectors, with the communication services sector notably exhibiting accelerated growth.

Alshaib et. al. (2023) sought to investigate the evolving connection between fiscal sustainability metrics (government revenue, expenditure, external debt) and economic growth within Egypt. They utilized the autoregressive distributed lag (ARDL) bounds testing approach and an unrestricted error correction model to analyze annual data spanning from 1980 to 2018. The study identified a dynamic correlation between fiscal sustainability indicators and economic growth. It was observed that government expenditure and external debt exerted significant long-term impacts on economic expansion, whereas government revenue did not demonstrate such an influence. The findings underscored the substantial influence of fiscal sustainability, gauged through the growth of total government expenses, external debt obligations, and revenue, on Egypt's economic growth trajectory.

Akinadewo et. al. (2023) explored how forensic accounting contributes to improving the quality of financial statements within the public sector's Ministries, Departments, and Agencies (MDAs). The research collected primary data by distributing questionnaires to accountants working in MDAs across the Southwest region. The sample consisted of 237 respondents, selected purposively. Both descriptive and inferential statistical analyses were employed to analyze the data. The findings indicated that proficient knowledge and skills in disruptive technologies such as cloud computing, Big Data, and business analytics among forensic accountants can play a pivotal role in enhancing the quality of financial reporting within the public sector.

Zulai and Onipe (2023) investigated the impact of corporate governance on the enhancement of firm value within a sample of 134 listed companies on the Nigerian Exchange Main Board over a decade from 2013 to 2022. The study utilized panel data extracted from the annual reports and accounts of the selected firms. Regression analysis was employed to analyze the data. The findings revealed that several factors including risk committee size, leverage, asset tangibility, profitability, and firm size had notable effects on firm value. However, factors such as concentrated ownership, board size, audit committee size, remuneration committee size, audit quality, and dividend yield did not exhibit significant effects on firm value.

Chukwuma et. al. (2023) conducted quantitative research examining the impact of forensic accounting on the financial performance of deposit money banks in Nigeria. They used data from the Nigerian Central Bank's annual bulletins and Nigerian Stock Exchange publications from 2001 to 2020. Employing panel data analysis, the study employed a fixed-effect regression model, demonstrating the positive influence of forensic accounting on these banks' financial performance. The analysis highlighted a strong connection between using forensic accounting tools and the financial performance of these institutions. Pearson Correlation analysis further confirmed a significant and positive relationship between utilizing forensic accounting instruments and the financial performance of deposit money banks.

Dada et. al. (2023) sought to explore the impact of forensic accounting and corporate governance on the financial performance of listed deposit money banks in Nigeria. Employing ex-post facto and panel data research designs, this study gathered data from the annual audited reports of deposit money banks listed in Nigeria. The investigation focused on a population consisting of fifteen (15) deposit money banks listed on the Nigerian Exchange Group (NGX). Using a purposive sampling technique, the study selected ten (10) firms based on the availability of a complete dataset within the targeted population. Spanning eleven years from 2012 to 2022, the collected data underwent analysis using

both descriptive statistics and panel regression analysis techniques. The findings unveiled a noteworthy and meaningful effect of forensic accounting and corporate governance on the financial performance of the listed deposit money banks in Nigeria, signifying a substantial contribution and interaction between these factors and the banks' financial outcomes.

Chukwuma et. al. (2022) highlight the significance of employing fraud reporting, prevention measures, and litigation tools as essential components of forensic accounting. Addressing consistent financial performance is crucial for companies in Nigeria to avert potential financial collapses. The study's objective is to illustrate the potential of forensic accounting in predicting the future financial performance and growth of MTN mobile communication in Nigeria. The data used were derived from various sources including the World Bank publication, Nigeria Stock Exchange Factbook, and the National Bureau of Statistics (NBS) records spanning from 1990 to 2021. The analytical methods employed for this research encompass ordinary least square (OLS) regression analysis, unit root tests, and cointegration analysis. The OLS regression model was utilized, revealing statistical significance and indicating a notable correlation between the application of forensic accounting tools and the advancement in financial performance.

