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Security Challenge, Bank Fraud and Commercial Bank Performance in Nigeria: An Evaluation

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Abstract

The issues of insecurity and fraud in the banking sector of the Nigerian have become the concern of everyone. Achumba, Ighomereho, and Akpor-Robaro (2013) maintain that the concrete evidences of these incidences in different parts of Nigeria indicate that the security challenge in the country is enormous and complex and would continue to be, if the situation remains unabated. This paper evaluates the insecure situation, bank fraud and their impact on bank performance. This evaluation requires the formulation of some testable hypotheses to confirm the impact of insecurity and fraud on bank performance. Multiple regression analysis was applied to determine if there is any significant relationship between the indicators of bank insecurity, fraud and the earnings before tax (the indicator of bank performance) of the Commercial banks in Nigeria. Data were obtained through secondary sources on the indicators of bank insecurity and fraud and the earnings before tax of Commercial banks in Nigeria for the period 1991 -2013 from Nigeria Deposit and Insurance Corporation's Annual Report. The results of the study demonstrate an inverse relationship between Expected Losses on insecurity and Fraud (ELF), Number of Fraud Cases (NFC) and Number of Staff involved in Fraud Cases and earnings before tax of commercial banks in Nigeria. The results of the Granger causality test show a uni-directional causality from bank insecurity and fraud to commercial bank performance. However, the Volume (Amount) of bank insecurity, Fraud cases (VFC) and earnings of commercial banks in the parsimonious ECM show positive but significant

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relationship. We therefore recommend that both government and banks should team up and involve foreign intervention in fighting insecurity and fraud in the banking sector. New staff of the bank should have a guarantor who will pledge a reasonable sum with the bank in case the staff is involved in fraud. Directors should be knowledgeable in accounting and banking and must have stakes in the bank.

JEL Classification: M20

Keywords: bank, security challenges, fraud, bank performance

1. Introduction

Fraud according to Adeniji (2004) and Asuquo (2005) is an intentional act by one or more individuals among management, employees or third parties which results in a misrepresentation of financial statement. Fraud has been defined as a deception deliberately practiced in order to secure unfair or unlawful gain. It is a deceit, trickery, sharp practice, or breach of confidence, perpetrated for profit or to gain some unfair or dishonest advantage. The issue of insecurity and fraud in the banking sector is an interruption to the roles banks play towards economic development of the country. The financial sector in Nigeria is faced with deep security challenges, institutional and environmental frauds which threaten greatly the business growth, and the confidence of the public in the banking sector. It is good to mention here that banks have no other asset to offer to customers except confidence, and the problem of fraud has affected the confidence negatively- resulting in poor performance.

The increasing incidence of insecurity and frauds affect the already survival and viability of the banking sector. Fraud is not unique to the banking sector but due to the product which the banks deal on - cash and Nigeria is cash based economy, no area of banking system is immune to fraudsters, not even the operational security. The characteristic of this economy is that the cash will be physically held and touched. In Nigeria, studies indicate that more than 90% of funds are outside the banking sector as against the developed world where the money in circulation is 4% and 9% in the UK and US respectively. This explains the reason for the fragile nature of our banking system. Transacting with physical cash is prone to either fraud or when armed robbers attack, they will do away with the money. Numerous banks have had attack of armed robbers. This has marred the operations of the banks. Some bankers and customers lost their lives in the hands of robbers as well as bank property. Insiders also contribute to the success of operations of many armed robbers by giving information to the robbers. Many banks have to close some of their branches as a result paralyzed economic activities of armed robbery attacks on such branches.

The increasing rate of insecurity and fraud in the banking system, if not arrested might pose serious threats to the stability and the survival of individual banks and the performance of the industry as a whole (G. O. Nwankwo, 1991). Lamenting on the ugly impact of insecurity and fraud in banks, Okoro (2003) said that fraud has left untold hardship on the lives of bank owners, staff, customers and family members as most bank failures are always associated with large scale of frauds. Fraud in bank shakes the foundation and credibility of the affected banks in Nigeria resulting in some of the banks being distressed thus impacting negatively on the nation economy.

Banks play a role in determining and influencing the course of economic development of the country. Thus, as financial institutions that serve as intermediaries between surplus units and deficit units in the economy, the extent to which banks successfully and efficiently perform the intermediation function profoundly determines not only the level of public trust in the banking system but also the performance of the banks themselves as well as the general economy. The effect of insurgency is gradually destabilizing the banking structures. Banks are no longer safe and work environment not secure for the workforce in the sector.

The purpose of this paper is to evaluate the insecurity challenge and fraud in the banking sector and their implication on the banks performance and to propose strategies for the prevention of fraud and effective security management in the banking sector. Above all, this study will bridge the observed gap in the literature.

1.1. Objectives

In evaluating fraud and security challenge as they affect bank performance and the impact to Nigerian economy, this paper intends to achieve the following objectives:

1. To examine whether there is a significant relationship between losses caused by bank frauds, insecurity and earnings before tax of Commercial banks in Nigeria
2. To evaluate the impact of fraud and insecurity cases on the earnings before tax of Commercial banks in Nigeria
3. To examine whether there is significant relationship between the number of staff involved in the fraud cases and earnings before tax of Commercial banks.
4. To find out if there any significant relationship between bank insecurity challenge, fraud and the earning before tax of Commercials banks in Nigeria.
5. To evaluate the direction of causality between the incidence of fraud, insecurity challenge and bank performance in Nigeria.

1.2. Hypotheses

1. This is no significant relationship between losses caused by bank frauds, insecurity and earnings before tax of Commercial banks in Nigeria
2. There is no significant relationship between fraud, insecurity cases and earnings before tax of Commercial banks in Nigeria
3. There is no significant relationship between the numbers of staff involved in the fraud cases and earnings before tax of Commercial banks in Nigeria.
4. There is no significant relationship between bank insecurity challenge, fraud and the earning before tax of Commercials banks in Nigeria.
5. There is no significant long run relationship between the incidence of fraud, insecurity challenge and performance of commercial banks in Nigeria.

