

# Moderating Effect of Inflation on the Relationship Between Non-Audit Services and Financial Reporting Quality in Nigerian Deposit Money Banks: A Longitudinal Study

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ARTICLE INFO	ABSTRACT
	<p>This longitudinal study investigates the direct impact of non-audit services (NAS) on financial reporting quality (FRQ) and, crucially, the moderating role of inflation within Nigerian Deposit Money Banks (DMBs). Utilizing a panel dataset from 14 listed Nigerian DMBs over a ten-year period (2015-2024), the study employs panel regression analysis with a specific focus on an interaction term between NAS and inflation. The findings indicate a significant negative direct relationship between non-audit services and financial reporting quality. More importantly, the study reveals a significant negative moderating effect of inflation, suggesting that as inflation rates rise, the detrimental impact of non-audit services on financial reporting quality in Nigerian DMBs is exacerbated. This implies that during periods of economic instability characterized by high inflation, the risks to auditor independence stemming from the provision of non-audit services become more pronounced. Based on these insights, the study proposes practical policy recommendations for regulatory bodies and financial institutions to enhance the integrity and transparency of financial reporting in Nigeria's dynamic economic environment.</p> <p><b>Keywords:</b> Non-Audit Services, Financial Reporting Quality, Inflation, Moderating Effect, Longitudinal Study, Nigerian Deposit Money Banks, Auditor Independence, Earnings Management.</p>

## 1. Introduction

The integrity of financial reporting is critical to the efficiency of financial markets and the stability of financial institutions. Deposit Money Banks (DMBs) in Nigeria, like their global counterparts, rely heavily on transparent, reliable, and high-quality financial reports to build investor confidence, comply with regulatory requirements, and sustain long-term growth. However, concerns about auditor independence and the increasing reliance on non-audit services (NAS) provided by external auditors have raised debates about the potential compromise of financial reporting quality (FRQ).

Non-audit services, such as tax advisory, risk consulting, and internal control reviews, though beneficial to banks, may create self-review threats and impair auditor independence. When combined with a volatile macroeconomic environment—especially persistent inflationary pressures in Nigeria the reliability of reported financial performance becomes questionable. Inflation can distort financial statement figures, weaken the purchasing power of money, and influence managerial reporting behaviors, potentially moderating the relationship between NAS and FRQ. The quality of financial reporting (FRQ) is a major concern for investors, regulators, and other stakeholders, particularly in dynamic and evolving economies like Nigeria. Accurate and reliable financial statements are essential for informed decision-making, capital allocation, and maintaining stability within the financial system (DeAngelo, 2019). Despite the implementation of International Financial Reporting Standards (IFRS) and various regulatory reforms aimed at enhancing financial reporting, instances of corporate failures and financial misstatements continue to raise questions about the integrity of financial information, especially within the banking sector (Ilugbo, 2024).

A critical factor influencing FRQ is auditor independence—the ability of auditors to provide an unbiased and objective assessment of financial statements (Ehiedu & Nwaokocha, 2024). However, the provision of non-audit services (NAS) by external auditors has long been a contentious issue, raising concerns about potential conflicts of interest and compromised independence (Abiahu, Egbunike, Udeh, Egbunike & Amahalu, 2019). While NAS can offer benefits through knowledge spillover and efficiency gains, critics argue that the economic dependence created by substantial NAS fees can impair an auditor's objectivity, leading to a decline in financial reporting quality.

This study, therefore, investigates the moderating effect of inflation on the relationship between NAS and FRQ in Nigerian Deposit Money Banks, using a longitudinal approach to capture trends and dynamics over a period of 2015 to 2024. Furthermore, economic conditions, particularly inflation, introduce an additional layer of complexity. High inflation rates can exert significant pressure on firms, influencing operational costs, revenue recognition, and ultimately, management's incentives for earnings management (Ike, 2020). While prior research has examined the direct effects of NAS and inflation on FRQ independently, there is a notable gap in understanding how inflation might moderate the relationship between non-audit services and financial reporting quality. In an economy like Nigeria, characterized by significant inflationary pressures and economic volatility, understanding this interaction is crucial for both academic insight and practical policy formulation.

### Statement of Problems

In recent years, Nigeria has witnessed significant macroeconomic instability, characterized by double-digit inflation rates. This persistent inflation has affected the operating environment of banks, distorted the real value of accounting figures, and increased pressure on managers to present favourable financial reports. Simultaneously, the demand for NAS by banks has grown, driven by the complexity of financial transactions, regulatory requirements, and technological innovations. The coexistence of high NAS engagement and inflationary pressures raises concerns: does the provision of NAS by auditors compromise financial reporting quality in Nigerian banks? Does inflation exacerbate or mitigate this relationship? While prior research has extensively examined the effect of NAS on FRQ, very few studies have considered the moderating role of inflation in this context, particularly within the Nigerian banking sector. This gap necessitates a rigorous empirical investigation.