Okoroyibo and Omoregie (2022) investigated the impact of forensic accounting on the performance of the Nigerian banking sector. The data for the study were collected from the annual reports and accounts of First Bank and United Bank of Africa (UBA) Plc over a twelve-year period (2007-2018). Multiple regression analysis was used in the research, employing forensic audit (FAUD) as the proxy for forensic accounting, treated as the dependent variable. Meanwhile, net profit margin (NPM), profit after tax (PAT), and dividend per share (DPS) were considered as independent variables. The analysis utilized the multiple regression technique in the E-view 9.0 software package. Results revealed a significant effect of forensic audit on the net profit margin of the selected Nigerian banks. Additionally, it was observed that forensic audit influences the profit after tax of these banks. The study also demonstrated a significant impact of forensic audit on retained earnings and dividend per share in the Nigerian banking sector.

Ezekwesili (2021) conducted a survey-based research investigation. The study involved selecting branches from eleven major Nigerian banks operating within Enugu State, employing a non-sampling technique. Questionnaires were distributed among respondents, and SPSS version 20.0 was used to collect and analyze data. The study applied Pearson coefficient correlation to test the hypothesis at a significance level of 5%. The results of the study demonstrated a positive impact of the forensic auditor on the corporate governance of Nigerian banks.

Alaoubi and Almomani (2021) conducted a study examining the influence of forensic accounting in the association between corporate governance and the quality of accounting information within Jordanian public shareholding companies. The research population included all external certified accountants, while the study employed a random sample of external certified accountants. A total of 217 questionnaires were distributed among the external certified accountants. The study data underwent statistical analyses employing multiple regression and hierarchical regression equations. The results showed a statistically significant impact on the application of governance standards across multiple dimensions.

Agboare (2021) investigated how forensic accounting affects the detection of financial fraud in Deposit Money Banks (DMBs) in Nigeria. The study utilized a survey research design and primarily relied on structured Likert scale questionnaires for collecting data. The obtained data underwent

analysis through descriptive statistics and regression analysis. Results from the study revealed that employing forensic accounting techniques such as investigation, financial transaction analysis, and reconstructing incomplete accounting records significantly impacts the detection of financial fraud in Nigerian deposit money banks.

Taiya et. al. (2021) investigated the effectiveness of Forensic Accounting Techniques in curbing Revenue Leakage within Federal Universities in Nigeria. They employed primary data collection via a research questionnaire involving a sample of 238 participants. The study utilized Regression analysis to discern and assess the relationship between Forensic accounting techniques and revenue leakages. The validity of the regression model was assured by testing crucial assumptions. The findings suggested that Forensic data analysis techniques positively impact revenue leakages in Nigerian federal universities, implying that such techniques can effectively uncover revenue losses.

Kaoje et. al. (2020) investigated the impact of forensic accounting practices on the performance of companies by analyzing return on assets, return on equity, and net profit margin. The study aimed to establish the correlation between forensic accounting practices and company performance. The research utilized a survey-based approach with the target population being all administrative staff members of the Cement Company of Northern Nigeria. Respondents were selected through purposive sampling. The study collected primary data by administering structured questionnaires and obtaining quantitative responses. Thirty-four correctly completed questionnaires were collected from the sample. Multiple Regression Analysis, conducted using the Statistical Packages for Social Sciences (SPSS), was employed to ascertain the relationship between forensic accounting practices and company performance metrics (ROA, ROE and NPM). The outcomes demonstrated a notable positive association between forensic accounting practices and return on assets, return on equity, and net profit margin.