2. Review of Related Literature

A review of earlier studies that have been undertaken with respect to the nature and extent of the relationship between insecurity challenge, fraud and the performance of banks is the focus of this section. However, it is necessary to start with the concept and definition of fraud in the banking system in order to aid our understanding of the issues involved.

2.1. The Concept and Meaning of Bank Fraud and Insecurity

Fraud can be defined as “any behavior by which one person intends to gain a dishonest advantage over another”. In other words, fraud is an act or omission which is intended to cause wrongful gain to one person and wrongful loss to the other, either by way of concealment of facts or otherwise. The impact of fraud and insecurity has always been negative to both banks and society at large. Fraud can also be defined as intentional deceitful act for gain with the intention of concealment. It involves

deprivation of the asset, money or any item for which the fraud was committed from the rightful owner.

For Idolor (2010), fraud usually requires theft and manipulation of records, often accompanied by concealment of the theft as well as conversion of the stolen assets or resources into personal assets or resources. Adewunmi (1986) in his explanation of fraud identifies socio – economic lapse in society such as misplacement of social values in the pursuit of wealth and high society expectation from bank staff and the subsequent desire of the staff to live up to such expectations as contributory factor to fraud.

Another theory of fraud states that banks have become persistent targets of men of underworld mainly because banks are seen as the richest organization in any country.

Above all, the life styles of those working in the banks are so flashy that those out there would like know what is in there.

Again, in order to make the concept of insecurity easy to comprehend, there is need to explain the concept of security. Akin (2008) explain security as "a situation that exists as a result of the establishment of measures for the protection of persons, information and property against hostile persons, influences and actions". When there is security, people in a society can go about their normal daily activities without any threats to their lives or properties. It consists of all measures designed to protect and safeguard the citizens, the resources of individuals, groups, businesses and the nation against sabotage or violent occurrence (Ogunleye, 2010). According to Igbuzor (2011) it demands safety from chronic threats and protection from harmful disruption. The concept of insecurity connotes different meanings such as: absence of safety; danger; hazard; uncertainty; lack of protection, and lack of safety. According to Beland (2005) insecurity is a state of fear or anxiety due to absence or lack of protection. Achumba *et al*. (2013) defines insecurity from two perspectives. First, insecurity is the state of being open or subject to danger or threat of danger, where danger is the condition of being susceptible to harm or injury. Secondly insecurity is the state of being exposed to risk or anxiety, where anxiety is a vague unpleasant emotion that is experienced in anticipation of some misfortune. Owolabi (2010) noted that the problem of fraud in the banking industry is not limited to any economy, nation, continent or environment. Fraud and fraudulent activities ultimately result in bank failure.

2.2. Types of Bank Frauds

Fraud has been defined as a deception deliberately practiced in order to secure unfair or unlawful gain. Some researchers defined fraud as deceit, trickery, sharp practice, or breach of confidence, perpetrated for profit or to gain some unfair or dishonest advantage. Frauds manifest in different ways. In Nigeria, the banks' transactions are highly cash based. This makes them susceptible to frauds in thefts and embezzlement. The following are type of fraud:

- suppression of cash lodgments
- forgeries of signatures
- abuse of IOU's
- un-authorized lending
- fraudulent use of bank documents
- over-invoicing of purchases among others
- Fraudulent loans
- Forgery and altered cheques

2.3. Causes of Bank Fraud

Many researchers maintain the fact that the causes of fraud are grouped into two major classes: institutional factors and environmental or societal factors. The institutional factors are those that concern the internal environment of the bank, while environmental or societal factors are those which result from the influence of the environment or society on the banking industry. Ojo (2008) classified the causes of bank frauds and forgeries into institutional or endogenous and the environmental or exogenous factors. Some of the endogenous factors he identified include weak internal control system, inexperienced staff and poor remuneration while among the exogenous factors are low moral values in the society, lack of effective deterrent and punishment as well as fear of negative publicity.

Institutional factors are as follows:

- Poor in internal control system
- bad management symbolized by incompetence
- inadequate supervision
- poor leadership
- inadequate controls
- lack of proper co-ordination of the various operational activities
- corruption and ineptitude
- Inappropriate personnel policies of the financial institutions
- lack of or ineffective corporate governance
- staff infidelity
- lack of self-discipline, greed

The environment or society factors are as follows.

- **Societal value:** In the society today, possession of wealth determines the reputation ascribed to a person as a result all sorts of things have to be done in order to the richest person in town.
- **Lack of effective punishment:** Lack of effective deterrent such as heavy punishment could be a factor that contributes to the high perpetration of frauds in financial institutions.

The findings of Abiola (2009), Abdul-Rasheed, Babaita and Yinusa (2012), Ojo (2008), Idolor (2010), Akindele (2011), Bwengye (2013), Aderibigbe (1999) affirm that the above mentioned factors cause fraud in the banking sector. The results of their studies reveal that there is significant relationship between banks' profit and total amount of funds involved in fraud. Ojigbede (1986) and Adewunmi (1986) also maintain that the major cause of fraud in banks in Nigeria is traceable to the general dishonesty in the society. Since there is corruption in all facets of the Nigerian life, banks cannot be an exception. He also mentioned other causes of bank fraud which include lack of call over system, lack of regular and non – notified relation.

2.4. Impact of Fraud in Banks

Uchenna and Agbo (2013) evaluated the impact of fraud and fraudulent practices on the performance of banks in Nigeria within the period 2001-2011 and the result showed that fraud has adverse impact on bank performance. Okpara (2008) found that one of the factors that impacted the most on the performance of the banking system in Nigeria was fraudulent practices.

