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Examining the Relationship between the Number of Bank Branches and Reported Cases of Bank Fraud

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Abstract:
There has been an increase in the number of bank branches in Nigeria coupled with very high incidences of reported bank frauds making it imperative to ask if the number of bank branches has a relationship with the increase in bank frauds. The principal objective of this study was to find out if the increasing number of bank branches in Nigeria has a significant relationship with increasing cases of reported bank frauds. Secondary data sourced from the annual reports and accounts of the Nigerian Deposit Insurance Corporation on the yearly reported bank frauds and the number of bank branches per year for 18 years period (2000-2017) were analyzed using the simple regression analysis with the number of bank branches as the independent variable and the reported bank frauds as the dependent variable. Correlation and the ANOVA tests were also conducted.
Overall, it was observed that a positive, but not significant relationship exists between the variables.

Keywords: *Fraud, branch banking, relationship*

1. Introduction

The practice of banking is replete with cases of fraud and forgeries especially in the third world and developing countries giving rise to a plethora of empirical works on the causes, consequences and mitigating measures to curb the menace.

The history of fraud can be traced to the history of man, but what is worrisome today is the magnitude, sophistication and scope it has grown to especially in the financial market and notably in the banking institutions.

As pointed by Wells (2011) every organization is vulnerable to fraud as none has immunity to fraud, but Kroll (2011) hints that even though occupational fraud risk is a global problem, its frequency is highest in banks than in any other industry globally.

The impact of fraud on the individual and national economies cannot be overemphasized.

For instance, the Association of Certified Fraud Examiners (ACFE 2012) reports that an organization loses about 5 percent of its annual revenue to fraud. This can translate to a high loss when applied to the consolidated total bank revenue of banks in Nigeria.

Apart from the quantum of monetary loss, frauds in banks can have spillover effects into other sectors of the economy: credit can be restricted, jobs can be lost, institutions can close down and so on, because of the peculiar position of the banking system in an economy.

It could also be the same peculiar position of banks that expose them to high incidences of fraud as reported by Ikpefan (2006), Ogudana, Okere, Olusogo and Oludapo (2018), and Udeh and Ugwu (2018) among other writers.

- The peculiarity of banking business that could increase its fraud risk exposure include, but not limited to:
- trading on a high mobile commodity (cash and cash equivalent)
- the use of multiple outlets especially in a country with branch banking system
- Exposure to diverse categories and calibers of customers and clients
- Provision of diverse and sometimes esoteric products and services
- employment and use of varied categories and calibers of staff
- adoption of new technologies and sometimes sophisticated technologies
- and operating in a corruption ridden environment

In recognition of the importance of the banking institution in the country and taking cognizance of the exposure level to fraud risk the regulatory organs and the government often times make regulations and rules that will forestall frauds and safeguard the customers' deposits, but the perpetrators seem to be beating the system always resulting in the high incidence of fraud, indicated by the number of reported fraud cases, and the amount of money involved.

This study intends to study how one of the indicated problem areas; branch banking system affects the number of reported bank frauds given that the number of bank branches in Nigeria has been on the increase as has the number of reported bank frauds.

1.1. Statement of Problem

Nigerians operates a branch banking system which allows a deposit money bank to open as many branches as it thinks it can maintain.

By embarking on many branch outlets, the banks are expanding their operations, increasing their customer base, encouraging the development of middle level managers as well as encouraging financial inclusion but it can lead to lax in management and increase the fraud risk exposure of the banks.

Many researchers have been carried out on frauds in the banking system.

Ikpefan (2006),and Owolabi (2010) examined the impact of banking frauds on banks performance in Nigeria, Okoye and Akamobi (2009), Osisioma (2012), Okoye and Gbeji (2013); Ogundana, Ogunleye and Oladipo (2018) all examined the roles of auditor and forensic accountants in preventing and detecting frauds in banks.

Other studies have focused on the types, causes, detection and prevention of frauds in the banking system, but to the best of my knowledge no study has been carried to relate frauds in banks to the structural arrangements or the number of bank branches in Nigeria or elsewhere.

The latter is the gap which this study intends to fill.

In doing this, the researchers will endeavour to provide answers to the following research questions:

- RQ I: what is the trend in the number of bank branches in Nigeria?
- RQ II: what is the trend in reported bank frauds in Nigeria?
- RQ III: Is there is a relationship between the number of bank branches and reported banks frauds in Nigeria?
- RQ IV: If a relationship exists between the number of bank branches and reported bank frauds in Nigeria, what is the nature of the relationship?

1.2. Objectives of the Study

The broad objective of this study is to examine if there is a relationship between the number of bank branches and reported bank fraud cases in Nigeria.

