

Examining the Effect of Fraud Practices on the Stability of Deposit Money Banks in Nigeria

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Abstract

The study looked at how fraud affected Nigeria's deposit money banks' stability. The study included 60 observations on a quarterly basis throughout a 15-year period, from 2009 to 2023. The Nigeria Deposit Insurance Corporation (NDIC) and Global Financial Data Bulletin annual reports served as the secondary source of data, from which the information was taken. Autoregressive distributed lag was the estimating method employed (ARDL). It was discovered that the value of fraud has a short- and long-term detrimental but considerable impact on the stability of Nigeria's deposit money banks. On the other hand, in the medium and long terms, the quantity and frequency of fraud cases have a small but favourable impact on the stability of Nigeria's deposit money institutions. Therefore, the study concluded that fraud is a danger to the economic survival of Nigeria's DMBs because it undermines consumer confidence and trust, which may result in a loss of clients and prospective investors. Considering this, to preserve the viability of deposit money institutions, managers of such banks should implement efficient procedures to stop, identify, and deal with fraud.

Keywords: *Fraud Practices, Stability of Deposit Money Banks, Autoregressive Distributed Lag, Nigeria*

1. Introduction

Worldwide, fraud is seen as a serious threat to people, organizations, and governments. Fraud appears to have escalated to catastrophic proportions in our culture. Scammers are not only growing bolder but also more proficient, industrious, and smart in the ways they organize and carry out their evil schemes. There are numerous reports of fraud on people and in our companies that we deal with on a regular basis. Many stakeholders are beginning to lose faith in the business because of ongoing fraud in the banking sector (Kawugana & Faruna, 2018). Nigeria has been humiliated by the current fraud wave in its banking industry, as seen by the law enforcement agencies' apparent attempts to capture those accountable. Even while fraud is not unique to the Nigerian economy nor limited to the banking sector, the high incidence of fraud within the industry requires quick attention to discover solutions (Kolapo & Olaniyan, 2018).

As recently as 19 years ago, Nonso et al., (2021) said that fraudsters were still coming up with new, inventive methods to commit computer fraud despite the best efforts of many anti-graft authorities. Unfortunately, the situation has worsened and is now very close to becoming a shadow pandemic. The rising prevalence of electronic fraud, or ‘e-fraud’ across significant economic sectors is giving Nigerians cause for alarm. According to research, Nigeria loses an astounding 197.9 billion naira annually because of the extensive use of new mobile money, electronic banking, and electronic payment systems, which is accompanied by the prevalence of electronic fraud (Osuagwu & Umeh, 2018).

The Central Bank of Nigeria (CBN) claims that since electronic fraud involves so many different e-payment classes, all of which have been the subject of hacking efforts by cybercriminals, it poses the greatest danger to the banking sector. Without a doubt, the operations of Nigerian deposit money institutions have been impacted by electronic fraud. The potential advancement of electronic banking and its alluring features, which have continued to make financial transactions more convenient for customers, have been hampered by the persistence and threat of electronic fraud (Okafor & Egbunike, 2022). Banking fraud threatens the foundation and legitimacy of most institutions because of the serious repercussions it has for all parties involved and the general state of the American economy. It is still a major contributing cause to bank collapses and financial troubles in Nigeria, as the 1990s and 2008–2009 years attest to. It has also led to several bank closures (Olabamiji, & Suleiman, 2021). These days, banking fraud is the primary cause of bank failures.

Meanwhile, when banks fail, shareholders, employees, and customers all lose a tremendous deal (Akinwunmi & Akinola, 2019). Fraud is often committed by both banking and non-banking personnel. The kind of banking operations and the stock-in-trade were the causes of this (Olabamiji, & Suleiman, 2021). Financial fraud is the definition of fraud used in this study. It is said to be a deliberate, planned action done by bank workers to obtain illicit advantage at the expense of the bank. This might show up as fraud, embezzlement, theft, or taking money out of customer accounts without authorization.

Patricia et al., (2023) asserts that bank fraud has a major effect on all parties concerned as well as the nation's economy. Nigerian banks have experienced widespread fraud, which has sometimes resulted in financial difficulties for several reasons. The bulk of Nigerian banks' foundations and integrity are threatened by bank fraud, according to Oluwagbade et al (2023), which puts some of them in danger. Nigeria has been humiliated by the current surge of fraud in its banking industry, as seen by the inability of law enforcement to identify and arrest individuals involved.