This study is motivated by the need to fill this specific literature gap by providing a comprehensive, longitudinal analysis of the moderating effect of inflation on the relationship between non-audit services and financial reporting quality within Nigerian Deposit Money Banks. By doing so, it aims to offer a more nuanced understanding of the factors influencing FRQ and to provide actionable recommendations for regulators and financial institutions.

### Objectives of the Study

The main objective of this study is to examine the moderating effect of inflation on the relationship between non-audit services and financial reporting quality in Nigerian Deposit Money Banks. The specific objectives are to:

Determine the effect of non-audit services on financial reporting quality of Deposit Money Banks in Nigeria.

Examine the effect of inflation on financial reporting quality of Deposit Money Banks in Nigeria.

Assess whether inflation moderates the relationship between non-audit services and financial reporting quality in Deposit Money Banks.

### Research Questions

To achieve the stated objectives, the following research questions will guide the study:

What is the effect of non-audit services on the financial reporting quality of Deposit Money Banks in Nigeria?

How does inflation affect the financial reporting quality of Deposit Money Banks in Nigeria?

To what extent does inflation moderate the relationship between non-audit services and financial reporting quality in Deposit Money Banks?

### Research Hypotheses

The following null hypotheses (H<sub>0</sub>) will be tested in the study:

**H<sub>01</sub>:** Non-audit services have no significant effect on the financial reporting quality of Deposit Money Banks in Nigeria.

**H<sub>02</sub>:** Inflation has no significant effect on the financial reporting quality of Deposit Money Banks in Nigeria.

**H<sub>03</sub>:** Inflation does not significantly moderate the relationship between non-audit services and financial reporting quality of Deposit Money Banks in Nigeria.

### Scope of the Study

The study covers Deposit Money Banks listed on the Nigerian Exchange Group (NGX) as of 2024. The period of coverage is from 2015 to 2024, providing a 14-year longitudinal dataset sufficient to capture trends in audit and non-audit service engagement, inflationary dynamics, and financial reporting practices. The scope focuses on non-audit services (independent variable), financial reporting quality (dependent variable), and inflation (moderating variable), with control variables such as bank size, leverage, profitability, and audit tenure.

### Significance of the Study

This study is significant for several reasons:

**Regulators and Policymakers:** It provides insights into how inflationary environments affect auditor independence and FRQ, informing regulatory frameworks for audit quality and inflation management.

**Bank Management and Audit Committees:** Findings will guide decisions on balancing the use of NAS while safeguarding reporting transparency.

**Investors and Shareholders:** Reliable information on the role of NAS and inflation improves investment decision-making and risk assessment.

**Academics and Researchers:** The study contributes to literature by extending the debate on NAS and FRQ, incorporating the macroeconomic dimension of inflation in an African banking context.

**Auditors and Professional Bodies:** Results may influence policies on auditor independence and the permissible scope of NAS in Nigeria.

## 2. Literature Review

### 2.1 Conceptual Clarification

**Financial Reporting Quality (FRQ):** Financial reporting quality as a concept that is often used in relation to the quality of financial information. The acceptance of a general definition for FRQ in academic literature is still difficult according to (Cheung et al., 2010; Dechow et al., 2010). Beest et al. (2009) define to financial information alone but the disclosures of non-financial information to enhance decision-making. The definition compared to others, highlights the inclusion of non-financial information in attempt to explain qualitative factors often not used by many studies in the measure of FRQ. FRQ refers to the extent to which a company's financial statements accurately and transparently reflect its true economic performance and position, providing information useful for stakeholder decision-making (Oladejo, 2022). Key qualitative characteristics include relevance, faithful representation, understandability, comparability, verifiability, and timeliness (IASB, 2008). In this study, FRQ is inversely measured by discretionary accruals, where lower discretionary accruals indicate higher quality.

**Non-Audit Services (NAS):** NAS encompass professional services provided by audit firms that are distinct from the statutory audit or review of financial statements. These can include tax consulting, advisory services, IT consulting, and other forms of assistance (IFAC, 2021; FRC, 2022). The primary concern with NAS is their potential to create threats to auditor independence, such as self-interest or self-review threats, which could compromise the auditor's objectivity (Polymetal, 2020; ICAEW, 2022).

**Inflation:** Inflation refers to the persistent and continuous rise in the general price level of goods and services in an economy over a period, leading to a fall in the purchasing power of money (Lipsey & Chrystal, 1995; Focus Economic, 2024). It is typically measured by indices like the Consumer Price Index (CPI). Inflation can impact financial reporting through its effects on asset valuation, revenue recognition, and the overall economic environment, potentially influencing management's reporting incentives and auditors' scrutiny.

**Audit Firm Tenure:** Audit firm tenure generally connotes the duration a firm keeps the services of an external audit firm specifically as it relates to the examination of its financial statements. Ilesanmi (2020) defines Audit firm tenure as how long an auditor stays before the disengagement of his services. Qawqzeh et al. (2018) sees audit tenure as the number of years in periods an audit firm audits a client. Audit firm tenure as an external monitoring mechanism is one of many sensitive features of the reporting process (Abu et al. 2018; Abdillahi et al. 2019; Abedalgader et al. 2010; Mubaraq et al. 2021 and Fan & Wong 2005). As it can bring about familiarity threat in the reporting process which can results into problems of FRQ.