Dada and Jimoh (2020) investigated the correlation between forensic accounting and financial crimes within the Nigerian public sector, focusing on assessing strategies implemented to diminish financial crimes and evaluating the impact of litigation support services on reducing financial crime within this sector. The study utilized a survey research design, employing linear regression analysis to assess empirical data gathered from questionnaires and oral interviews, testing the formulated hypotheses. Findings from hypothesis testing, conducted at a 5% level of significance, showed that litigation support services had a noteworthy and negative impact (reduction) on financial crimes in the Nigerian public sector.

Ali and Fathyah (2020) focused on integrating empirical research and relevant literature to enrich the potential impact of forensic accounting on the maturity of corporate governance in publicly traded businesses. The paper delineated two primary roles of forensic accounting: preventive and detective. By amalgamating agency theory, fraud triangle theory, and path dependence theory, the research proposed that fraud risk assessment acts as a mediating factor between forensic accounting and corporate governance maturity.

Okoye et. al. (2019) conducted research to evaluate how forensic auditing influences the financial performance of listed food and beverage companies in Nigeria over a six-year period from 2010 to 2016. Employing an Ex-post facto research design, the study aimed to establish causal relationships between various variables. Solely secondary data was utilized in this investigation. The statistical analysis used the STATA 13 software, focusing on the coefficient of correlation, a reliable measure of the relationship between paired variables. Results indicated that forensic auditing had a positive and



statistically significant impact on the financial performance metrics (ROA, ROE, and EPS) of food and beverage companies listed on the Nigerian stock exchange.

Nwaiwu and Aaron (2018) conducted research to investigate the relationship between forensic accounting relevance, fraud detection processes, and the performance of selected listed companies in Nigeria. They employed a cross-sectional quasi-experimental design for this inquiry. Primary data obtained from structured questionnaires underwent analysis using descriptive statistics and correlation, aided by SPSS v20.0. The study's findings indicated a significant relationship between the proxies of the two variables, displaying both positive and negative associations.

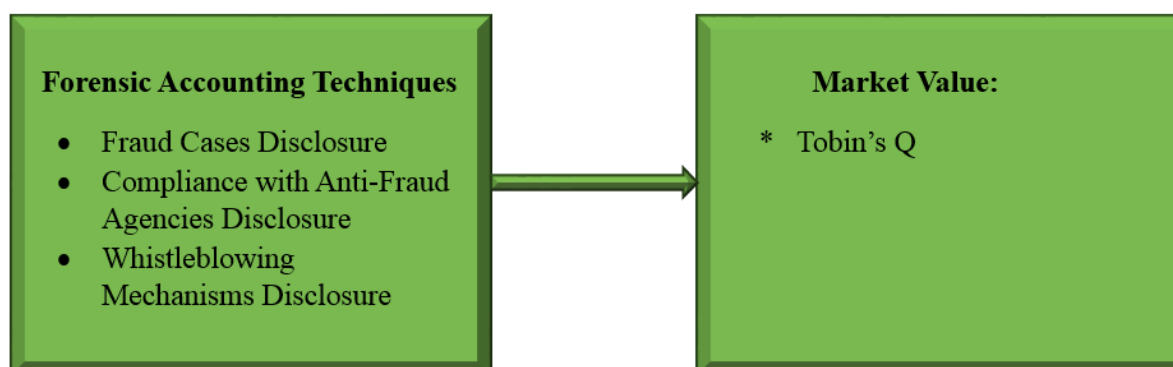
Ekechukwu et. al. (2018) investigated how forensic accounting affects the Nigerian banking sector's performance. They collected data from the annual reports and accounts of Guarantee Trust Bank and Access Bank Plc for twelve years (2006-2017). The research applied a multiple regression method using forensic audit (FAUD) as a proxy for forensic accounting. Variables like net profit margin (NPM), Profit after tax (PAT), and dividend per share (DPS) were treated as independent variables. The analysis was performed using the E-View 9.0 software. The findings revealed that forensic audits significantly impacted the net profit margin of the selected Nigerian banks. Additionally, the study observed that forensic audits had an influence on the profit after tax of Nigerian banks. Moreover, the research indicated a significant effect of forensic audit on retained earnings and dividends per share of Nigerian banks.