The existence, foundation, profitability, and reputation of banks may all be adversely affected by DMB fraud, making it a serious issue that must be addressed. The whole economy may be impacted by this in a cascade manner. The serious consequences of these negative impacts of fraud have inspired our efforts. Additionally, all the studies that have previously been conducted in Nigeria on the topic of fraud and profitability have only utilized aggregate data for the DMB business, even though prior researchers have examined the topics extensively (Irungu, 2016; Kanu

& Idume, 2016; Verma & Singh, 2017; Nwobia et al., 2020; Idachaba et al., 2020; Akinwunmi & Akinola, 2020; Efuntade et al., 2021). With the concerns in mind, this study's main goal was to investigate how fraud affects DMB stability. Thus, to achieve the of the study, the remaining sections are presented as follow; section two presents the recent and relevant literature, section three provide the method of the model estimation, section four presents the result of the study and section five proffer conclusion and the recommendation of the study.

2. Literature Review

2.1. Fraud

Mawutor et al. (2019) views fraud as the purposeful or negligent representation of a materially falsehood that is accepted by the victim and exploited against them. Nwankwo (2013) noted that fraud is a deliberate behavior that causes financial losses for an economy or a corporation. It is also referred to as an act of dishonesty that causes a person or an organization to lose property or other legal rights, according to Taiwo et al. (2016). Kparobo (2023) said that one of the primary issues impeding the operation of the Nigerian banking industry was fraudulent activity. Inadequate debt recovery; disregard for banking laws, rules, and regulations; financial reporting errors; subpar bookkeeping procedures; nonperforming insider-related credits; deteriorating asset quality and the consequently high provisioning requirements; and substantial exposure to the capital market through share and margin loans are a few instances of fraudulent acts. There is a high prevalence of fraudulent activity in most economies and businesses. Multinational companies like ENRON, WorldCom Inc., and Global Crossing have failed because of accounting and fraud scandals (Abdajabar & Yunus, 2023).

Bank theft may come in many different forms, ranging from small-scale checks or small-scale cash theft to more significant ones. NDIC statistics state that the presentation of fake checks, customer credit suppression, ATM fraud, fraudulent transfers and withdrawals, employee theft, and internet banking fraud are among the typical bank frauds that impact deposits (Okoye et al., 2024). Alsakini and Alsayyed (2024) found that among the factors that induce fraud include a deficient work environment, poorly managed policies and procedures, and bank workers' dissatisfaction with their little remuneration. Cram et al. (2023) states that forensic accounting may be utilized to help lessen the danger of fraud that penetrates the banking sector. Additionally, it has been seen that fraud dramatically reduces the amount of money in business settings, particularly in the financial sector. It may ultimately result in banks collapsing and doing badly. Due to fraud and fraudulent activities, banks and their customers suffer significant financial difficulties. Management's attention is often focused on fixing fraudulent issues, which impedes the growth of banks and leads to low productivity (De Miguel et al., 2019). The study emphasized that fraud may negatively affect banks' capacity to operate as a going concern. Banks have increased expenses because of fraud since they must use the tools required to detect, stop, and protect the bank's assets. It also causes a loss of profit, damages the bank's financial stability, reduces equity capital, and restricts the bank's ability to lend money and make advances for profitable ventures.

2.2. Theoretical Framework

In 1973, Donald Cressey developed the conventional theory of the fraud triangle. According to Cressey (1973), the risk of deceit is increased when any one of these three factors is present: pressure (motivation), opportunity, and justification. People who breach trust are those who believe they have a non-transferable financial problem and are aware that this problem may be remedied behind closed doors by betraying the position of financial trust. The proposition of this theory is that pressure, opportunity, and rationalization contribute to the likelihood fraudulent behavior within an organization. In addition, Takon et al., (2023) emphasized that peer pressure vices (alcohol, gambling, and drug use), financial pressures (greed, debt, etc.), and work-related pressures (high expectations for good results/targets at work or a need to cover up someone's poor performance or to report results that are better than actual performance compared to the competition). Thus, the presence of these factors can misrepresentation of financial statement, loss of asset and this could affect the stability and overall economic health of firms. In view of this, the study is anchored on fraud triangle.