The adverse impacts of insecurity and frauds on banks are very destructive to the operational activities and reputation of the banking sector. The impact of fraud in the sector include: inadequate liquidity, inability of bank to meet the demand of the customers and other obligations, erosion of the bank's capital, poor asset base, excess liability, insolvency and liquidation. The failure of banks eventually will cause the workers to lose their jobs. The bank will no longer render services to the customers, depositors will lose their deposits, saving and investor will suffer loss of investment. Further, the role of bank in the economy will cease and standard of living will be negatively impacted. Frauds deplete shareholders' funds and lead to loss of money belonging to customers causing embarrassment to the Board and Management. The losses cause reduction in the volume of available resources. Frauds can destroy the economy of a nation and its sovereignty. An example, when Nigerian sovereignty was called into question and its international trade threatened when a foreign power issued an ultimatum to its (Nigerian) national assembly to pass a bill to check on financial malpractice in the country. Where the instruction was not carried out, the country would have faced international sanctions. Above all, it heightens the cost of operations of banks. All the studies examined confirm that insecurity and fraud have made ugly impact on bank performance as well as the economy, as a whole.

2.5. Suggested Measures to Prevent Fraud and Manage Insecurity in the Banking Sector

A major and fundamental characteristic of commercial banks is that it creates money. This peculiar feature distinguishes commercial banks from the non-banking sector. Besides this, confidence and trust provide the foundation upon which banks are built. It, therefore, means that when this confidence is eroded, as a result of fraud and insecurity, banks collapse. It is to check such negative occurrences that necessitated the introduction of internal control mechanisms which consist of audit and internal checks in the banks. Indeed, the requirement of the Sarbanes Oxley is for companies to maintain strong and effective internal control over the recording of transactions and preparation of financial statements. This is to avoid window dressing of financial statements.

Similarly, Musa (1986), Sydney (1986) and Sanusi (1986) among other scholars have also identified some management control mechanisms aimed at preventing fraud in banks, Sanusi (1986) enumerated some of the existing fraud prevention and detection measures to include dual control operational manual, graduated limits of authority, limit and reports.

There is no doubt that the survival and profitability of financial institutions are largely hinged on the existence of an effective fraud prevention and detection mechanisms. In this regard, banks and government should work together to engage reputable foreign experts in fraud prevention and detection and security management to save the nation from the embarrassment associated with the increasing cases of bank fraud and insecurity. Since banks play an important role in the growth and development of the economy, nothing should be spared to ensure that they retain the confidence of the people. Every fraud has a human factor, therefore, employment procedure in the bank should be streamlined, to ensure that only professional of high integrity are given jobs there. In addition, regular staff auditing should be embarked upon to identify and remove bad eggs from the system. Members of staff /or their guarantors should be made to deposit a specific substantial amount to serve as a check on the conduct of the staff, so that, in case he/she is involved in fraud the job and the deposited money would be lost by the affected staff.

It is also necessary to carry out audit checks on all transactions as soon as they are made because delay might have dire consequences on the bank. Similar checks should also be carried out on vouchers raised for expenses (printing, stationeries, stock, office equipment etc.) Market surveys should be conducted before approvals are given for the purchases. Members of the Board of Directors should not just be people, who have stakes in the banks but should be knowledgeable in banking and accounting, to enable them carry out their supervisory role effectively.

These measures, we believe, will help to reduce the increasing rate of fraud and acts of insecurity in Nigerian banking sector.

3. Methodology and Data

In order to achieve the objectives of this study, the impact of insecurity and fraud on the performance of Commercial banks in Nigeria was evaluated. E-View Package was used to analyses the data. The relationship between bank performance and indicators of insecurity and fraud are captured in the multiple regression model specified as follows:

$$Log(EBT) = \beta_0 + \beta_1 \log(ELF) + \beta_2 \log(NFC) + \beta_3 \log(NSF) + \beta_4 \log(VFC) + u \quad (1)$$

Where:

EBT - Earnings before tax of Commercial banks in Nigeria (N million) used as an indicator of bank performance

ELF = Expected losses from insecurity and fraud cases (N million)

NFC - Number of fraud cases

NSF = Number of Staff involved in fraud cases

VFC = Volume (Amount) involved in fraud cases (N million)

3.1. Data

β_0, β_1, β_2, β_3, and β_4 are the parameter coefficients of the model where all the indicators of fraud are expected to have an inverse relationship with Earnings before tax (EBT). That is β_0, β_1, β_2, β_3, and β_4.

To estimate the multiple regression model specified in equation (1) above, annual data of the specified variables were sourced from the Annual Reports of the Nigerian Deposit and Insurance Corporation (NDIC) for the period 1991-2013. The data relate to aggregate returns made to the NDIC by all the insured Commercial banks in Nigeria for the specified period. Table 1 in the appendix presents the aggregate data which were analyzed with the aid of the econometric software package E-Views.

4. Analysis and Results

The analysis and results of the study are presented in this section beginning with a summary of the descriptive statistics as shown in Table 2 in the appendix.

4.1. Summary of Descriptive Statistics

From Table 2 (see appendix), the mean value of (EBT) is 83782.32 with a standard deviation of 361889.4 while the mean value for ELF is 4343.535 with standard deviation of 6555.545. For NFC, the mean value is 985.2273 and standard deviation of 852.9354 while NSF has a mean value of 427.6818 and standard deviation of 176.1056. Lastly, VFC has a mean value of 29398.90 and a standard deviation of 81339.41.

4.2. Correlation Matrix

The correlation matrix for all the variables in the model is presented in Table 3 in the appendix. The table shows that the correlation between ELF and NFC is 0.186860; between ELF and NSF is 0.031075. The correlation between NSF and NFC is -0.146160 while that between VFC and NFC is -0.119695. In all, it is evident that the variables are not perfectly correlated.

4.3. Level Series Multiple Regression Analysis

In Table 4 in the appendix, the results of the estimated level series multiple regressions are presented. The estimated results show an adjusted R of approximately 69.37%, an F-statistic of

11.75775 and a D-W statistic value of 1.466289 which suggests the presence of positive autocorrelation in the estimated model. This therefore means that the results of the estimated level series multiple regression models cannot be relied upon for analysis and policy making.