The majority of studies reviewed focus on fraud management, while only a few studies reviewed forensic accounting and financial performance. This study sought to fill these gaps by investigating the influence of forensic accounting techniques on the market value of listed deposit money banks in Nigeria. This study then formulated the null hypothesis as follows:

*H<sub>01</sub>: Forensic accounting techniques do not have a significant effect on the market value of listed deposit money banks in Nigeria.*

## 2.4. Conceptual Framework

The study aims to shed light on the influence of forensic accounting techniques on the market value of the listed deposit money banks.



**Figure 2.1. Conceptual Framework to Show the Interaction between Forensic Accounting, and Market Value of Listed Financial Institutions on the Nigerian Exchange Group**

*Source: Author's Concepts (2023)*

### 3. Methodology

This research adopted an ex-post facto research design, aiming to gather and analyze data retrospectively from specific time periods available in the administrative records and accounts of deposit money banks listed on the Nigerian Exchange Group (NGX). These records were considered adequate, representative, and reliable for the study. Secondary data from the annual reports and audited financial statements of ten selected deposit money banks listed on the NGX and were selected due to the availability of data at the time conducting this study, formed the basis of this study. Utilizing a census sampling technique to investigate the entire population. Descriptive statistics, including mean, median, mode, and standard deviation, and inferential statistical methods were employed to analyze the collected data. Additionally, the study utilized panel regression analysis for further examination.

#### 3.1. Model Specification

The econometric model for this study was specified in line with the previous study of Dada et. al. (2023) to analyze the relationship that exists between forensic accounting techniques market value of quoted banks in Nigeria. This is stated as follows:

##### Model

$$MV = \beta_0 + \beta_1 \text{FRCD} + \beta_2 \text{CAFD} + \beta_3 \text{WBMD} + \beta_4 \text{TEPD} + \epsilon_{it}$$

Where:

MV = Market Value

FRCD = Fraud Cases Disclosure

CAFD = Compliance with Anti-Fraud Agencies Disclosure

WBMD = Whistleblowing Mechanisms Disclosure

TEPD = Training and Education Programs Disclosure

$\epsilon_{it}$  = Error term

$\beta_0$  = Intercept

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$  = The Coefficients of the unknown variables

The *a-priori* expectation =  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 > 0$ , the implication of this is that a positive relationship is expected between the explanatory variables and the explained variable.

**Table 1. Operationalization of Variables**

Variable	Type	Source	Description and Measurements of Variables	Reference	
Market Value (Tobin's Q)	Value	Dependent	Audited Annual report	Expressed as market capitalization divided by total shares (%).	(Dada et. al, 2023)
Fraud Disclosure (FRCD)	Cases	Independent	Audited Annual report	Expressed as a dummy where "1" is assigned to the bank with annual reports with cases of fraud reported information and "0" for otherwise	(Dada et. al, 2023)
Compliance Anti-Fraud Agencies Disclosure (CAFD)	with	Independent	Audited Annual report	Expressed as a dummy where "1" is assigned to the bank with annual reports with compliance with anti-fraud policies and procedures information and "0" for otherwise.	(Dada et. al, 2023)
Whistleblowing Mechanisms Disclosure (WBMD)		Independent	Audited Annual report	Expressed as a dummy where "1" is assigned to the bank with annual reports with the existence and effectiveness of internal reporting mechanisms for whistleblowing information and "0" for otherwise.	(Awotomilusi et. al, 2023; Dada et. al, 2023; Dagunduro et al., 2023; Oluwagbade et. al, 2023)
Training Education Programs Disclosure (TEPD)	and	Independent	Audited Annual Report	Expressed as a dummy where "1" is assigned to the bank with annual reports having records for pieces of training and education programs relating to fraud management and "0" for otherwise.	(Dada et. al, 2023)

Source: Authors' Compilation (2023)