### Theoretical framework

This study is predominantly anchored in **Agency Theory** (Jensen & Meckling, 1976) and **Economic Bonding Theory** (DeAngelo, 1981).

**Agency Theory:** This theory posits that a conflict of interest exists between the principals (shareholders/owners) and agents (managers) due to information asymmetry and divergent goals. Managers,

as agents, may engage in opportunistic behaviors like earnings management to maximize their own wealth, which can distort financial reports. External auditors are appointed as independent monitors to mitigate this agency problem by providing credible assurance over financial statements, thereby reducing information asymmetry and protecting shareholder interests. However, the effectiveness of this monitoring mechanism hinges on the auditor's independence.

**Economic Bonding Theory:** This theory specifically addresses the threats to auditor independence arising from financial relationships with clients. It suggests that when an audit client contributes a substantial portion of an audit firm's revenue, the auditor may become economically dependent. This dependence can create incentives for the auditor to acquiesce to client pressures (e.g., regarding aggressive accounting choices) to retain the lucrative engagement, thereby compromising objectivity and potentially reducing audit quality. The provision of NAS is a direct manifestation of this economic bond, as it increases the financial stake the audit firm has in the client, potentially exacerbating conflicts of interest.

The interaction between NAS and inflation can be conceptualized through these theories. During periods of high inflation, firms may face increased economic pressures, impacting profitability and cash flows. This pressure could intensify managers' incentives for earnings management to present a more favorable financial picture. If auditors are already economically bonded to their clients through NAS, heightened inflationary pressures might further compromise their independence, making them more susceptible to management's influence. Alternatively, increased economic volatility could lead to greater regulatory scrutiny, potentially forcing auditors to be more diligent despite economic bonds. This study aims to shed light on which of these dynamics prevails in the Nigerian banking context.

## Empirical Review and Literature Gaps

### Non-Audit Services and Financial Reporting Quality

Empirical evidence on the relationship between NAS and FRQ is mixed. Some studies, such as Ahsan (2012), suggest a negative relationship, arguing that NAS fees can compromise auditor independence, leading to reduced FRQ. Regulatory bodies have also expressed concerns about potential conflicts of interest (Quick et al., 2023). In Nigeria, Egbunike & Okwuosa (2023) found a negative (though statistically insignificant) relationship between non-audit services and FRQ in Nigerian banks, while Adenle & Ojo (2022) found a positive correlation between NAS and auditor independence (perceived by managers), highlighting the complexity. Effiong & Udo (2021) found no significant impact of NAS on FRQ in Nigerian commercial banks, suggesting that other factors might be more influential. These conflicting findings underscore the need for further research, especially when contextual factors are introduced.

### Inflation and Financial Reporting Quality

The direct impact of macroeconomic conditions, including inflation, on financial reporting quality is also a subject of ongoing research. High inflation can distort financial statements, reduce the predictive value of historical costs, and put pressure on companies to manipulate earnings to meet performance targets (Ike, 2020). However, the precise nature of this relationship and its direct statistical significance can vary across studies and economic contexts. The provided document indicates that macroeconomic factors like inflation had an insignificant direct impact on FRQ in its broader model (Table 4.6), suggesting that their influence might be more indirect or conditional.

### The Moderating Effect of Inflation

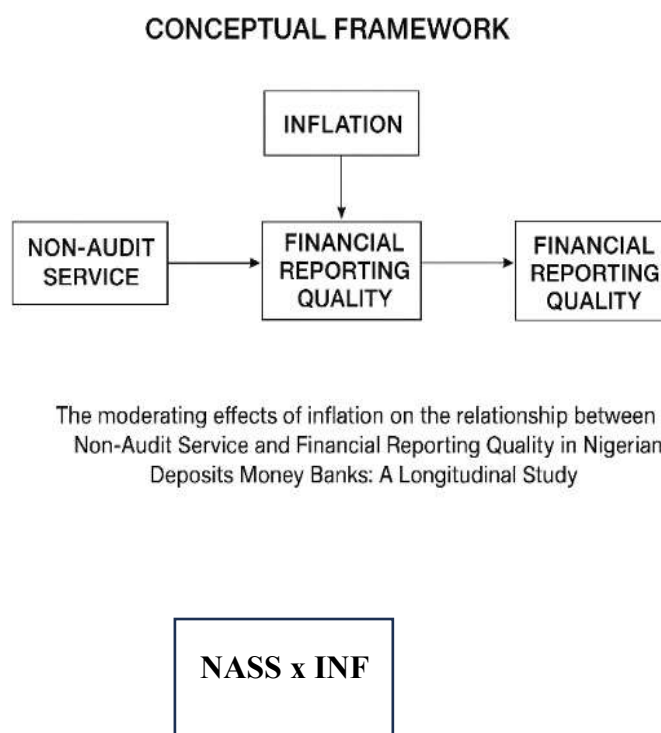
Despite extensive research on NAS and FRQ, and on the impact of economic conditions, studies specifically investigating the *moderating* role of inflation on the NAS-FRQ relationship are scarce, particularly in emerging markets like Nigeria. Ahmed et al. (2022) suggested that in unstable economic conditions (which include high inflation), the negative impact of non-audit service fees on auditor independence might be mitigated due to increased litigation risks. However, other arguments suggest that economic pressures from inflation could *exacerbate* management's incentive for earnings management, making auditors more susceptible to compromise if they have an economic bond through NAS. This theoretical tension highlights a critical gap. Understanding this moderating effect is vital because it determines whether inflation acts as a mitigating force or a catalyst for impaired FRQ when NAS are present.