4.4. Level Series OLS Multiple Regression Results

R-squared 0.758185 mean dependent var11.44334 Adjusted R-squared 0.693702. D. dependetvar 1.265223 S.E. of regression 0.700228 Akaike info criterions 2.337496 Sum squared residuals 7.354787 Schwarz criterions 2.586429 Log likelihood -18.37496 F-statistic 11.75775 Durbm-Watson stat 1.466289 Prob (F-statistic) 0.000159**.**

Consequently, we examine the time-dependent characteristics of the variables in the multiple regression models using the Augmented Dicky-Fuller (ADF) unit root test.

4.4. Unit Root Tests

The results of the ADF unit root tests conducted on the variables are as shown in Table 5 in the appendix, The ADF unit root test results indicate that ail the variables are integrated of order one. That means, they become stationary after the first differencing.

4.5. Cointegration Test

Having established that the variables in equation (1) are all integrated of order one, the Johansen cointegration test (Johansen, 1991) is conducted to examine whether there is any long-run relationship between the dependent and independent variables.

Table 6 in the appendix shows the results of the Johansen cointegration test which assumes a linear deterministic trend in the data and conducted with a lag interval of 1 to 1. The test indicates that there are two co integrating equations at the 5% level of significance. The test therefore confirms the existence of two long-run dynamic combinations of the dependent and independent variables in the bank performance-fraud and insecurity relationship.

4.6. Error Correction Mechanism

Given the existence of a long run relationship among the variables, we applied the error correction mechanism to examine the dynamic behavior of the model when confronted with short run shocks. Table 7 in the appendix presents the results of the over-parameterized error correction model estimated using the E-Views. Subsequently, the parsimonious error correction model estimates were derived by employing the general to specific approach. The results of the parsimonious ECM are as shown in Table 8 in the appendix.

The parsimonious ECM estimates are obviously more robust than the level series results in Table 4 in the appendix given a D-W statistic value of approximately 2.04 which indicates the absence of autocorrelation in the ECM model. The adjustedR^2 of the model is approximately 61.83% indicating that the independent; t variables jointly explain about 61.83% of the total variation in EBT, the dependent variable. Furthermore, the F-statistic is 4.47 *with* a p-value of 0.024 which is significant and means that the model is a good fit. However, the error correction coefficient (ECM01) of 0.113235 is not appropriately signed and is also not significant at 0.4846.

4.7. Result of Tested Hypotheses

Hypothesis 1

The estimated results show that ELF has an inverse relationship with EBT as expected and is significant at 5% level of significance given a t-statistic of-3.40 and p-value of D.0093. Therefore, we reject the null hypothesis and accept the alternative which says there is a significant relationship between the expected losses caused insecurity and fraud cases and the earnings before tax of

Commercial banks in Nigeria. Therefore when the losses caused by bank insecurity and fraud are on the high side, the percentage increase in the earnings before tax of commercial banks will reduce.

Hypothesis 2

From Table 8 in the appendix, NFC also has an inverse relationship with EBT in line with apriority expectation, with a coefficient value of-0.477882, a t-statistic value of -2.7>:9644 and p-value of 0.0259. Number of fraud cases and insecurity (NFC) therefore is significant at the 5% level of significance. We reject the null hypothesis and accept the alternative which says that the number of fraud cases and insecurity challenge have a significant impact on the earnings before tax of Commercial banks in Nigeria. The results also indicate that NFC lagged one period is appropriately signed and also significant at the 5% level of significance.

Hypothesis 3

Number of Staff involved in fraud cases (NSF) demonstrates an inverse relationship inverse relationship*:* (This is the relationship between two numbers in which an increase in the value of one number results in a decrease in the other) with EBT as expected but is not significant with a t-statistic of 1.505383 and a p-value of 0.1706. The null hypothesis that there is no significant relationship between the number of staff involved in fraud cases and the earnings before tax of Commercial banks in Nigeria is accepted.

Hypothesis 4

The relationship between volume of fraud cases (VFC) and earnings before tax (EBT) is positive contrary to theoretical expectation but is significant since the t-statistic is 4.202416 and p-value is 0.0030. We therefore reject the null hypothesis and accept the alternative which says that there is a significant relationship between volume of fraud cases and the earnings before tax of Commercial banks in Nigeria.

Granger Causality Test

To test hypothesis 5 which is formulated to examine the direction of causality between the incidences of fraud .in the Nigerian banking sector and Commercial bank performance, the Granger causality test was employed with an optimal lag of 2. The Granger causality test according to Granger (1969) is used for testing the short run direction of causality between variables say Y and X. The test is based en estimating the following bivariate regressions stated below:

$$Y_t = \sum_{i=1}^{n} \alpha_i X_{t-i} + \sum_{j=1}^{n} \beta_j Y_{t-j} + u_{1t} \quad (2)$$

$$X_t = \sum_{i=1}^{n} \delta_i Y_{t-i} + \sum_{j=1}^{n} \lambda_j X_{t-j} + u_{2t} \quad (3)$$

where Y_t and X_t are the variables, of interest while u_{1t} and u_{2t} are the disturbance terms assumed to be uncorrelated (Gujarati, 2009).

The results of the Pairwise Granger Causality tests are presented in Table 9 in the appendix. The causality test results reveal that there is a uni-directional causality relationship running from ELF and VFC to EBT respectively.

However, the results show no Granger causality relationship among NFC, NSF and EBT respectively. Therefore, we reject 'the null hypothesis of no Granger causality relationship with

respect to ELF, VFC and EBT respectively and accept the null hypothesis of no Granger causality with respect to NFC, NSF sad EBT respectively.

4.8. Discussion of Findings

The empirical findings of the study demonstrate an inverse relationship between three (3) of the four (4) indicators of fraud and insecurity employed in the study and earnings before tax of commercial banks in Nigeria. Specifically, the indicators are Expected Losses on Fraud and insecurity (ELF), Number of Fraud Cases (NFC) and Number of Staff Involved in Fraud Cases. The observed results are in agreement with apriori expectations and corroborate earlier works such as Nwankwo (2013), Ikpefan (2007), Kanu and Okorafor (2013) as well as Abdul-Rasheed *et al*. (2012) who found a significant relationship between bank fraud and bank performance in Nigeria.