## 4. Data Analysis and Discussion of Findings

### 4.1. Descriptive Statistics

The table 2 below shows the distinctive qualities of data used in the regression analysis. The dependent variable (Market value) is measured by Tobin's Q while the independent variable (forensic accounting techniques disclosure) is represented by FRCD, CAFD, WBMD and TEPD respectively. The mean value of MV is 0.8585. This implies that, on average, 85.85% of the recorded value of firms examined is reflected in market value. These data range from 0.63 to 2.55. The average spread from mean value of these data is 0.2646. This is a low dispersion which shows 26.46% closeness to the mean value on aggregate. The shape of MV distribution is positively skewed at 4.0744, while at 22.3686 the data distribution is leptokurtic. This indicates that data are heavy-tailed distribution relative to normal distribution.

Again, 73.64% of the banks examined did not disclosed fraud related cases in the financial statements. While 26.36% of the firms assessed disclose information on fraud related cases in the financial statements. In term of compliance with fraud policies, 80.91% of banks showed information on compliance with rules and regulations. But 19.09% did not show any information on compliance in the financial statements. On whistleblowing mechanism, disclosure was high at 75.45%. However, 24.55% did not of banks do not disclosed information on whistleblowing. Almost all banks (91.82%) engaged in fraud and forensic training, while the remaining 8.18% do not engage in any form of training in this regard.

**Table 2. Descriptive Statistics**

Variables	MV	FRCD	CAFD	WBMD	TEPD
Obs	110	110	110	110	110
Mean	0.8585				
Std. Dev	0.2646				
Minimum	0.63	0	0	0	0
Maximum	2.55	1	1	1	1
Skewness	4.0744				
Kurtosis	22.3686				
Frequency of Nondisclosure		81	21	27	9
Frequency of Disclosure		29	89	83	101
Percentage of Nondisclosure		73.64	19.09	24.55	8.18
Percentage of disclosure		26.36	80.91	75.45	91.82

Source: Authors' Computation (2023)

## 4.2. Forensic Accounting Techniques and Market Value of Deposit Money Banks

The extent and importance of the connection between the market value of deposit money banks and the disclosure of forensic accounting techniques practices were evaluated in this section. This displays data on the extent, volume, and quality of disclosures on forensic accounting techniques in the financial statements and their impact on the market value of Nigerian banks.

### 4.2.1. Regression Diagnostics

This study carried out parametric statistics. This implies that this study's analysis assumes some basic features and compliance on such assumptions is shown in Table 3 below. The correlation coefficients between FRCD, CAFD, WBMD, TEPD and MV are -0.1612, 0.0656, 0.1662, and 0.0764, while the p-values for these relationships are 0.0925, 0.4962, 0.0828, and 0.4279 respectively. This implies that when FRCD takes on the value 1, MV tends to be lower compared when FRCD is 0. Conversely, when the CAFD, WBMD, and TEPD take on the value "1", the MV tends to take on higher values compared to when the CAFD, WBMD, and TEPD take on the value "0". Although, these are all insignificant, the relationship between FRCD and MV is negative, while that of CAFD, WBMD, TEPD and MV are positive.

Shapiro-wilk test for normality was carried out. This is required for hypothesis validation in terms of t-test and p-value. The p-value above 0.05 threshold assumes normal residual distribution, otherwise, non-normal distribution. The outcome of this analysis shows that the p-value is large at 0.0907. This implies non-rejection of the null hypothesis that residual is normal distributed. Breush-pagan/Cook-Weisberg test for heteroskedasticity was conducted. This is to assess the presence or otherwise of constant variance among residuals. This test also assumes null hypothesis of homogeneous variance and alternative hypothesis of heterogeneous variance of the residuals. Therefore, a p-value above 0.05 will lead to the rejection of the null hypothesis, while a p-value below this threshold will lead to the acceptance of null hypothesis. In this case, the result of the test (chi-square, 0.01; p-value, 0.9028) confirms the absence of heteroskedasticity in the residuals.