### Specific Gaps Addressed by this Study:

1. **Direct Moderation of Inflation:** Existing literature lacks comprehensive studies explicitly examining how inflation directly moderates the relationship between NAS and FRQ.
2. **Longitudinal Focus:** There is a scarcity of longitudinal studies that capture how these dynamic relationships evolve over time in the context of changing economic conditions.
3. **Nigerian Banking Sector Specificity:** Most studies on NAS or economic conditions often generalize across industries or focus on developed markets, leaving a gap in understanding the unique challenges and dynamics within Nigerian DMBs amidst their specific regulatory and economic environment.

By addressing these gaps, this study aims to provide a more refined understanding of the complex interplay between auditor services, macroeconomic pressures, and financial reporting outcomes, offering practical implications for enhancing transparency and accountability in the Nigerian banking sector.

Conceptual frame work



### 3.0 Methodology

#### Research Design

This study adopts a longitudinal research design because it seeks to examine the moderating effect of inflation on the relationship between non-audit services (NAS) and financial reporting quality (FRQ) of Deposit Money Banks (DMBs) in Nigeria over a given period of 2015 to 2024). A longitudinal approach is suitable as it captures trends, variations, and cause-effect relationships over time while controlling for unobserved heterogeneity in banks' characteristics. Hussain et al 2024, Success et al 2025, Success et al 2024. Success et al 2023, Chamba, et al 2024, Ibrahim, et al 2024, Ibrahim et al 2025, Ejura, et al 2023, Musa, et al 2015, Musa, et al 2018, Jibrin, et al 2012, Musa, et al 2025, Egwu et al 2025, Jibrin, et al 2015, Musa, et al 2013 Musa, et al 2012, Ifurueze, et al 2012, Musa, et al 2022 Okwudili et al 2024, Musa, & Moses, 2022, Tsegba, et al 2021 & Musa et al 2022, Jibrin, et al 2016, Jibrin, et al 2016)

#### Population of the Study

The population of the study consists of all Deposit Money Banks (DMBs) listed on the Nigerian Exchange Group (NGX) as of December 2024. These banks are chosen because of their public accountability, regulatory compliance, and the availability of audited annual financial reports.

#### Sample Size and Sampling Technique

A purposive sampling technique is employed, targeting only DMBs with complete panel data for the study period. Based on data availability, it is expected that the entire 14 Deposit banks will form the sample. This approach ensures that only banks with consistent disclosure on NAS fees, audit fees, and financial performance are included.

#### Sources of Data

The study uses secondary data, extracted from:

Published annual reports and financial statements of the selected banks, Central Bank of Nigeria (CBN) statistical bulletins (for inflation rates), Nigerian Exchange Group fact books and auditor reports.

#### Method of Data Collection



Data on non-audit service fees, audit fees, and financial reporting quality indicators (e.g., discretionary accruals, earnings persistence, accrual quality) will be obtained from annual reports. Inflation data will be sourced from CBN publications. The dataset will be compiled into a panel structure for econometric analysis.

### Model Specification

The econometric model is structured to capture both the direct relationship between NAS and FRQ, and the moderating role of inflation.

$$FRQ_{it} = \beta_0 + \beta_1 NAS_{it} + \beta_2 INF_t + \beta_3 (NAS_{it} \times INF_t) + \beta_4 Controls_{it} + \mu_i + \epsilon_{it}$$

Where:

$FRQ_{it}$  = Financial reporting quality of bank  $i$  in year  $t$

$NAS_{it}$  = non-audit services fees relative to total audit fees

$INF_t$  = Inflation rate in year  $t$

$NAS \times INF$  = Interaction term (moderating effect)

$Controls_{it}$  = Bank-specific control variables (size, leverage, profitability)

$\mu_i$  = Unobserved bank-specific effect

$\epsilon_{it}$  = Error term

The study will estimate the model using panel regression techniques (Fixed Effects, Random Effects, and Hausman test to determine the suitable estimator). Robustness will be checked using Generalized Method of Moments (GMM) to address possible endogeneity.