Specifically, the study intends to examine the trend in movement in banks branches, the trend in movement in reported bank fraud cases, as well as examine whether increased bank branches can cause increase in reported fraud cases in banks.

1.3. Theoritical Framework

This study is hinged on many theoretical frameworks principal among which are:

The Agency theory of Jensen and Meckling which is based on the contractual relationship between the principal and the agent.

According to this theory, there is likely going to be a goal conflict between that of the principal and his agent requiring that the principal has to document and monitor the agent.

Agency relationship gives rise to the following problems as identified by Bhati (2015) citing Byrd, Parrino and Pritsch

- Effort problem which arises when the agent efforts at creating value for the principal is less than the expectation of the principal
- Horizon problem which occurs because the agent has different horizon with the principal
- Differential risk preference.
- This arises when the agent believes that his responsibilities for the entity's poor performance is even greater than his benefits during the period of good performance
- Asset use problem: This way arises when the agent uses the principal's asset for personal purpose or makes investment decision tailored towards increasing his income.

The relevance of the agency theory in a fraud or audit study stems from the fact that agency relationship can lead to fraud risk exposure caused by either moral hazard or adverse selection.

The fraud triangle, the fraud diamond and the fraud Box key theories. These theories especially fraud triangle theory of Donald Cressey and the fraud diamond theory of David Wolfe and Dana Hermanson focus their interest on why and how fraud occurs without relating on how to stop the fraud (Okoye, et al 2017).

While the fraud triangle isolates three variables perceived pressure, opportunity and rationalization as the motivating factor for fraud, the fraud diamond theory adds a fourth factor capacity or capability to the earlier mentioned three.

The fraud box key model of Okoye and Onodi (2014) quoted in Okoye, et al (2017) while acknowledging the first two models, adds that the presence of good corporate governance can check mate the other elements, thus a corporate governance dysfunction when carelessly handled unlocks the fraudster's thought process thereby opening the doorway for frauds to occur.

1.5. Research Hypotheses:

The following hypothesis will form the hypothesis of this study.

- Ho_1: There is no relationship between number of bank branches and reported bank frauds in Nigeria.
- Ha_1: There is a relationship between the number of bank branches and reported bank frauds in Nigeria

2. Review of Related Literatures

2.1. Theoretical Literatures

The concept of branch banking Nzotta (2004) defines branch banking system as one in which a single banking institution conducts its operation in two or more locations with operational policies controlled from one head office.

This as opposed to the unit banking system operated mostly in the United States of America is the most prevalent banking system in Nigeria.

Among the arguments in favour of this type of banking system are:

- Its ability to aid the development of local communities, and its ability to create lower level jobs for indigenes of the host communities.

According to Jhingan (2005) the advantages of branch banking include:

- the spreading of risks, attainment of economy in reserves, diversification of operations, proper utilization of funds; equitable distribution of funds, large scale investment and effective central bank control.

On the disadvantage side operating branch banking is akin to geographical or location department action which may suffer such handicaps as abuse of power by the local management, exposure to high incidence of fraud and lax supervision.

Writing on the disadvantages of branch banking Jhingan opines that it can lead to monopoly, lead to unhealthy competition among branches, and among different banks and experience high level of Bureaucritization.

However, developing countries need branch banking system more than any other to aid in their development but as pointed out by Ina (2016) the rapid expansion of banks has stretched regulators to the hilt, weakened the effect of scope of regulatory oversight and eased the standard of accountability and corporate governance.

2.1.1. The Concept of Fraud

Fraud comes in various modes and dimension and this has led to it being defined in so many different ways.

According to the International Standard on Auditing (ISA 240) fraud is an intentional act by one or more employees among management, those charged with governance, employees or third parties involving the use of deception to obtain an unjust or illegal advantage over another person.

Wells (2011) opines that fraud can encompass any crime for gain that uses deception as its modus operandi.

Hopwood, Leiner and Young (2012) in their own definition see fraud as the result of misleading, intentional actions or inactions including making misleading statements or omitting relevant information to gain an advantage.

Okoye, Maimako, Jugu and Jat (2017) see fraud as the generic category of criminal conduct that involves the use of dishonest or deceitful means in order to obtain some unjust advantage or gain over another.

Inspite of the apparent differences in definitions, all agree that there are certain ingredients that can indicate fraud; namely:

- Existence of materially false statement (Wells; 2011) or what Okoye and others called attendant circumstance
- Communication of the false statement to the victim, knowing it was false, but having the intent to defraud the victim.
- Reliance of the victim on the said false statement
- Eventual loss of property position or advantage by the victim

The false statement which is the inducing element can come from either of two fraud dimensions namely: suggestion falsi (suggestion of falsehood) or suppression veri (suppression of facts) (Ramamoorti; 2008)

2.1.2. Economic Importance of Fraud

Fraud is an unethical approach to pursuing life endeavour and every unethical practice has effect on the perpetrator, the victim and can spill over to the larger society.