The Wooldridge test for autocorrelation was carried out to examine the level of independence among variables. This test assumes null hypothesis of no first order autocorrelation if the p-value is greater than 0.05, while the alternate hypothesis assumes first order autocorrelation if the p-value is less. The outcome of the test shows a chi-square of 73.232 and p-value of 0.0000, indicating the presence of

autocorrelation. The study also carried out a variance inflation factor (VIF) to assess the type of relationship that exists among the independent variables. VIF coefficient estimates below 10 thresholds show no linear dependency or multicollinearity among the independent variables in the model. VIF coefficient estimates above 10 thresholds show linear dependency or multicollinearity among the independent variables in the model. The VIF value of FRCD, CAFD, WBMD, and TEPD are 1.97, 1.93, 1.10 and 1.00 respectively. These are well below the threshold, indicating there is no multicollinearity among independent variables.

Due to the nature of independent variables, stationary test was not conducted. This is because stationary assumes constant mean and variance over time. But neither variance nor mean are peculiar to or defined for categorical variables. Also, model specification error was examined using Ramsey reset test. The omission of relevant variables or inclusion of irrelevant variables affect estimate of model coefficients. This test assumes a null hypothesis of model has no omitted variables if p-value is greater than 0.05 otherwise an alternate hypothesis of model has omitted variables. With f-statistic of 0.95 and p-value of 0.4199, the study therefore accepts the null hypothesis and concludes that the model is well-specified. To identify the presence or absence of outlier, leverage and/or influence because of its impact on model estimation, scatter plot was used. Through this exogenous variable was removed.

**Table 3. Outcome of Regression Diagnostics**

DIAGNOSTIC TEST TYPE	FRCD	CAFD	WBMD	TEPD
Correlation coefficient	-0.1612	0.0656	0.1662	0.0764
P-value	0.0925	0.4962	0.0828	0.4279
Variance inflation factor	1.9700	1.9300	1.1000	1.0000
Shapiro-wilk test for normality	1.3360(0.0907)			
Breush-pagan/Cook-Weisberg test	0.0100(0.9028)			
Wooldridge test for autocorrelation	73.232(0.0000)			
Ramsey reset test	0.9500(0.4199)			

*Source: Authors' Computation (2023)*

#### 4.2.2. Forensic Accounting Techniques Disclosures and Return on Assets

Table 4 below shows the outcome of panel regression analysis carried out to examine the relationship between forensic accounting techniques disclosures and Tobin Q. To correct autocorrelation in the data points used for analysis, Cochrane-Orcutt method was used. The F-statistic is 2.87 with a p-value 0.0265. This is the model's p-value. It checks if R-squared deviates from 0. For a statistically significant association between dependent and independent variables, the p-value typically has to be less than 0.05. But R-squared is 0.0995. This implies 9.95% variance in the market value can be accounted for by FRCD, CAFD, WBMD and TEPD respectively.

Both the t-value and p-value test the hypothesis that each Beta coefficients are different from zero. The p-value needs to be less than 0.05 in order to reject the null hypothesis. The p-value of FRCD, CAFD, WBMD and TEPD are 0.718, 0.954, 0.838 and 0.002 respectively. This implies TEPD is statistically significant in explaining market value, while FRCD, CAFD, and WBMD are not an important factor in explaining market value banks in Nigeria. Based on this, the Beta coefficient of TEPD is 0.5210. This indicates that for every 1% increase in TEPD, market value increases by 52.10%. This means a lot importance is placed on training because of its multiplier effect on its contributions to firms' goals.