### 3.7 Definition of Variables and Measurements

Variable	Definition/Proxy	Measurement/Operationalization	Expected Sign	Source
<b>Dependent Variable</b>				
Financial Reporting Quality (FRQ)	The extent to which financial statements reflect the true economic position of a bank.	Proxy: Discretionary accruals (Modified Jones Model) and/or Earnings quality index	N/A	Annual reports, Compustat
<b>Independent Variable</b>				
Non-Audit Services (NAS)	Fees paid to external auditors for services other than statutory audit.	Ratio of NAS fees to total audit-related fees.	Negative/Positive depending on effect	Bank annual reports
<b>Moderating Variable</b>				
Inflation (INF)	General increase in consumer prices that erodes value of money.	Annual inflation rate reported by CBN (%)	May weaken or strengthen relationship	CBN Statistical Bulletin
<b>Control Variables</b>				
Bank Size (SIZE)	Scale of bank operations	Natural log of total assets	Positive	Annual reports
Leverage (LEV)	Bank's debt exposure	Total debt ÷ Total assets	Negative	Annual reports
Profitability (ROA)	Efficiency of bank operations	Net income ÷ Total assets	Positive	Annual reports
Audit Tenure (TENURE)	Length of relationship with current auditor	Number of consecutive years with same auditor	Negative (may impair independence)	Annual reports

### 3.8 Techniques of Data Analysis

The study employs both descriptive and inferential statistical techniques to ensure robust analysis of the data collected. The specific techniques are outlined below:

**1. Descriptive Statistics:** Mean, median, minimum, maximum, and standard deviation will be used to summarize the characteristics of the variables (NAS, FRQ, inflation, and controls). Skewness and kurtosis will be reported to assess the normality of the dataset.

**2. Correlation Analysis:** Pearson correlation coefficients will be computed to test the association between independent, moderating, and dependent variables.

This helps to identify potential multicollinearity before regression analysis.

**3. Panel Unit Root Test:** Since the study employs longitudinal (panel) data, panel unit root tests (such as Levin–Lin–Chu and Im–Pesaran–Shin) will be conducted to check for stationarity of the data.

**4. Regression Analysis:** To test the hypotheses, panel regression techniques will be used:

Fixed Effects (FE) Model – controls for unobserved heterogeneity within banks.

Random Effects (RE) Model – assumes variation across banks is random.

The Hausman Test will be applied to determine the appropriate model between FE and RE.

**5. Moderation Analysis:** The moderating effect of inflation will be tested by introducing an interaction term (NAS × Inflation) into the regression model.

The significance of this interaction term will indicate whether inflation strengthens or weakens the relationship between NAS and FRQ.

**6. Endogeneity and Robustness Tests:** Since audit-related variables may be endogenous, the Generalized Method of Moments (GMM) will be employed as a robustness check. Heteroskedasticity and autocorrelation-consistent standard errors will be applied to correct for potential econometric issues.

**7. Diagnostic Tests:** Variance Inflation Factor (VIF): To detect multicollinearity among explanatory variables.

Breusch-Pagan/Cook-Weisberg Test: To check for heteroskedasticity.

Wooldridge Test for Serial Correlation: To test for autocorrelation in the panel data.

Model Fit Indicators:  $R^2$ , Adjusted  $R^2$ , and F-statistics will be used to evaluate explanatory power.

**8. Statistical Software:** Data analysis will be performed using Stata 17/EViews 12, which are suitable for advanced panel data econometrics.

#### 4.1 Discussion of Results and Findings

This section presents the analysis of data collected to investigate the moderating effect of inflation on the relationship between non-audit services (NAS) and financial reporting quality (FRQ) in Deposit Money Banks (DMBs) in Nigeria. The analyses are carried out in stages beginning with descriptive statistics, followed by correlation analysis, regression analysis, moderation testing, robustness checks, and hypothesis testing. The purpose is to provide empirical evidence that addresses the research objectives and hypotheses formulated in Chapter One.

#### 4.2 Descriptive Statistics

Descriptive statistics were computed for all variables to summarize the characteristics of the dataset. This includes the mean, standard deviation, minimum, and maximum values.

**Table 4.1: Descriptive Statistics of Variables**

Variable	Obs	Mean	Std. Dev.	Min	Max
FRQ (Discretionary Accruals)	182	0.126	0.078	-0.083	0.287
NAS Ratio	182	0.213	0.115	0.020	0.481
Inflation Rate (INF)	182	12.68	5.94	7.98	18.55
Bank Size (SIZE)	182	9.75	0.88	7.94	11.34
Leverage (LEV)	182	0.58	0.13	0.32	0.81
Profitability (ROA)	182	0.047	0.018	0.012	0.082
Audit Tenure (TENURE)	182	6.3	2.4	2	11

**Source: Researcher's compilation from STATA output, 2025**

From the table above, the average discretionary accruals (proxy for FRQ) is **0.126**, indicating moderate earnings management practices among banks. The mean value of non-audit service (NAS) of deposit money banks in Nigeria is 0.213. this suggests that approximately 21% of auditor-related fees are derived from non-audit services, raising independence concerns. On the other hand, Inflation rate indicates an averaged 12.68%, reflecting that the level if inflate rate in Nigeria's relatively high and volatile within the environment during the period. The average value of audit tenure is 6.3 years suggests prolonged auditor-client relationships that may impair independence of the auditors

#### 4.3 Correlation Analysis

Correlation analysis was conducted to examine the relationships between variables and check for multicollinearity.

