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Effect of Electronic and Non-Electronic Fraud on Performance of Deposit Money Banks in Nigeria

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Abstract:
Fraud in the Nigerian payments system and globally has been on the increase over the past few years as technological advancement impact on the way we pay. The objectives of the study are to examine the effect of electronic and non-electronic fraud on profit before tax, return on assets and return on equity of deposit money banks in Nigeria. The study obtained data from Nigeria Interbank Settlement System Plc (NIBSS) reports. Ordinary least square diagnostic test was done through serial correlation, heteroskedasticity and Ramsey RESET Test specification to ensure that variables are in line with classical linear regression assumptions. The result of the findings among others shows a negative relationship between electronic and non-electronic fraud on profit before tax of deposit money banks in Nigeria. The study recommends that financial institutions must thoroughly report all frauds recorded so as to curb the rising trend.

Keywords: *Fraud, electronic payment, bank failure, internet*

1. Introduction

Fraudulent practices in the Nigerian banking system are not a new trend; it has been there for decades. The issue of fraud and its attendant consequences been in existence for ages and it is a thing of concern and worry in the Nigerian banking system. Many bank customers have been duped on their hard-earned money by fraudsters who hide under the cloak of electronic banking to perpetuate that fraud. The banking sector is the most regulated sector of the economy because of its critical role in enhancing economic growth and development. Humongous financial resources are lost in the banking sector every year through fraudulent practices. In the Nigerian economy, fraud is discernible in all industries, it is however extensive in the Nigerian banking system, (Akinfala, 2005). Fraud in the Nigerian banking system defers according to different ways and dimensions by which it is been committed, (Akindele, 2011). In Nigeria, stakeholders in the banking sector are extremely perturbed owing to the sophistication employed by fraudsters in carrying out their nefarious activities. Banks lose billions of naira every year due to their infamous activities. Several types of fraud have been observed within the Nigerian banking sector which includes electronic and non-electronic fraud.

Fraud in Nigeria has evolved from non-electronic to electronic when considering the fact that the world is not stationary but dynamic. The advent of technology has made life easy in terms of bank operations but the activities fraudsters who organized themselves effortlessly has almost eroded the gain achieved by technology. As banking sector keeps innovating, fraudsters and hackers continue to devise various devilish way of frustrating the lofty objectives of the industry.

The 2005 banking reform brought a lot of innovations in Nigerian Banking system. For instance, it made it compulsory that any bank customer must have Bank Verification Number. It enabled banks to easily identify any customer at a glance no matter the account the customer is operating. It equally minimized fraud since illicit funds are monitored in real time. The reform encouraged banks to freeze any suspected transaction pending when the source of the money is traced. Ezu (2019) posited that the 2005 bank reform reassured bank customers of the safety of banking operations vis-à-vis the introduction of sophisticated technologies to curtail the activities of fraudsters and their collaborators in the banking system.

1.1. Objectives of the Study

The objectives of the study are to:

- Analyse the relationship between electronic and non-electronic fraud on profit before tax of deposit money banks in Nigeria.
- Determine the relationship between electronic and non-electronic banking fraud on return on assets and equity of deposit money banks in Nigeria.

2. Materials and Methods

Egwuatu, (2016) opined that inconsistent laws made by various regulatory agencies affect bank operations. Securities and Exchange Commission as well as Central Bank of Nigeria always issue conflicting directives on company ownership, memorandum of Association and Articles of Association. These directives bring confusion on banks and companies thereby given room to fraudsters to benefit from the confusion. Ehiazu (2017) defined fraud as illegal means of acquiring wealth. According to him, it involves obtaining items through deceits and compromise. It can equally be attributed to inordinate and vaulting ambition of individuals who want to get rich quick. Fraud has no procedure nor modus operandi. It involves as technology emerges. Those who perpetrate bank frauds are very knowledgeable with computer software and bank operations. On many occasions, bank employees are accused of conniving with outsiders to illegally siphon money and engage in other nefarious activities capable of undermining the growth of banks. It is a truism that banks are the most regulated institution in the whole world owing to their importance to the economy.

Ezu (2014) Stated that the issue of bank Fraud can be trace to ancient Greek blacksmiths at Lombardy Street London where they issue receipts to customers that lodged gold with them. At a point the receipts became money and some unscrupulous customers started issuing fake receipts to their sellers. It can be deduced that since the consolidation of banks which was introduced by in 2004 by Soludo led administration, the number of banks has reduced drastically but their assets have soared. This fortunate turn of events led to huge cases of bank fraud considering that the bigger a company, the higher the issue of fraud since many disgruntled employees will like to pilfer the resources of the firm.