2.3 Empirical review

With specific reference to First Bank, Keystone Bank, and Zenith Bank, Kawugana and Faruna (2018) investigated the evaluation of the course of financial fraud in Nigerian banking sectors and its treatments. There are currently no trustworthy statistics on the amount of successful and unsuccessful fraud in Nigerian banks, according to any source. The study probed hidden topics about the many kinds of financial crimes, their causes, their solutions, how the banking industry is affected by them, and how successful fraud prevention strategies are. Research fraud revealed that employees' disregard for the established protocols of their institutions was the primary cause of the yearly average of financial fraud instances recorded over a given time. Financial scams in our banks are also a result of social and economic factors.

Patricia et al. (2023) assessed how fraud affected Nigerian banks' operational performance. The research also identifies the typical forms of bank fraud that are often committed in Nigerian DMBs, the root causes, degree of employee engagement, impact, prevention and control, and banking performance. In this study, four (4) DMBs in Nigeria were investigated using a causal research design. The results showed that fraud substantially influences ROE and ROA. As a result, it is advised that the NDIC and the CBN take the necessary steps to prevent fraud from increasing and to maintain system integrity.

Mawutor et al. (2019) examined how fraud affected Nigeria's DMBs. The positivist research paradigm served as the study's main inspiration. As a result, the study used an ex post facto technique with a quantitative research design. The NDIC yearly publications for the years 2006 through 2016 served as the source of the data. Once the primary regression assumptions were met, the Ordinary Least Square (OLS) was used to forecast the effect of fraud on DMBs.

Takon et al. (2023) investigated how Nigerian banks performed in fraud. The research makes use of secondary sources for data that were taken from the CBN Statistical Bulletin and the Annual Report of the Nigerian Deposit Insurance Corporation (NDIC) between 1994 and 2020. The data

was evaluated using statistical approaches such as OLS regression, Pearson correlation, and descriptive analysis. The hypothesis' findings showed that although the overall number of employees engaged in fraud was shown to have a negative and significant influence on deposit money banks' performance in Nigeria.

Kparobo (2023) looked at how fraud affected Nigerian financial institutions' stability during the previous ten (10) years. While bank stability (BSTA) was used to reflect the stability of financial institutions, IFR, PBP, FRL, and MOL were used to show fraud. The research utilized seven banks that are in Abraka, Ethiopia East. The primary data was acquired via a questionnaire, while the secondary data was derived from bank financial statements spanning the years 2013 to 2022. The statistical software for social sciences (SPSS) was used to analyze the coded answer in conjunction with the financial data of the banks that were the subject of the study. The findings demonstrated the detrimental and statistically significant effects of improper financial reporting, subpar bookkeeping procedures, fraudulent loans, and money laundering on the soundness of financial institutions in Nigeria.

The impact of fraud in mobile banking and e-commerce on the operations of deposit money banks in Nigeria was studied by Nonso et al. (2021). The study's data came from Nigerian electronic forum statistics and CBN. Both the statistical and functional models used linear regression. The research discovered that the return on assets of deposit money institutions in Nigeria is negatively and negligibly impacted by e-commerce fraud. In Nigeria, mobile fraud has a negative and negligible impact on deposit money institutions' return on assets.

Olabamiji & Suleiman (2021) looked at how fraud affected Nigerian listed DMBs' profitability. The study used secondary data that was taken from the Nigerian Deposit Insurance Commission (NDIC) and the DMBs' published financial statements to accomplish this goal. It also used correlational research methodology. During six years, the research concentrated on 14 listed DMBs (2012-2017). The model for the investigation was estimated using the panel multiple regression approach. The results demonstrated that fraud has a negative and considerable impact on the profitability (measured by return on asset) of listed DMBs in Nigeria, as measured by actual loss from fraud and staff engagement in fraud.

3. Methodology

Ex-post facto research design (Tabash et al., 2021) was used, and the study covered the period of fifteen years on quarterly basis which span from 2009 to 2023. The sampling techniques used was purposive sampling technique. The fraud was captured using number of fraud cases, amount involved in fraud, value of fraud which were sourced from annual report of NDIC for various years while data on stability of the banks was extracted from the Global Financial Data Bulletin. The study adopts vector autoregressive and Autoregressive distributed lag (ARDL) as the estimation techniques. The ARDL was used to answer the first research question because the mixed estimation test showed mixed integration order ab both level and first difference. This study takes its source from the linear specifications of VAR from Adeniran et al. (2016). However, these specifications are replicated using different variables as stated in equation 1.