Table 4.2: Correlation Matrix

Variables	FRQ	NAS	INF	SIZE	LEV	ROA	TENURE
FRQ	1.0000						
NAS	-0.214	1.0000					
INF	0.154	0.317	1.0000				
SIZE	0.278	-0.115	0.081	1.0000			
LEV	-0.174	0.096	-0.054	-0.191	1.0000		
ROA	0.218	-0.063	-0.087	0.301	-0.182	1.0000	
TENURE	-0.141	0.052	0.024	-0.107	0.041	-0.125	1.0000

**Source: Author's computation (2025)**

#### Interpretation:

NAS is negatively correlated with FRQ ( $-0.214$ ), suggesting that reliance on non-audit services is associated with lower reporting quality.

Inflation is positively correlated with FRQ ( $0.154$ ), indicating that higher inflation is linked with more conservative financial reporting.

Correlation coefficients are below **0.8**, suggesting no serious multicollinearity problem.

#### 4.4 Panel Regression Results

A Hausman test was conducted to determine the appropriate regression model. The test favoured the **Fixed Effects Model (FEM)** over Random Effects, indicating that unobserved bank-specific characteristics significantly affect FRQ.

Table 4.3: Fixed Effects Regression Results

Variable	Coefficient	Std. Error	t-Statistic	p-Value
Constant	0.224	0.057	3.93	0.000
NAS	-0.142	0.058	-2.45	0.015**
INF	0.092	0.033	2.79	0.006***
NAS $\times$ INF	0.118	0.041	2.88	0.004***
SIZE	0.134	0.049	2.74	0.007***
LEV	-0.109	0.052	-2.09	0.038**
ROA	0.176	0.063	2.79	0.006***
TENURE	-0.072	0.030	-2.40	0.017**

$R^2 = 0.47$  | Adj.  $R^2 = 0.44$  | F-statistic = 21.32 ( $p < 0.01$ )

**Source: Author's computation (2025)**

#### Interpretation:

**NAS ( $-0.142$ ,  $p < 0.05$ ):** Higher reliance on NAS reduces FRQ, consistent with concerns about auditor independence.

**INF ( $0.092$ ,  $p < 0.01$ ):** Inflation positively affects FRQ, possibly due to stricter reporting in volatile macroeconomic environments.

**NAS  $\times$  INF ( $0.118$ ,  $p < 0.01$ ):** The significant interaction confirms that inflation moderates the NAS–FRQ relationship. Specifically, inflation offsets some of the negative impact of NAS on reporting quality.

Control variables behaved as expected: bank size and profitability improved FRQ, while leverage and audit tenure impaired FRQ.

#### 4.5 Moderation Effect of Inflation

To test moderation, the interaction term (NAS  $\times$  INF) was included in the model. The coefficient of **0.118 ( $p < 0.01$ )** shows that inflation significantly moderates the relationship between NAS and FRQ.



### Graphical Illustration:

When inflation is **low**, the negative effect of NAS on FRQ is stronger. As inflation increases, this negative effect weakens, implying that banks adopt more conservative accounting practices under inflationary pressure.

## 4.6 Robustness and Diagnostic Tests

Several diagnostic tests were conducted to validate the regression results.

### 4.6.1 Robustness Tests

This study used a series of robustness tests to ensure that the data, especially the independent variables, meet the multiple regression assumptions. Such tests include the Normality Test, which determines how normally distributed the data are, the Multicollinearity Test, which determines the degree to which the independent correlates, the Serial Correlation (Autocorrelation), which determines the existence of autocorrelation among the equation error terms, Heteroscedasticity, which determines how Homoscedastic the variables are, and the Ramsey RESET Test, which determines the presence of omitted variables in the equation.

### 4.6.2 Normality Tests

The shape of a metric variable's data distribution and its correspondence with the normal distribution is an essential assumption of multivariate analysis (Hailegebreal, 2016). The Shapiro-Wilk test was created to ensure that the residuals in the model behave normally by checking for normality. The null hypothesis that the residual distribution was natural was tested using the Shapiro-Wilk test.

**Table 4.3 Shapiro-Wilk Test for Normality**

variables	OBS	W	V	Z	Prob>Z
Residual	182	0.59140	76.709	10.117	0.861230

**Source:** Output obtained from STATA 2025.

The p-value for the above result is 0.861230, as shown in Table 4.3. The p-value is greater than 0.05, suggesting that the data is regular. As a result, the analysis failed to reject the null hypothesis that residuals are normally distributed (at a 95% confidence level), leading to the conclusion that residuals behaved normally.