**Table 4. Cochrane-orcutt Estimate on forensic Accounting Techniques Disclosures and Tobin's Q**

Variables	Coefficient	Cochrane-Orcutt	
		t-value	P-value
FRCD	0.0526	0.36	0.718
CAFD	0.0097	0.06	0.954
WBMD	0.0362	0.20	0.838
TEPD	0.5210	3.26	0.002
Constant	1.4609	4.89	0.000
F-Statistic (p-value)	2.87(0.0265)		
R-squared	0.0995		
Adj R-squared	0.0649		
Root MSE	0.5287		
Durbin-Watson statistic (original)	0.7820		
Durbin-Watson statistic (transformed)	2.1221		

*Source: Authors' computation, (2023)*

### 4.3. Discussion of Findings

Market value, a crucial metric reflecting investor confidence and broader sentiments in the financial market, serves as an indicator not only of banks' financial performance but also of their standing within the industry. This study delves into the intricate impact of forensic accounting techniques on market value, aiming to unravel their influence on the banking sector and investor perceptions. The findings indicate that the disclosure of fraud cases, compliance with anti-fraud agencies, and whistleblowing mechanisms had a positive yet insignificant effect on the market value of deposit money banks in Nigeria. The positive effect suggests that, on average, disclosing fraud cases or compliance with anti-fraud agencies is linked to higher market values for these banks. However, the term "insignificant effect" underscores the need for caution, implying that these disclosures may not have substantial implications on market value.

Similarly, the positive effect of whistleblowing mechanisms disclosure suggests a potential association with higher market values for deposit money banks, but the term "insignificant effect" urges prudence in overstating this relationship, indicating that the observed positive impact may lack robustness under statistical scrutiny. In contrast, the disclosure of training and education programs had a positive and significant effect on the market value of deposit money banks in Nigeria. This implies that sharing information about such programs positively influences market perceptions, leading to a measurable impact on banks' market values. Investors and stakeholders seemingly respond favorably to these disclosures, perceiving training, and education programs as contributors to the overall value and performance of deposit money banks.

Overall, this study revealed that forensic accounting techniques exhibit a positive and significant effect on the market value of deposit money banks in Nigeria. This implies that the application of forensic methods holds meaningful influence, garnering positive responses from investors and the market at large. This finding aligns with previous studies by Okoye et. al. (2019), Kaoje et. al. (2020), Alaoubi and Almomani (2021), Chukwuma et. al. (2022), Chukwuma et. al. (2023), and Dada et. al. (2023), emphasizing the importance of employing forensic accounting techniques in financial practices for enhanced investor confidence and increased market value.

## 5. Conclusion and Recommendations

This study investigated the effects of various forensic accounting techniques disclosures, including fraud cases, compliance with anti-fraud agencies, whistleblowing mechanisms, and training and education programs, on the market value of deposit money banks in Nigeria. The findings revealed positive effects associated with fraud cases, compliance with anti-fraud agencies, whistleblowing mechanisms, and training and education programs, albeit with insignificance effect on the market value. The study's conclusion highlights the nuanced relationship between different forensic accounting techniques disclosures and market value for deposit money banks in Nigeria. This study affirmed that the application of forensic accounting techniques holds meaningful influence, garnering positive responses from investors and the market at large.

### Practical Implications

The study's findings have practical implications for deposit money banks in Nigeria. Transparency in disclosing fraud cases, compliance efforts, whistleblowing mechanisms, and training programs can positively influence market perceptions. The significance of forensic accounting techniques suggests that employing these methods enhances investor confidence and contributes to increased market value.

### 5.1. Recommendations

- i. Banks should continue to enhance transparency by disclosing information related to fraud cases, compliance efforts, and training programs, fostering positive investor perceptions;
- ii. Despite the insignificant impact found in the study, strengthening whistleblowing mechanisms can contribute to a culture of accountability and transparency within banks;
- iii. Given its significant positive impact, banks should consider investing in forensic accounting techniques to bolster their financial practices and enhance market value.

### Contribution to Knowledge

The study contributes to the existing knowledge by providing insights into the impact of various disclosures and forensic accounting techniques on the market value of deposit money banks in Nigeria. It adds nuance to the understanding of how different factors influence investor perceptions and contributes to the broader literature on financial practices in the banking sector.

**Ethical Declaration:** We declare no conflicts of interest of whatsoever.

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