The observed inverse and significant relationship between insecurity challenge, fraud and bank performance in this study vividly demonstrates that an increase in the incidence of insecurity and bank fraud have negative impact on bank performance. The results of the Granger causality tests are also in consonance with theoretical expectation and underscore the uni-directional causality from fraud to bank performance.

However, the observed positive but significant relationship between Volume (Amount) of Fraud cases (VFC) and earnings of Commercial banks in the parsimonious ECM estimates is contrary to apriori expectation and calls for further enquiry. This could be due to specification error or the presence of multi-collinearity in the independent variables.

5. Conclusions

This paper evaluates the impact of insecurity and fraud on the performance of commercial banks in Nigeria as well as the direction of causality between insecurity, fraud and bank performance. On the basis of the findings, we concluded that:

- There is a negative and significant relationship between Expected Losses caused by insecurity challenges, Fraud cases and Earnings before tax (EBT) of commercial banks in Nigeria.
- There is a negative and significant relationship between Number of insecurity, Fraud cases and Earning before Tax of Commercial banks in Nigeria.
- There is a positive and significant relationship between Volume of insecurity, Fraud cases and Earning Before Tax of Commercial banks in Nigeria
- There is a negative but insignificant relationship between Number of Staff involved in fraud cases and Earning before Tax of Commercial banks.
- Granger causality tests demonstrate that there is a uni-directional causality relationship from Expected Losses caused by insecurity challenges and Fraud cases, Volume of insecurity and Fraud cases to Earnings before Tax of Commercial banks respectively.

In the light of the observed negative impact which insecurity and fraud have on bank performance, the following recommendations were made:

- Foreign experts should be involved in insecurity and fraud prevention.
- Professionals with integrity who have image to protect should be employed in the banks.
- Number of workers in the banking sector should be reduced.

- Board of Directors should be knowledgeable in accounting and banking and must have stakes in the bank.
- Members of staff /or their guarantors should be made to deposit a specific substantial amount to serve as a check on the conduct of the staff, so that, in case he/she is involved in fraud the job and the deposited money would be lost by the affected staff.
- The issue of check and audit should be done on every transaction immediately it is done because delay may be dangerous.
- Each voucher rose for expenses (printing of stationeries, stock and equipment) should be thoroughly checked and market survey should be conducted before giving approval for purchases. These will help deter fraud in the banking system.

References

[1] Abdul-Rasheed, A., Babaita, I. S., & Yinusa, M. A. (2012). Fraud and its implications for bank performance in Nigeria. *International Journal of Asian Social Sciences*, *2*(4), 382-387.

[2] Abiola, I. (2009). An assessment of fraud and its management in Nigeria commercial banks. *European Journal of Social Sciences*, *10*(4), 628-640.

[3] Achumba, I. C., Ighomereho, O. S., & Akpor-Robaro, M. O. M. (2013). Security challenges in Nigeria and the implications for business activities and sustainable development. *Journal of Economics and Sustainable Development*, *4*(2), 79-99.

[4] Adeniji, A. (2004). *Auditing and investigation*. Lagos: Value Analysis Publishers.

[5] Aderibigbe, P. (1999). *The internal audit function and fraud: Algerian case study* (ICAN News, January/March).

[6] Adewunmi, W. (Ed.). (1986). *Fraud in banking*. Paper presented at the Proceedings of a seminar held in Lagos, 29 November, 2015. Lagos Nigeria: Nigeria Institute of Bankers.

[7] Akin, T. (2008). *Failed Banks: Why we chose purchase and assumption option*. Nigeria: The Nigerian Deposit Insurance Corporation (NDIC).

[8] Akindehinde, O. (2011). *Nigeria Deposit Insurance Corporation (NIDC) annual meeting*.

[9] Akindele, R. I., (2011). Fraud as a negative catalyst in the Nigerian banking industry. *Journal of Emerging Trends in Economics and Management Sciences*, 2(5), 357-363.

[10] Asuquo, P. E. (2005). Bank fraud: A look at the Nigerian banking clearing system. *ICAN News*, *14*(January/March), 19-24.

[11] Beland, D. (2005). *The political construction of collective insecurity: from moral panic to blame avoidance and organized irresponsibility* (Working Paper Series 126). Cambridge, MA.: Minda de Gunzburg Center for European Studies, Harvard University. Retrieved from https://www.ciaonet.org/catalog/6235.

[12] Bwengye, M. N. (2013). *Perception of bank fraud management practices on the performance of commercial banks: A case study of selected commercial banks in Uganda* (Unpublished Masters dissertation). Uganda: Faculty of Business Administration, Department of Management, Uganda Christian University.

[13] Granger, C. W. J. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*, *37*(3), 424-438. doi: 10.2307/1912791

[14] Idolor, E. J. (2010). Bank frauds in Nigeria: Underlying causes, effects and possible remedies. *African Journal of Accounting, Economics, Finance and Banking Research*, *6*(6), 62-80.

[15] Igbuzor, O. (2011). Peace and security education: A critical factor for sustainable peace and national development. *International Journal of Peace and Development Studies*, *2*(1), 1-7.

[16] Ikpefan, O.A. (2007). *Growth of bank frauds and the impact on the Nigerian banking industry*. Retrieved from http://eprints.covenantuniversity.edu.ng/1316/1/FRAUD.pdf.

[17] Johansen, S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models. *Econometrica*, *59*(6), 1551 -1580. doi:10.2307/2938278

[18] Kanu, S. I., & Okorafor, E.O. (2013). The nature, extent and economic impact of fraud on bank deposits in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, *4*(9), 253-265.

[19] Musa, S. O. (1986).Management control systems for the prevention and detection of frauds in banks. In W. Adewunmi, (Ed.), *Frauds in banks.* Paper presented at the Proceedings of a seminar held in Lagos, 29 November, 2015. Lagos Nigeria: Nigeria Institute of Bankers.

[20] Nwankwo, G. O. (1991). *Bank management: Principles and practices*. Lagos: Malthouse Press.