$$stab_t = b_0 + \sum_{i=1}^{q^1} b_i stab_{t-i} + \sum_{i=1}^{q^2} h_i vof_{t-i} + \sum_{i=1}^{q^3} g_i aif_{t-i} + \sum_{i=1}^{q^4} f_i nfc_t + w_t \quad 3.2$$

$$q^1 = q^2 = q^3 = q^4; i = 1, 2, \dots, q^1$$

Where: *stab* represents stability of deposit money banks, *vof* denotes value of fraud, *aif* indicate amount involved in fraud, *nfc* number of fraud cases, *q* is the lag length, To estimate the model, the study conduct series of correlation matrix to check if there is absence of multicollinearity problem among the variables. Also, augmented dickey fuller (ADF) unit root was conducted to shows the order of integration of the variables and determined if the proposed method of estimation was suitable for the analysis.

4. Results and Discussion of Findings

It is imperative to analyse the statistical characteristics because it guides and gives a clue on how the bank's specific data behave. The investigation starts through the statistical description which includes the mean, standard deviation, minimum and maximum values of the variable series specified for the study. The mean shows the average values of the data while the standard deviation shows the degree at which the data vary from the averages. In addition, the minimum and maximum values help to calculate the range value associated with the variable and this also indicates the degree of variability of the data from the averages. Table 1 showed the statistical properties of each variable under study.

Table 1: Descriptive Statistics

	NFC	AIF	VOF	STAB
Mean	4665.791	528.0873	9113.417	35.69540
Median	7.183750	28.60750	2730.500	30.06986
Maximum	77115.00	10326.00	191207.0	71.78230
Minimum	0.530937	0.845313	1094.813	7.198833
Std. Dev.	11364.13	1426.484	26294.19	18.93526
Skewness	4.671519	5.628187	6.036199	0.679031
Kurtosis	28.98162	38.51009	40.68945	2.264760
Jarque-Bera	1905.842	3469.180	3915.594	5.962277
Probability	0.000000	0.000000	0.000000	0.050735

Note: *nfc* represents number of fraud cases, *aif* denotes amount involved in fraud, *vof* indicates value of fraud and *stab* represents stability test.

Source: Author's computation, (2024)

It is explicit from the descriptive result that the averages of mean and median values of the variables are positive, and this connotes that the variables have increasing values throughout the years of observation. Looking at the standard deviation, value of fraud (*vol*) has the highest value while stability test (*stab*) has the lowest value, this indicates that value of fraud (*vol*) is the most volatile while stability test (*stab*) is the least volatile. The Table further revealed that all the series are positively skewed, implying that they have a long right tail. The kurtosis statistic indicates the peakedness or flatness of the series. The result of the kurtosis revealed that value of fraud (*VOL*)

number of fraud cases (NFC) and amount involved in fraud (AIF) are leptokurtic because they are above 3 while stability is below the threshold of 3 and it is platykurtic in nature. In line with the Jarque-Bere statistics, all the variables except stability test (stab) indicates an abnormal distribution as judged by their probability value being lesser than 5% (0.05) significance level. Thus, all the series are not normally distributed except the stability. The study proceeds to check if there is presence of multicollinearity among the variable. The result is shown Table 2.

Table 2: Correlation Matrix

Variables	NFC	AIF	VOF
NFC	1	0.3051	0.2693
AIF	0.3051	1	0.1638
VOF	0.2693	0.1638	1

Source: Author's Computation, (2024)

To determine if multicollinearity occurs in the model or not, Table 2 displays the correlation coefficients between the independent variables. If the correlation coefficient is between 0.7 and 0.99, 0.40 and 0.69, and 0.00 and 0.39, respectively, with a positive or negative sign, the correlation is high, moderate, or weak. The outcome reveals that there is a modest but positive connection between the two variables, with a correlation value of 0.3051 between NFC and AIF. Furthermore, the outcome demonstrates a small yet positive correlation of 0.2693 between NFC and VOF. Lastly, the result of the study is that a correlation coefficient of 0.1638 between VOF and AIF, shows a weak and positive correlation between the two variables. Evidence from the result indicates the highest correlation coefficient is 0.3051 which indicate weak correlation. This implies that the assumption of multicollinearity among the independent variables can be refuted. The study proceeds to test the stationarity among the variables and the result of the stationarity is documented in the Table 3.