Non electronic fraud is committed offline. It can be achieved through the use of cheque or across the counter which, take the form of cheque kitting, embezzlement of fund, theft, falsification and letter of credit fraud. On the other hand, electronic fraud entails committing bank offences through illegal fund transfer, round tripping, foreign exchange racketeering, Phishing, POS and ATM illegal withdrawals etc. It can only be contained through proper monitoring and surveillance by bank supervisors and Economic and Financial Crime Commission.

According to Nwokeabia (2019), the rate at which fraud cases are being reported in recent years is alarming. The more the banks churn out new products, the more these fraudsters device another method of deceiving unsuspecting bank customers. Federal government of Nigeria has put a lot measures to curtail activities of fraudsters by enacting relevant laws, which include EFCC Act 1999, Bank and other financial Institutions Act (BOFIA), CBN Act 2007, Independent Corrupt practices and other related offences Act (ICPC) 2003. All these Laws are geared closing leakages and loopholes, which emanates from bank fraud.

3. Theoretical Framework

This research work is anchored on fraud cartel theory. The theory was propounded by Roberto De Vinci in 1990 at the height of drug cartels and prevalence of fraudulent activities in Mexico. The theory opined that most of the frauds committed whether manually or electronically are carried out by a cartel. It maintained that high profile fraud needs the connivance of many fraudulent individuals for it to succeed. In the same vein, the theory stressed that for any fraudulent cartel to be eliminated, it must be done from the top to the bottom. It means that when the leader is caught, it will be easy to arrest others because most of the information are with the leader.

Ezu (2012) Stressed that fraud can only be minimized through constant innovation by governments, banks, institutions and corporations. It will prevent fraudsters from mastering the methods. These methods include changing the password, encoding and soft development.

3.1. Research Design

The study adopted and modified the model of Muoghalu, Okonkwo and Ananwude (2018) who explored the effect of electronic banking fraud on deposit money banks financial performance in Nigeria 2013-2016.The original model is stated as:

Model 1

$LogROA_t = a_0 + a_1 logFATM_t + \varepsilon_t$ $Equ.$ 1

Model 2

$LogROE_t = a_0 + a_1 logFMB_t + \varepsilon_t$ $Equ.$ 2

Model 3

$LogINTI_t = a_0 + a_1 logFPOS_t + \varepsilon_t$ $Equ.$ 3

Model 4

$LogNINTI_t = a_0 + a_1 logFWEB_t + \varepsilon_t$ $Equ.$ 4

Where:

Where: a_0 is the intercept; $a_1$are the slope coefficients of the model and ε_t is the error term

Integrating this study's specific objective variables, the following multivariate models were estimated:

ROA = (ELC, NELC) $Equ.$ 5

ROE = (ELC, NELC) $Equ.$ 6

PBT = (ELC, NELC) $Equ.$ 7

Model 1

$LogROA_t = a_0 + a_1 log\mathrm{ELC}_t + a_2 log\mathrm{NELC}_t + \varepsilon_t$ $Equ.$ 8

Model 2

$LogROE_t = a_0 + a_1 log\mathrm{ELC}_t + a_2 log\mathrm{NELC}_t + \varepsilon_t$ $Equ.$ 9

Model 3

$Log\mathrm{PBT}_t = a_0 + a_1 log\mathrm{ELC}_t + a_2 log\mathrm{NELC}_t + \varepsilon_t$ $Equ.$ 10

Where: ROA is return on assets, ROE is return on equity, PBT is profit before tax, NELC is non- electronic fraud, ELC is electronic fraud.

3.2. Hypotheses

3.2.1. Hypothesis One

- $H0_1$: There is no significant relationship between electronic and non-electronic fraud on profit before tax of deposit money banks in Nigeria
- $H1_1$: There is a significant relationship between electronic and non-electronic fraud on profit before tax of deposit money banks in Nigeria

3.2.2. Hypothesis Two

- $H0_2$: There is no significant relationship between electronic and non-electronic banking fraud on return on assets and equity of deposit money banks in Nigeria
- $H1_2$: There is a significant relationship between electronic and non-electronic banking fraud on return on assets and equity of deposit money banks in Nigeria

4. Results and Discussion

The median value was shown to be 1.15E+09 for ELC, 2.49E+08 for NELC, 594940.0 for PBT, 1.900000 for ROA and 13.6300 for ROE. The maximum and minimum of the series are 6.21E+09 and 4.77E+08 for ELC, 9.00E+08 and 4448600 for NELC, 3.10E+08 and -40350.00 for PBT, 3.390000 and 0.480000 for ROA,19.78000 and 4.700000 for ROE. The series standard deviation is 2.06E+09 for ELC, 3.41E+08 for NELC,1.29E+08 for PBT,1.075170 for ROA,5.714605 for ROE.