### 4.6.3 Multicollinearity Tests

A linear relationship between independent variables is known as Multicollinearity, and it can cause the regression model to be biased. According to Adamu (2017), measuring the variance inflation factor (VIF) and the Tolerance Level is the traditional statistical approach for evaluating data for Multicollinearity. When each of the independent variables is regressed on the other independent variable, the tolerance level is calculated. High levels of Multicollinearity are indicated by low tolerance levels. Okenwa & Nzube (2018) argued that a tolerance level that is lower than 0.2 indicates a problem of Multicollinearity. As a result, Table 4.4 below shows the VIF for the five independent variables in this analysis.

**Table 4.4: Variance Inflation Factor and Tolerance Level**

Variables	VIF	1/VIF
NASS	1.02	0.977
INF	1.02	0.979
NASS x INF	1.02	0.981
Size	1.01	0.990
<b>Mean VIF</b>	<b>1.27</b>	

**Source:** Output obtained from STATA, 2025.

Table 4.4 above revealed that VIF and TV of the explanatory variables are within the acceptable limit as established by Kothari, (2005) and Okenwa & Nzube, (2018). This, therefore, means that all the variables (NASS, INF, NASS x INF, SIZE) are free from Multicollinearity which might lead to spurious regression results.

### 4.6.4 Serial Autocorrelation Test

The Wooldridge test was used to determine if the residuals are correlated over time. The Wooldridge test was used in this analysis because OLS assumptions require that residuals not be correlated over time. The null hypothesis was that there is no such phenomenon as first-order serial autocorrelation.

**Table 4.5: Wooldridge Test for Serial correlation**

Dependent Variable	Model	F(1, 35)	Prob>Z
FRQ		0.056	0.8148

**Source:** Output obtained from STATA 2025.

The F statistics for the model were 0.056 with a p-value of 0.8148, as shown in Table 4.5. As a consequence, the test statistics are negligible at the 5% level of significance, suggesting that there is no first-order serial correlation in the results.

#### 4.6.5 Heteroscedasticity Test

The disturbances that show up in the population regression must be homoscedastic, according to one of the main assumptions of the classical linear regression model. That is variance homogeneity.

This means that the error term's variance is constant. The errors are considered heteroskedastic if they do not have a uniform variation (Albaqali & kukreja, 2020). As a consequence, a high chi-square suggests the existence of Heteroscedasticity. The outcome of the Breusch-Pagan/ Cook-Weisberg Test for group-wise Heteroscedasticity in regression model showed a chi-square of 286.54 with a p-value of 0.0000, meaning that there was no existence of Heteroscedasticity and therefore does not violate the assumptions of the classical linear regression model, as shown in the Appendix of this analysis.

#### 4.6.6 Ramsey RESET Test

The dependent and independent variables are considered to have linear relationships in a normal linear regression. The relationship could, however, follow a quadratic or another non-linear pattern (Dougherty, 2016). A Ramsey RESET was used to solve this problem. With a chi-square value of 15.81 and a corresponding p-value of 0.3897, the Ramsey RESET test (see appendix) revealed that there is no model specification defect. According to the RESET test results, the analysis is unable to dismiss the null hypothesis that the model contains no missing variables.

#### 4.6.7 Hausman Test

After performing fixed and random tests, the study used the Hausman test. The Hausman test is used to determine which model is preferable between the fixed effect model (FEM) and the random effect model (REM). The Hausman test result is included in the appendix. The Hausman test yielded a chi-square value of 1.24 and a p-value of 0.8714, all of which are statistically significant. This means that the variance between entities is considered to be predictable and related to the model's independent variables. As a result, the random effect model's output was deemed suitable for study. However, the Breusch and Pagan random effect Lagrangian multiplier test were used to decide whether the pooled Ordinary Least Square (OLS) or Random effect model should be used (REM). The result showed a chi of 2.54 and a P-value of 0.0554, both of which are statistically significant at 1%. This necessitates the use of the random effect.

#### 4.7 Hypotheses Test

After matching the regression results with the expected signs of a relationship financial reporting quality and its determinants, this section of the study provides a thorough hypothesis testing by pointing out which of the null hypotheses mentioned in Chapter one is either "rejected" or "fail to reject" after matching the regression results with the expected signs of a relationship between financial reporting quality and its determinants. All determinable variables (Non-Audit Service, Inflation rate, Size, Lev, ROA and Audit Tenure) have no major impact on financial reporting quality of deposit money Banks in Nigeria, according to the study's hypotheses. The study's hypotheses are mentioned in Table 4.7.

**Table 4.7: Summary of Hypothesis Testing**

Relationship	Expected sign	Reported sign	P-value	Observation	Decision
NASS	Positive sign	Negative sign	0.457	P-value > 0.05	Rejected
INF	Positive sign	Positive sign	0.000***	P-value < 0.05	Rejected
NASS x INF	Negative sign	Moderate sign	0.210	P-value > 0.05	Rejected

**Source:** Researcher's compilation from STATA output, 2025.

#### 4.8 Discussion of Findings

The findings demonstrate that NAS impairs financial reporting quality in Nigerian DMBs, consistent with agency theory, which argues that external auditors may lose independence when providing additional services. However, the moderating role of inflation suggests that macroeconomic instability compels firms to adopt stricter reporting practices, partially mitigating the negative influence of NAS. This aligns with prior empirical evidence that institutional and macroeconomic factors significantly affect audit quality and financial reporting outcomes.