Table 3: Unit Root Test

Variables	ADF-Stat	5% CV	Prob.	Order of Int.
D(NFC)	-7.779278	-2.912631	0.0000	I(1)
AIF	-5.057727	-2.911730	0.0001	I(0)
VOF	-3.649457	-2.912631	0.0075	I(0)
STAB	-3.077776	2.913549	0.0339	I(0)

Source: Author's computation, (2024)

Based on the above result, it implies that there is mixed integration among the variable of interest and the meaningful technique for estimation is the ARDL and Bond test approach to cointegration. The process of this application involves the test of autocorrelation, model stability test, long run form and bond test, short run form and error correction form. These tests are accompanied with

diagnostic tests to validate the model estimation. The serial correlation test is presented in Table 4.

Table 4: Autocorrelation Test

Lag	AR	PAR	Q-stat	P-Value
1	-0.016	-0.016	0.0153	0.902
2	0.024	0.024	0.0516	0.975
3	0.082	0.083	0.4725	0.925
4	-0.391	-0.392	10.174	0.038
5	0.032	0.032	10.239	0.069

Source: Author's computation, (2024)

The results display the partial and total autocorrelation coefficients with the associated Q statistics and probability up to lag 5. Since all lags have p-values larger than 5%, it is not possible to rule out the hypothesis that there is no autocorrelation. Autocorrelation is absent from the fitted ARDL model for this investigation. The study proceeds to estimate the stability test in Figure 1.

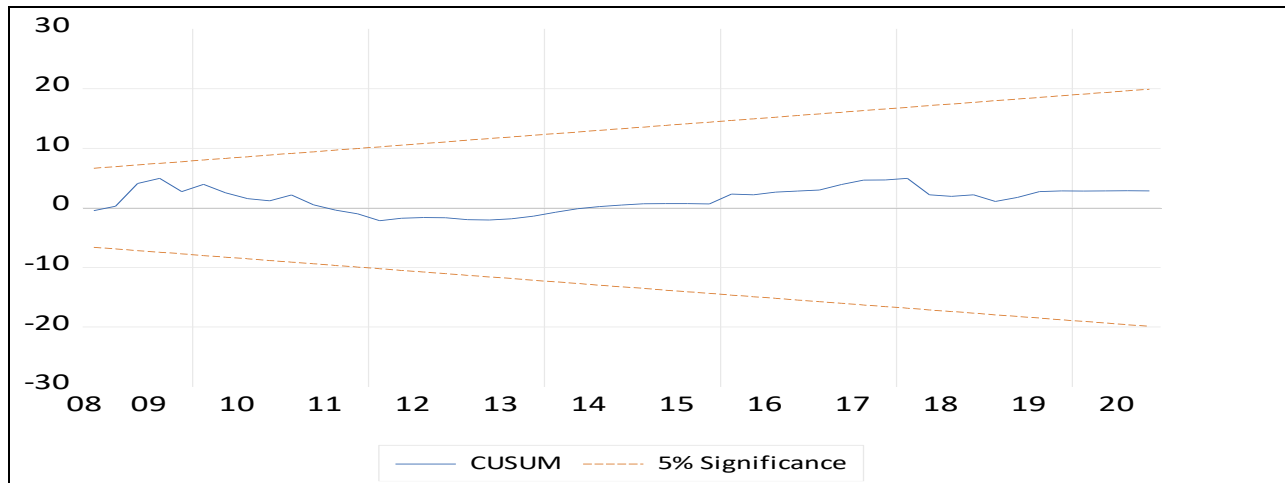


Figure 1: CUSUM Stability Test

Source: Output from E-view, (2024)

The ergodicity of the selected ARDL was examined using cursive Ramsey and it is overt that the blue line falls in between the red lines. This implies that the model is stable which indicates good specification. Thus, to address the issue of long run relationship bound test result is reported in Tables 5.

Table 5 Bound Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	4.211578	10%	2.37	3.2
K	3	5%	2.79	3.67

		2.5%	3.15	4.08
		1%	3.65	4.66

Source: Author's Computation, 2024.

Determining if a long-run link exists in the model is the goal of the bound test shown in Table 5. The model has a long-run association since the F-statistics value of 4.211578 is bigger than the upper and lower bounds, which are calculated at a 5% significance level and are 2.79 and 3.67, respectively. Table 6 lists the steps to calculate the short-term dynamism and the long-run multiplier impact.