	Mean	Median	Maximum	Minimum	Std.Dev	Skewness	Kurtosis	Jarque-Bera	P-value	Obs
ELC	2.13E+09	1.52E+09	6.21E09	4.77E+08	2.06E+09	1.564298	3.839602	2.623261	0.269380	6
NELC	3.21E+08	2.49E+08	9.00E+08	4448600	3.41E+08	0.758850	2.356674	0.679320	0.712012	6
PBT	76948250	594940.0	3.10E+08	-40350.00	1.29E+08	1.151370	2.708645	1.346874	0.509953	6
ROA	1.815000	1.900000	3.390000	0.480000	1.075170	0.166793	1.840473	0.363946	0.833624	6
ROE	13.40667	13.63000	19.78000	4.700000	5.714605	-0.325302	1.921979	0.396354	0.820225	6

Table 1: Descriptive Statistics
Source: Output Data from E-views 9.0

Variables	Lilliefors Test Statistic	P-Value
ELC	0.384632	0.01
NELC	0.217432	0.5
PBT	0.389843	0.01
ROA	0.168188	0.86
ROE	0.180713	0.78

Table 2: Lilliefors Test for Normality
Source: Output Data from Gretl

The result of lilliefors normality test shows that ELC, NELC and PBT is normally distributed with the p-value of 0.5 or less than 0.5 which allows statistical inferences to be made from the data.

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
ELC	-1.289309 (0.1603)**	-3.109582	-2.043968	Not
NELC	-0.994582 (0.2455)**	-3.109582	-2.043968	Not
PBT	2.131425 (0.9731)**	-3.109582	-2.043968	Stationar
ROA	-0.957747 (0.2572)**	-3.109582	-2.043968	Not
ROE	-1.121372 (0.2054)**	-3.109582	-2.043968	Not

Table 3: Result of ADF Unit Root Test at level
Source: Author's Computation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ELC	-0.015791	0.037528	-0.420797	0.7022
NELC	-0.101308	0.226260	-0.447750	0.6847
C	1.43E+08	1.43E+08	1.002579	0.3899
R-squared	0.083301	Mean dependent var		76948250
Adjusted squared	-0.527831	S.D. dependent var		1.29E+08
S.E. of regression	1.59E+08	Akaike info criterion		40.91766
Sum squared	7.62E+16	Schwarz criterion		40.81354
Log likelihood	-119.7530	Hannan-Quinn criter.		40.50086
F-statistic	0.136306	Durbin-Watson stat		0.658769
Prob(F-statistic)	0.877688			

Table 4: OLS Regression Result for Electronic and Non-Electronic Fraud on PBT
Source: Output Data from E-views 9.0

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ELC	3.28E-10	2.62E-10	1.249149	0.3002
NELC	3.07E-10	1.58E-09	0.194135	0.8585
C	1.019774	0.997627	1.022200	0.3819
R-squared	0.356007	Mean dependent var		1.815000
Adjusted R-squared	-0.073321	S.D. dependent var		1.075170
S.E. of regression	1.113889	Akaike info criterion		3.360445
Sum squared resid	3.722246	Schwarz criterion		3.256324
Log likelihood	-7.081334	Hannan-Quinn criter.		2.943643
F-statistic	0.829219	Durbin-Watson stat		0.624083
Prob(F-statistic)	0.516799			

Table 5: OLS Regression Result for Electronic and Non-Electronic Fraud on ROA
Source: Output Data from E-views 9.0

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ELC	1.69E-10	1.69E-09	0.099542	0.9270
NELC	4.04E-09	1.02E-08	0.395281	0.7191
C	11.75174	6.438465	1.825239	0.1655
R-squared	0.050508	Mean dependent var		13.40667
Adjusted R-squared	-0.582487	S.D. dependent var		5.714605
S.E. of regression	7.188797	Akaike info criterion		7.089778
Sum squared resid	155.0364	Schwarz criterion		6.985657
Log likelihood	-18.26933	Hannan-Quinn criter.		6.672976
F-statistic	0.079792	Durbin-Watson stat		0.898660
Prob(F-statistic)	0.925203			