[21] Nwankwo, O. (2013). Implications of fraud on commercial banks' performance in Nigeria. *International Journal of Business and Management*, *8*(15), 144-150. doi:10.5539/ijbm.v8n15p144

[22] Ogunleye, G. A. (2010). *Perspectives on the Nigerian financial safety-net*. Abuja Nigeria: Nigeria Deposit Insurance Corporation. Retrieved from http://ndic.gov.ng/wp-content/uploads/2015/01/Perspectives-On-the-Nigerian-Financial-Safety-net-NDIC-2.pdf.

[23] Ojigbede, S. I. (1986). *Frauds in banks*. Paper presented at the Effective Bank Inspection, 6-17 October. Lagos: FITC.

[24] Ojo, J. A. (2008). Effect of bank frauds on banking operations in Nigeria. *International Journal of Investment and Finance*, *1*(1), 103.

[25] Okoro, G. (2003). *An investigation of fraud in banks* (Unpublished M.Sc. Thesis). Nigeria: Department of Banking and Finance, Faculty of Management Sciences, University of Lagos.

[26] Okpara, G. C. (2008). Bank failure and persistent distress in Nigeria: A discriminant Analysis. *Nigerian Journal of Economic and Financial Research*, *2*(1), 181-200.

[27] Owolabi, S. A. (2010). Fraud and fraudulent practices in Nigerian banking industry. *African Research Review*, *4*(3b), 240-256.

[28] Sanusi, J. O. (1986).Management control systems and the prevetion and detection of frauds in banks. In W. Adewunmi, (Ed.), *Frauds in banks.* Paper presented at the Proceedings of a seminar held in Lagos, 29 November, 2015. Lagos Nigeria: Nigeria Institute of Bankers.

[29] Sydney, I. F. (1986). Management control system and the prevention and detection of frauds in banks. In W. Adewunmi, (Ed.), *Frauds in banks.* Paper presented at the Proceedings of a seminar held in Lagos, 29 November, 2015. Lagos Nigeria: Nigeria Institute of Bankers.

[30] Uchenna, C., & Agbo, J. C. O. (2013). Impact of fraud and fraudulent practices on the performance of banks in Nigeria. *British Journal of Arts and Social Sciences*, *15*(l), 12-28.

Appendix

Table 1

Obs	EBT	ELF	NFC	NSF	VFC
1991	2210.800	26678.60	96.00000	514.0000	388512.7
1992	24196.20	73.11000	108.0000	436.0000	411.7500
1993	35516.60	246.3700	122.0000	516.0000	1419.090
1994	41588.50	950.6500	170.0000	737.0000	3399.390
1995	47012.40	229.1300	141.0000	625.0000	1011.360
1996	52802.30	375.2400	606.0000	552.0000	1600.680
1997	50460.20	227.4400	487.0000	566.0000	3777.900
1998	47144.10	692.2500	573.0000	311.0000	3196.510
1999	96630.10	2730.060	195.0000	596.0000	7404.280
2000	132654.3	1080.570	403.0000	493.0000	2851.110
2001	254151.4	906.3000	943.0000	152.0000	11243.94
2002	245284.2	1299.690	796.0000	85.00000	12919.55
2003	272300.6	857.4600	850.0000	106.0000	9383.670
2004	186507.3	2610.000	1175.000	383.0000	11754.18
2005	120391.1	5602.050	1229.000	378.0000	10606.18
2006	88806.40	2768.670	1193.000	331.0000	4832.170
2007	186407.3	2870.850	1553.000	273.0000	10005.81
2008	206507.3	17543.09	2007.000	313.0000	53522.86
2009	1373330	7549.230	1764.000	656.0000	41265.50
2010	607340.0	11679.00	1532.000	357.0000	21291.41
2011	6710.000	4071.000	2352.000	498.0000	28400.86
2012	525340.0	4517.000	3380.000	531.0000	17965.00
2013	584600.0	5287.000	3670.000	579.0000	19870.00

Source: Annual Report of Nigeria Deposit Insurance Corporation (2014)

Table 2

Date: 03/01/15 Time: 18:06 Sample: 1991 2013					
ERT	EBT	ELF	NFC	NSF	VFC
Mean Median	83782.32	4343.535	985.2273	427.6818	29398.90
Maximum	92718.25	1954.845	823.0000	464.5000	9694.740
Minimum Std. Dev.	607340.0	26678.60	3380.000	737.0000	388512.7
Skewness Kurtosis	1373330	73.11000	96.00000	85.00000	411.7500
	361889.4	6555.545	852.9354	176.1056	81339.41
	2.926686	2.296219	1.106707	0.367402	4.175309
	13.45046	7.684095	3.900122	2.406387	18.96128
Jarque-Bera	131.5180	39.44529	5.233637	0.817953	297.4541
Probability	0.000000	0.000000	0.073035	0.664330	0.000000
Observations	22	22	22	22	22

Source: Author's Computation

Table 3. Correlation matrix

	EBT	ELF.	NFC	NSF	VFC
EBT	1.000000	0.040071	-0.072800	-0.419300	-0.098124
ELF	-0.040071	1.000000	0.186860	0.031075	0.843889
NFC	0.072800	0.186860	1.000000	-0.146160	-0.119695
NSF	-0.419300	0.031075	-0.146160	1.000000	0.095461
VFC	-0.098124	0.843889	-0.119695	0.095461	1.000000

Source: Author's Computation

Table 4. Level series OLS multiple regression results

Method: Least Squares Sample: 1991-2013 Included Observations: 23				
Variable	Coefficient	Std. Error.	t-Statistic	Prob.
C	11.77931	3.247000	3.627752	0.0025
LOG(ELF)	0.318745	0.296818	1.073874	0.2999
LOG(NFC)	0.862206	0.204355	4.219162	0.0007
LOG(NSF)	-0.570813	0.355189	-1.607071	0.1289
LOG(VFC)	-0.536419	0.290066	-1.849302	0.0842

Source: Author's Computation

Table 5. ADF **unit root** test **results**

Variable	ADF Test Statistic at 1st Diff.	Order of Integration
EBT	-4.926223	HI)
ELF	-5.465158	1(1)
NFC	-4.336254	1(1)
NSF	-4.160372	1(1)
VFC	-4.540116	1(1)