Table 6: Long Run Multiplier effect and short run Dynamism

Variables	Long Run		Short Run	
	Coefficient	Probability	Coefficient	Probability
VOF/ D(VOF)	-0.000288	0.0058	-8.80E-06	0.0054
AIF/ D(AIF)	0.016200	0.2558	0.000625	0.1451
DNFC/D(AIF)	0.641768	0.8828	0.074331	0.8916
ECM(-1)			-0.057436	0.0136
Diagnostic Test				
Normality	303.3216 (0.000)			
Serial correlation	15.47870(0.6700)			
Heteroscedasticity	0.310674 (0.9459)			

Note: values in () are probability values.

Source: Author's Computation, 2024.

Table 6 displays the connection between the variables throughout the long and short terms. A 1 percent rise in VOL will result in a 0.0288 percent decline in the stability test (stab) of DMBs in Nigeria, according to the long-term results, which revealed that VOF has a negative but substantial influence on stability test (stab) with a coefficient of -0.000288. However, with a coefficient of 0.016200, the results demonstrated that AIF had a positive but negligible influence on stability test (stab). This means that a 1% rise in AIF will result in a 1.62 % increase in stability test (stab) of DMBs in Nigeria.

Corresponding to this, the outcome demonstrated that NFC has a positive but negligible impact on stability test (stab), with a coefficient of 0.641768. This means that a one percent rise in AIF will result in a 64.17 percent increase in DMB stability test (stab) in Nigeria. A brief analysis of the association revealed that, with a coefficient of -8.80E-06, VOF has a negative but substantial impact on stability test (stab) of DMBs in Nigeria. This means that for every 1% rise in VOL, there would be a 0.00088% drop in stability test (stab).

Conversely, the outcome demonstrated that AIF had a positive but negligible impact on stability test (stab), with a coefficient of 0.000625. This means that a 1% rise in AIF will result in a 0.0625 % increase in DMB stability test (stab) in Nigeria. Likewise, the findings demonstrated that NFC

has a positive but negligible impact on stability test (stab), with a coefficient of 0.074331. This means that a 1% rise in AIF corresponds to a 7.4331 % increase in DMB stability test (stab) in Nigeria. The corresponding probability value of the chi-square is 0.9459, as indicated by the probability display of the study's heteroscedasticity test. This suggests that the model's residuals are homoscedastic. Because of the Jarque Bera's probability value being less than five percent, the normality test result shows that the model's residual does not follow a normal distribution. Nevertheless, the outcome demonstrates that the serial correlation's associated probability value is also 0.6700, greater than 5%. Therefore, the model has no autocorrelation.

Discussion of Findings

It is explicit that from the estimation that value of fraud has negative but significant effect on stability of the deposit money banks in Nigeria in both short run and long-run. The explanation could be due to fraudulent activities often lead to financial losses for banks and damages the trust and confidence that customers and stakeholders have in bank. This will not only reduced capital adequacy, liquidity issues but also the stability of the stability of deposit money banks. However, it was found that amount involved in the fraud and the number of fraud cases have positive but insignificant effect on stability of deposit money banks in Nigeria. The explanation for this could be because the frequency of fraud cases and the amount involve make the management of the deposit money banks to employ proactive measures in terms of ensuring total compliance with the regulatory framework and effective risk management to gain the trust of investors and depositors and this enhances stability of deposit money banks.

5. Conclusion and Recommendations

The study examined effect of fraud on stability of deposit money banks in Nigeria. The study covered the period of 15 years spanning from 2009 to 2023 on quarterly basis which constitute 60 observations. Data were extracted from the annual reports of Nigeria Deposit Insurance Corporation (NDIC) and Global Financial Data Bulletin. The estimation techniques used were Autoregressive distributed lag (ARDL). It was found that value of fraud has negative but significant effect on stability of the deposit money banks in Nigeria in both short run and long-run. The explanation could be because fraudulent activities often lead to financial losses for banks and damages the trust and confidence that customers and stakeholders have in bank. This will not only reduced capital adequacy, liquidity issues but also the stability of the stability of deposit money banks. However, it was found that amount involved in the fraud and the number of fraud cases have positive but insignificant effect on stability of deposit money banks in Nigeria. Thus, the study concluded that the occurrence of fraud is a threat to financial stability of deposit money bank in Nigeria because it erodes customers' trust and confidence which could lead to loss of customers and potential investors. In view of this, the management of the deposit money banks should employ effective measures to prevent, detect and address fraud to maintain stability of deposit money banks. One of the limitations of the study is that it only focuses on stability without considering other performance measures such as efficiency, depth, and etcetera. In view of this, other studies may extend the frontier to effect of fraud on performance such efficiency, depth, and size of deposit economic growth in Nigeria.

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