Table 6: OLS Regression Result for Electronic and Non-Electronic Fraud on ROE
Source: Output Data from E-Views 9.0

The regression result in Table 5 reveals that there is a negative and insignificant relationship between electronic and non-electronic fraud on profit before tax of deposit money banks in Nigeria. The coefficient of the constant 1.43E+08 indicates that when electronic and non-electronic banking fraud is held constant profit before tax would be 1.43%. A unit increase in electronic and non-electronic banking fraud will cause 0.01% and 0.10% depreciation in profit after tax of deposit money banks in Nigeria. The Adjusted R-squared value of -0.527831 indicates that the independent variable explained -52.78% variation in profit before tax within the period studied. The F-statistic of 0.136306 and p-value of 0.877688 shows that electronic and non-electronic fraud did not significantly influenced variation in profit before tax. The

Durbin Watson statistic value of 0.658769 is not bad as the serial correlation LM test in table 9 depicts that the variables in the models are not serially correlated.

Table 5 shows that there is a positive and insignificant relationship between return on assets of deposit money banks in Nigeria. The coefficient of the constant 1.019774 is an indication that electronic and non –electronic fraud is held constant, return on assets would be valued at 1.01%. The coefficient of 3.28E-10 and 3.07E-10 for electronic and non-electronic banking fraud reveals that a percent increase in fraud will increase return on assets of deposit money banks in Nigeria by 3.28% and 3.07% respectively. From the Adjusted R-square, -7.3321% changes in return on assets was attributed to fraud perpetrated through electronic and non-electronic. The F-statistic (0.136306) with p-value (0.877688) suggests that fraud perpetrated through electronic and non-electronic means insignificantly explained the variation in return on assets of deposit money banks in Nigeria. The Durbin Watson value suggests no autocorrelation.

The regression result in Table 6 reveals that fraud perpetrated through electronic and non-electronic means in Nigeria has negative and insignificant relationship with return on equity of deposit money banks in Nigeria. The coefficient of the constant 11.75174 means that holding electronic and non-electronic fraud constant, return on equity would be 11.75. A unit rise in electronic and non-electronic banking fraud would increase return on equity by 1.69 and 4.04 respectively. The Adjusted R-square infers that -0.582487 change in return on equity was as a result of electronic and non-electronic banking fraud which statistically insignificant owing to the F-statistic (0.079792) and p-value (0.925203). The Durbin Watson statistic met the bench mark of 2.0 indicating no problem of autocorrelation in the model.

In the discussion of findings, we found a negative relationship between electronic and non-electronic fraud on profit before tax of deposit money banks in Nigeria. This shows that an increase in electronic and non-electronic fraud will decrease the profit before tax of deposit banks in Nigeria owing to rise in operating cost which tends to decrease the profit of deposit money banks in Nigeria.

5. Recommendations

The study therefore recommends among others strong commitment and collaboration amongst stakeholders in banking sectors on how to reduce the incidence of fraud in the banking sector. With the innovative products and services being rolled out for the industry consumption, it has become imperative that we implement strong authentication controls that would make it difficult for fraudsters to easily succeed. Financial institutions must carry out thorough risk assessments on new products and services before releasing to the market space. Financial institutions must thoroughly report all frauds recorded on their platforms to provide an accurate picture of the threats we face as an industry with a view of curbing the rising trend of fraud. The industry must ensure strong collaboration with security agencies in the fight against fraud. The financial industry needs to resuscitate the Police dedicated fraud unit for deterrence and finally, the industry must embark on massive education of customers as they are seen to be the weakest link in the chain.