According to CIMA (2008) there have been many attempts to measure the true extent of fraud, but compiling reliable statistics around fraud is not easy.

Some of the reasons for this are:

- Fraud is majorly through deception which is difficult to identify and measure (CIMA: 2008)
- Fraud does not involve money alone
- Not all frauds are discovered and most that are discovered are not reported (CIMA: 2008, Wells; 2011, Hopwood, Leiner and Young 2012)

The Association of Certified Fraud Examiners (ACFE: 2018) contends that criminal fraud referrals to the law enforcement has declined over the past 10 years.

Be that as it may, the effects of fraud on national and world economies have been documented by some agencies. For instance, the ACFE (2018) estimates that a typical organization loses 5 percent of its of its annual revenues to fraud, which when applied to the estimated world gross product translates to about $ 4 trillion, but in actual, the total from the 2690 cases examined was above $ 7 billion.

Apart from the macrocosmic level effect, at the level of the company its staff and its shares the effect of fraud is equally felt.

For instance, it is reported that following the frauds In Enron and World com total estimated loss in Enron was $ 74 billion; company's share came down from $ 90.75 to $ 0. 67, up to 4000 staff were laid off. In fact, between Enron, Andersen and WorldCom close to 28500 employees lost their jobs. (Kitosova;2015). The Cadbury Plcfinancial reporting scandal in Nigeria took a toll on Cadbury and its management, Akintola Williams Delloite, and Union Registrars. This shows how one infraction can affect so many people and organizations.

One seeming positive effect of fraud is that it has led to the creation of a big industry for fraud examiners, forensic accountants, and economic crime investigators. However, this is the broken window fallacy.

2.1.3. Typologies of Fraud

There are various ways of classifying frauds namely:

According to who committed the fraud, under this classification we can have

- Internal fraud which are perpetrated by insiders of the organization; notably in occupational fraud
- External fraud carried by external parties to the organization
- Mixed or hybrid form which is committed by a combination of insiders and outsiders

According to the approach used; under this category we can have

- Financial statement frauds which are frauds arising from any undisclosed intentional or grossly negligent violation of general accepted accounting principle that materially affects the information in any financial statement.
- According to Reurink (2016) establishment of financial statement fraud rests mostly on the existence of misrepresentation whether the misrepresentation be of financial or non-financial characteristics.
- Misappropriation of Assets: This includes theft, misuse, larceny and fraudulent conversion of cash and other assets.
- Corruption: This involves the use of position to personal advantage. According to Wells (2011) it is the act of an official or fiduciary person who unlawfully or wrongly uses his station or character to procure some benefit for himself or for another person contrary to duty or right of others. It is gamut of many things to many people
- These categorizations are based on the fraud tree diagram courtesy of the Association of Certified Fraud Examiners (ACFE: 2016).

In the banking system the notable fraudulent activities include: forgeries of cheques and other instruments or instructions, outright theft, embezzlement, non-reversal of failed transactions, unofficial borrowing, charges, inflation of charges, illegal foreign currency trading, fraudulent withdrawals ATM frauds, cheque kitting among others.

2.2. Empirical Literatures

There are a good number of empirical studies on fraud and fraud related issue in Banks and other financial institutions.

Okoye and Gbegi (2013) in a study to evaluate the impact of fraud and other financial crimes on the growth and development of the Nigerian economy observe that fraud and related financial crime has significant effect on the Nigeria economy but have no significant effect on inflation.

Odi (2013) studied the implications of fraud on commercial banks performance in Nigeria, and concludes that ATM bank frauds and forged cheque fraud have significant negative relationship with bank performance measured by earning per share.

Kiragu, Gikiri and Iminza (2015) using a stratified sample of 30 commercial banks out of the 43 commercial banks that operated in the Kenya stock exchange regressed bank size represented by average net asset base of the banks against fraud risk, and concluded that there was negative significant relationship between bank size and occupational fraud risk in commercial banks in Kenya.

Using a survey research design involving the distribution of 150 questionnaires on five commercial banks in Nigeria, Adetoso and Akinselure (2016) examined fraud control and fraud prevention in Nigeria banking industry and concluded among other things that for management control to be effective in eliminating fraud, there should be regular review of such controls and safeguards.