Note: Critical Values: 1% -3.8304; 5% -3.0294; 10% -2.6552

Source: Author's Computation

Table 6

Date: 03/01/15 Time: 23:52

Sample: 1991 2013

Included observations: 20

Test assumption: Linear deterministic trend in the date

Series: EBT ELF NFC NSE VFC

Lags interval: 1 to 1

Eigenvalue Likelihood	ration	5 percent Critical value	1 percent Critical value	Hypothesized No. of CE (s)
0.911704	97.42050	68.52	76.07	None **
0.7911001	48.87936	47.21	54.46	At most 1
0.400033	17.47490	29.68	35.65	At most 2
0.217151	7.257285	15.41	20.04	At most 3
0.11347	2.360980	3.76	6.65	At most 4

Note: *(**) denotes rejection of the hypothesis at 5%(1%) significance level L.R. test indicates 2 cointegrating equation(s) at 5% significance level

Unnormalized Cointegrating Coefficients:

EBT	ELF	NFC	NSF	VFC
-1.64E-06	-0.000229	0.000621	-0.000196	-1.84E-05
-1.66E-06	0.000159	0.000350	-0.001405	-4.29E-05
-1.74E-07	-0.000138	0.000428	0.000116	3.69E-05
3.19E-07	0.000136	0.000193	-0.001101	-4.99E-05
2.04E-07	-0.000178	0.001209	0.002524	-9.32E-06

Normalized contegrating coefficients: 1 cointegrating Equations(s)

EBT	ELF	NFC	NSF	VFC	C
1.000000	139.9392	-379.6037	119.4702	11.24664	-85537.23
	(19.8141)	(71.6891)	(127.671)	(3.62957)	
Log likelihood	-870.6759				

Normalized cointegrating coefficients: 3 cointegrating Equations(s)

EBT	ELF	NFC	NSF	VFC	C
1.000000	0.000000	0.000000	469.2937	17.30152	-469917.9
			(453.359)	(27.3479)	
0.000000	1.000000	0.000000	-9.989475		

Table 7. OVER-Parsimonious ECM

Dependent Variable: D (LOG(EGT))

Method: Least Squares

Date: 03/01/15 Time: 00:23

Sample(adjusted): 1993 2008

Included observations: 16 after adjusting: endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.292230	0.159542	1.831685	0.1265
D(LOG(EBT(-1)))	-0.145330	0.240227	-0.604971	0.5716
D(LOG(ELF))	-0.367923	0.196228	-1.874973	0.1196
D(LOG(ELF(-1)))	-0.015558	0.214081	-0.072671	0.9449
D(LOG(NFC))	-0.520773	0.347051	-1.500566	0.1938
D(LOG(NFC(-1)))	-0.683328	0.246424	-2.772971	0.0392
D(LOG(NSF))	-0.178236	0.173141	-1.029712	0.3
D(LOG(NSF(-1)))	-0.087582	0.200664	-0.436459	0.6807
D(LOG(VFC))	0.704021	0 .272472	2.583828	0.0492
D(LOG(VFC(-1)))	-0.025577	0.158976	-0.160883	0.8
ECM01(-1)	0.199533	0.257458	0.775009	0.4734

R-squared	0.820802	Mean dependent var	0.134009
Adjusted R-squared	0.462406	S.D. dependent var	0.361307
S.E. of regression	0.264913	Akaike info criterion	0.393018
Sum squared resid	0.350894	Schwarz criterion	0.924173
Log likelihood	7.855857	F-statistic	2.290212
Durbin-Watson stat	1.816319	Prob (F-statistic)	0.186560

Source: Author's Computation

Table 8. Parsimonious ECM

Dependent Variable: D (LOG(EBT))

Method: Least Squares

Date: 03/01/15 Time: 00:25

Sample(adjusted): 1993 2008

Included observations: 16 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.262605	0.079359	-3.309075	0.0107
D(LOG(EBT(-1)))	0.042621	0.105682	-0.403296	0.6973
D(LOG(ELF))	0.363913	0.106985	-3.401516	0.0093
D(LOG(NFC))	0.477882	0.175071	-2.729644	0.0259
D(LOG(NFC(-1)).)	0.668352	0.161348	-4.142305	0.0032
D(LOG(NSF))	0.190048	0.126245	-1.505383	0.1706
D(LOG(VFC))	0.695601	0.165524	4.202416	0.0030
ECM01(-1)	0.113235	0.154527	0.732784	0.4846

R-squared	0.796446	Mean dependent var	0.134009
Adjusted R-squared	0.618336	S.D. dependent var	0.361307
S.E. of regression	0.223211	Akaike info criterion	0.145458
Sum squared resid	0.398587	Schwarz criterion	0.531753
Log likelihood	6.836334	F-statistic	4.471661
Durbin-Watson stat	2.038313	Prob (F-statistic)	0.025904

Source: Author's Computation

Table 9

Pairwise Granger
Causality Tests
Date: 03/01/15 Time: 18:07
Sample: 1991 2013
Lags: 2

Null Hypothesis	Obs	F-Statistic	Probability
ELF does not Granger Cause EBT	20	7.57739	0.00532
EBT does not Granger Cause ELF		1.02708	0.38191
NFC does not Granger Cause EBT	20	0.18953	0.82930
EBT does not Granger Cause NFC		1.51240	0.25215
NSF does not Granger Cause EBT	20	0.11759	0.88987
EBT does not Granger Cause NSF		0.74877	0.48982
VFC does not Granger Cause EBT	20	3.79467	0.04639
EBT does not Granger Ca use VFC		1.11.890	0.35243
NFC does not Granger Cause ELF	20	3.66496	0.05059
ELF does not Granger Cause NFC		0.50853	0.61138
NSF does not Granger Cause ELF	20	0.91482	0.42182
ELF does not Granger Cause NSF		0.70382	0.51031
VFC does not Granger Cause ELF	20	1.44534	0.26668
ELF does not Granger Cause VFC		0.54593	0.59039
NSF does not Granger Cause NFC	20	0.44193	0.65090
NFC does not Granger Cause NSF		0.15307	0.85939
VFC does not Granger Cause NFC	20	2.04017	0.16455
NFC does not Granger Cause VFC		2.01847	0.16738
VFC does not Granger Cause NSF	20	0.30382	0.74243
NSF does not Granger Cause VFC		1.50730	0.25322