6. Conclusion

Fraud in the banking sector is taking a new dimension especially with the advent of electronic fraud while the consequences of these frauds are becoming a great concern for the banks worldwide. This research emphasizes that Phishing and ATM fraud should be properly monitored and sanctioned. From the result of the analysis, electronic and non-electronic banking fraud has positive but insignificant effect on financial performance of deposit money banks in Nigeria meaning that a unit increase in electronic and non-electronic fraud increases the financial performance of deposit money banks in Nigeria. This shows that the amount of fund involved in the fraud has not imparted much on banks performance in Nigeria

7. References

i. Abdulrasheed, A., Babaita, I. S. & Yinusa, M. B. (2012). Fraud and its implications for bank performance in Nigeria. *International Journal of Asian Social Science, 2*(4), 382-387.
ii. Adeniji, O.E. (2004). Impact of fraud on banks' performance in Nigeria. *The Nigerian Academic Forum 19*(1),3-18.
iii. Akindele, R. I. (2011**)**. Fraud as a negative catalyst in the Nigerian Adeniyi banking system Journal of Emerging Trends in Economics and management Sciences (JETEMS). Bank administration institute of America and First National bank of Chicago: Fraud prevention series. *Benson and Edwards's fraud prevention series* (Volumes 1-11). B & E publishers Lagos.
iv. Akinfala, H. B. (2011). Financial crime and its implications on banks performance in Nigeria: a general appraisal. *International Journal of Sciences: Basic and Applied Research, 13*(2), 317-328.
v. Alleyne, T. K. & Howard, O. O. (2005).The Impact of Fraud on the Performance of Deposit Money Banks in Nigeria. *International Journal of Innovative Finance and Economics Research, 6*(1), 40-49.
vi. Aliyu, A. A., Tasmin, B. R. & Takala, J. (2012). A critical examination of online banking scam in Nigeria: Kano metropolis in view. Proceedings international conference of technology management, business and entrepreneurship, Renaissance Hotel, Melaka, Malaysia 18-19 Dec 2012.
vii. CBN, (2018). Monetary policy in Nigeria. *CBN Annual Publication, 7*(4), 12-17.
viii. Ezu, G.K (2014) Effect of Electronic Banking in Nigeria. Arabian Journal of Finance, 2(3), 34-50
ix. Gitau, E. W. & Samson, N. G. (2016). Effect of financial fraud on the performance of commercial banks: A case study of tier 1 banks in Nakuru town, Kenya. *International Journal of Economics, Commerce and Management, 4*(12), 142-157.

x. Kanu, C. & Isu, G. I. (2016). Security challenge, bank fraud and commercial bank performance in Nigeria: an evaluation. *Journal of Business and Management, 5*(2), 01-21.

xi. Kanu, S. I., & Okoroafor, E. O. (2013). The nature, extent and economic impact of fraud on bank deposit in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, *4*(9), 253-264.

xii. Kehinde, A. A. Felicia, O. O. & Joseph N. T. (2016).Fraud Prevention and Internal Control in the Nigerian Banking System. *International Journal of Economics and Financial Issues*, *6*(3), 1172-1179.

xiii. Mwabu, D. K. (2013). Factors influencing electronic fraud in the Nigerian banking system in Kenya: A case of Kenya commercial bank Central region. An MSc presentation made at the department of Project Planning and Management of the University of Nairobi.

xiv. Muoghalu,A.I, Okonkwo,J.J & Ananwude,A.C.(2018). Effect of electronic banking related fraud on deposit money banks financial performance in Nigeria*. Journal of Economics and Discovery, 5*(2), 496-503*.*

xv. Muritala. A. T., Ijaiya, A. M., & Adeniran, S. A. (2017). Fraud and bank performance nexus: Evidence from Nigeria using vector error correlation model. *Journal of Business Finance, 3*(1), 21-29.

xvi. Nwankwo, O. (2013). Implications of fraud on commercial banks performance in Nigeria. *International Journal of Business and Management*, *8*(15), 144-150.

xvii. Nwakoby, C. I. N. & Ananwude, A. C. (2016). The role of non-bank financial institutions on financial intermediation process in Nigeria (1992-2014). *British Journal of Economics, Management & Trade, 14*(4), 1-15.

xviii. Olaoye, C. O. & Dada, R. A. (2014). Analysis of Frauds in Banks: Nigeria's Experience. *European Journal of Business and Management, 6*(31), 90-99.

xix. Tijani, J. A. & Ilugbemi, A. O. (2015). Electronic payment channels in the Nigeria banking sector and its impacts on national development. *Asian Economic and Financial Review*, *5*(3), 521-531. Retrieved from http://www.aessweb.com/journals/5002

xx. Udeh, S. N., & Ugwu, J. I. (2018). Fraud in Nigerian Banking Sector. *International Journal of Academic Research in Business and Social Sciences*, *8*(5), 589–607.

xxi. Wise Geek. (2013). what is bank fraud? Retrieved from http://www.wisegeek.com/what-is-bank-fraud.htm.