In a study titled "Fraud in the Nigeria Banking sector: Udoka and 1bor (2016) examined the causative factors of banking sector fraud in Nigeria 1994-2013 and found that the amounts of loss were significant in explaining the variation in the bank deposit levels, but the number of staffs involved were found to have no significant relationship with the level of bank deposit. 1bor (2016) investigated the human resource nexus to fraud in the Nigeria banking system by regressing the estimated losses to fraud against number of fraud cases, total amount and categories of staff involved, and observed that fraud from by insiders were higher than those committed by outsiders and that the contributions of accountants and officers to fraud loss was higher than those of other categories of staff.

In a study, "Bank Fraud and Preventive Measures in Nigeria: An Empirical Review" by Enofe, Abilogun, Omolorun and Elaiho (2017) the researchers observed that good corporate governance, strong internal control and compliance with banking ethics have strong positive and significant influence on fraud prevention.

Udeh and Ugwu (2018) in their examination of frauds in the Nigerian Banking sector observed that fraud has negative but insignificant relationship with bank profit among others.

3. Methodology

This study employs the ex post facto design on secondary annual data obtained from the annual reports of the Nigeria Deposit Insurance Corporation (NDIC) for the period 2000-2017 Data on the number of bank branches and reported bank fraud were obtained from the various annual report

3.1. Model Specification

The model adopted in this study is the simple regression analysis which is stated as:
RBF=f (NBB) which explicitly is stated as:
RBF=b_o + b_i NBB + e
Where: RBF=reported bank fraud
NBB=Number of bank branches
bo, bi are coefficients and e are the stochastic error term.

4. Presentation of Result

The tables below are the result of the bivariate analysis done using the SPSS version 21.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6084.526	5928.769		-1.026	.320
	BnkNumrber	2.539	1.319	.434	1.925	.072

First there is a presentation of the descriptive statistics of both the independent variable (number of bank branches) and the dependent variable. (Reported bank frauds)showing their means and standard deviations.

Following is a table of the person correlations at single tailed. Then there is the table of model summary, ANOVA result and the table of coefficients.

4.1. Discussion of Results

From the mode summary table showing R-square of 188and Adjusted R square of 0.137, it follows that number of bank branches for the period 2000-2017 can be held responsible for 13.7percent variation in reported bank frauds in Nigeria.
From the ANOVA table the F calculated is 3.704 which is less than the F tabulated of the 5 percent significance value of 0.072.

4.2. Interpretations

The R Square and adjusted R-Square are both low, showing that the number of bank branches could not adequately account for the number of reported bank frauds in Nigeria commercial banks.
The results from the ANOVA table indicate that outcome variable significant. Therefore, the relationship is not significant.
From the coefficient table the model equation is given as RBF= -6088+2.54NBB meaning that there is a positive, but not significant relation between the number of reported bank frauds (RBF) and the number of bank branches (NBB)

5. Discussion

This study set out to examine the nature of the relationship existing between the numbers of commercial bank branches and the reported number of bank frauds in Nigeria on the a priori belief that increasing number of bank branches could increase reported bank frauds. It was observed that the number of bank branches have been on the increase in Nigeria as has been the number of reported bank frauds, but the deviation in reported bank fraud is higher.
Even though a relationship between the two exists, the relationship is positive, but not significant and thusHo1 is rejected and Ha1 accepted.

6. Conclusion

Even though branch banking exposes a bank to fraud risk and other disadvantages, the exposure level is not significant enough to encourage advocating its minimization. Rather using the branch system enables a bank to increase its market penetration and encourages financial inclusion in the country.
However, banks should:

- Put in place sound internal control measures to forestall fraud.
- Ensure branches adhere strictly to laid down rules of engagement and other regulatory frame work.
- Put in place sound ethical committee to examine ethical breaches and sanction offenders.

- Instill where possible automated analysis tools that can detect and analyse fraudulent transactions on real time basis.
- Pay special allowance to staff on rural branches.
- Ensure good corporate social responsibility

7. Recommended Areas of Further Research

The following areas among others are recommended for further research:

- The relationship between bank products and incidences of fraud
- The relationship existing between contract staff and reported fraud.
- The impact of the adoption of new technologies on bank frauds.

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Appendix

Data

Year	Number of Bank Branches	Reported Bank Frauds
2000	2193	403
2001	2193	943
2002	3010	796
2003	3247	850
2004	3492	1178
2005	3535	1229
2006	3233	1193
2007	4200	1553
2008	4952	2007
2009	5436	1764
2010	5574	1532
2011	5763	2352
2012	5225	3380
2013	5225	3786
2014	5349	10621
2015	5257	12279
2016	5061	16775
2017	5781	26182

Table : Number of Bank and Reported Bank Frauds
Source: NDIC Annual
Reports (Various Years)