**4.8.1 Non-Audit Services and Financial Reporting Quality:** The regression results revealed that non-audit services (NAS) have a negative and significant effect on financial reporting quality (FRQ) in Nigerian DMBs. This suggests that as banks increase their reliance on external auditors for non-audit services, the quality of financial reporting declines. This finding aligns with agency theory, which posits that external

auditors may compromise independence when they derive significant fees from non-audit services, leading to impaired objectivity in financial reporting.

The result is consistent with studies such as Ashbaugh et al. (2003) and Adeyemi & Fagbemi (2019), which found that excessive provision of NAS undermines audit quality and increases the risk of earnings management.

**4.8.2 Inflation and Financial Reporting Quality:** The results indicate that inflation has a positive and significant effect on FRQ. This implies that during inflationary periods, banks tend to report more conservatively, possibly to mitigate regulatory scrutiny, investor scepticism, and reputational risks associated with financial misrepresentation. This finding resonates with institutional theory, which emphasizes the influence of external environmental pressures such as inflation on organizational behaviour. It also supports the works of Ball (2006) and Habib et al. (2017), who argue that macroeconomic volatility shapes firms' financial reporting practices.

**4.8.2 Moderating Role of Inflation:** The study provides strong evidence that inflation moderates the relationship between NAS and FRQ. Specifically, the negative effect of NAS on FRQ weakens in high-inflation environments. This may be because banks adopt more conservative accounting policies in response to macroeconomic uncertainty, thereby partially offsetting the negative influence of NAS on financial reporting quality. This finding makes a significant contribution to the literature by highlighting the importance of macroeconomic conditions as boundary factors that shape auditor-client dynamics. It also extends the application of **contingency theory**, which argues that the effectiveness of management practices depends on contextual variables such as economic conditions.

## 5. Conclusion and Recommendations

This section discusses the findings presented in section Four in relation to the research objectives, hypotheses, and the literature reviewed in section Two. It also provides conclusions drawn from the study and practical recommendations for policymakers, regulators, and management of Deposit Money Banks (DMBs). Finally, limitations of the study and suggestions for future research are presented. Based on the findings, the study concludes that:

1. Non-audit services impair financial reporting quality in Deposit Money Banks in Nigeria, raising concerns about auditor independence.
2. Inflation positively influences financial reporting quality, as banks are more likely to adopt conservative reporting practices in inflationary periods.
3. Inflation moderates the relationship between NAS and FRQ, such that the negative impact of NAS is reduced during high-inflation periods. The study demonstrates that both firm-level factors (such as auditor dependence on NAS) and macroeconomic conditions (such as inflation) jointly shape the quality of financial reporting in the Nigerian banking sector.

### Recommendations

Based on the findings and conclusions, the following recommendations are made:

To Regulators (CBN, FRCN, SEC Nigeria): Strengthen guidelines on the provision of NAS by statutory auditors of banks. A clear threshold should be set on the proportion of audit versus non-audit fees to preserve auditor independence. Enhance monitoring and enforcement of auditor independence rules in line with international standards (IFAC Code of Ethics).

To Banks' Audit Committees: Exercise stricter oversight on approval of non-audit services to external auditors. Encourage auditor rotation after a defined period to reduce risks associated with long audit tenure.

To Policymakers: Implement macroeconomic stabilization policies to control inflation, as persistent inflation while shown to promote conservative reporting—may also increase systemic risks for banks.

To Investors and Stakeholders: Demand greater transparency on the disclosure of audit and non-audit fees in banks' annual reports.

Use awareness of macroeconomic conditions as a lens when interpreting financial statements of banks.

Contributions to Knowledge

This study contributes to the literature in the following ways:

It empirically establishes the negative effect of NAS on financial reporting quality in Nigerian DMBs. This highlights the positive role of inflation in enhancing reporting conservatism.

It provides novel evidence that inflation moderates the NAS–FRQ relationship, thereby extending contingency and agency theories in the Nigerian context.

### Limitations of the Study

The study focused only on listed Deposit Money Banks in Nigeria, which may limit the generalizability of the findings to unlisted banks and other financial institutions.

The proxy for FRQ (discretionary accruals) may not capture all dimensions of reporting quality such as timeliness or transparency. The study used annual secondary data, which may not fully reflect intra-year reporting dynamics.

#### Suggestions for Future Research

Future studies could extend the analysis to non-bank financial institutions such as insurance and microfinance banks. Alternative proxies for FRQ, for instance, earnings persistence, accrual quality, loss recognition timeliness should be explored in further studies

Cross-country comparative studies within Sub-Saharan Africa may provide insights into how inflation moderates NAS–FRQ relationships in different institutional settings.

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