Source: Author's Computation

ADF TEST 1

Augmented Dickey-Fuller Unit Root Test on D (EBT)

ADF Test Statistic	4.926223	1% Critical Value*	-3.8304
		5% Critical Value	-3.0294
		10% Critical Value	-2:6552

*MacKinnon critical values for rejection of hypothesis of a unit root

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(EBT,2)
Method: Least Squares
Date: 03/01/15 Time: 11:07
Sample (adjusted): 1994 2012
Included observations: 19 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EBT(-1))	-2.179730	0.442475	4.926223	0.0002
D(EBT(-1),2)	0.301054	0.246609	1.220775	0.2399
C	33939.12	108411.6	0.313058	0.7583

R-squared	0.847635	Mean dependent var	27406.82
Adjusted R-squared	0.828590	S.D. dependent var	1138579
S.E. of regression	471391.5	Akaike info criterion	29.10870
Sum squared resid	273.5327	Schwarz criterion	29.25783
Log likelihood	3.56E+12	F-statistic	44.50554
Durbin-Watson stat	2.044927	Prob (F-statistic)	0.000000

ADF TEST 2

Augmented Dickey-Fuller Unit Root Test on D (NFC)

ADF Test Statistic	336254	1% Critical Value*	-3.8304
		5% Critical Value	-3.0294
		10% Critical Value	-2:6552

*MacKinnon critical values for rejection of hypothesis of a unit root

Augmented Dickey-Fuller Test Equation
Dependent Variable: D (NFC,2)
Method: Least Squares
Date: 03/01/15 Time: 23:46
Sample (adjusted): 1994 2012
Included observations: 19 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NFC(-1))	1.930141	0.445117	4.336254	0.0005
D(NFC(-1),2)	0.865293	0.302760	2.858019	0.0114
C	244.5305	84.32451	2.899875	0.0104

R-squared	0.565393	Mean dependent var	53.368
Adjusted R-squared	0.511067	S.D. dependent var	454.4780
S.E. of regression	317.7879	Akaike info criterion	14.50458
Sum squared resid	1615827	Schwarz criterion	14.65371
Log likelihood	134.7936	F-statistic	10.40744
Durbin-Watson stat	2.003346	Prob (F-statistic)	0.001273

ADF TEST 3

Augmented Dickey-Fuller Unit 'Root Test on D (ELF)

ADF Test Statistic	-5.465158	1% Critical Value*	-3.8304
		5% Critical Value	-3.0294
		10% Critical Value	-2.6552

*MacKinnon critical values for rejection of hypothesis of a unit root

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ELF,2)
Method: Least Squares
Date: 03/01/15 Time: 23:46
Sample (adjusted): 1994 2012
Included observations: 19 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ELF(-1))	-1.633041	0.298809	-5.465158	0.0001
D(ELF(-1),2)	0.054566	0.139119	0.392227	0.7
C	303.4123	980.9153	0.309316	0.7611

R-squared	0.776565	Mean dependent var	14.35474
Adjusted R-squared	0.748636	S.D. dependent var	8480.440
S.E. of regression	4251.773	Akaike info criterion	19.69200
Sum squared resid	2.89E+08	Schwarz criterion	19.84112
Log likelihood	-184.0740	F-statistic	27.80463
Durbin-Watson stat	2.037365	Prob (F-statistic)	0.000006

ADF TEST 4

Augmented Dickey-Fuller Unit Root Test on D (VFC)

ADF Test Statistic	-4.540116	1% Critical alue*	-3.8304
		5% Critical Value	-3.0294
		10% Critical Value	-2:6552

*MacKinnon critical values for rejection of hypothesis of a unit root

Augmented Dickey-Fuller Test Equation
Dependent Variable: D (VFC,2)
Method: Least Squares
Date: 03/01/15 Time: 23:51
Sample (adjusted): 1994 2012
Included observations: 19 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(VFC(-1))	-1.159328	0.255352	-4.540116	0.0003
D(VFC(-1),2)	0.010546	0.034101	0.309261	0.7611
C	886.1806	3084.718	0.287281	0.7776

R-squared	0.564317	Mean dependent var	602.2737
Adjusted R-squared	0.509856	S.D. dependent var	18622.16
S.E. of regression	13037.42	Akaike info criterion	21.93297
Sum squared resid	2.72E+09	Schwarz criterion	22.08210
Log likelihood	-205.3633	F-statistic	10.36196
Durbin-Watson stat	2.066950	Prob (F-statistic)	0.001298

ADF TEST 5

Augmented Dickey-Fuller Unit'Root Test on D (NSF)

ADF Test Statistic	-4160372	1% Critical Value*	-3.8304
		5% Critical Value	-3.0294
		10% Critical Value	-2:6552

*MacKinnon critical values for rejection of hypothesis of a unit root

Augmented Dickey-Fuller Test Equation

Dependent Variable: D (NSF,2)

Method: Least Squares

Date: 03/01/15 Time: 23:48

Sample (adjusted): 1994 2012

Included observations: 19 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(NSF(-1))	-1.609384	0.386837	-4.160372	0.0007
D(NSF(-1),2)	0.276701	0.243534	1.136192	0.2726
C	-0.411356	43.24423	-0.009512	0.9925

R-squared	0.658122	Mean dependent var	2.473684
Adjusted R-squared	0.615387	S.D. dependent var	303.6353
S.E. of regression	188.3059	Akaike info criterion	13.45795
Sum squared resid	567345.8	Schwarz criterion	13.60707
Log likelihood	124.8505	F-statistic	15.40017
Durbin-Watson stat	2.040803	Prob (F-statistic)	0.000187