Impact Of Forensic Accounting On Fraud Control In Nigeria

(*A Case Study Of Nigerian Deposit Insurance Corporation (NDIC)*)

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ABSTRACT

In recent time, fraud has formed an integral part of developing countries like Nigeria where corruption through its indices like money laundering, over pricing and compromise of procurement proceedings are prevalent in the society and are regarded as norm, resulting in widening gap between the poor and the rich. This study examines the impact of forensic accounting on the prevention and control of fraud in the Nigerian banks. Ordinary least square (OLS) was utilized to examine the relationship that exists among research variables in addition to the test of hypothesis. Findings from the study revealed that there is a significant relationship between the forensic expert consultation expenditures and amount of fraud uncovered in Nigerian banks. It was also found that the higher the amount spent on forensic expert consultations, the higher the number of staff involved in bank frauds that are uncovered in Nigeria. The result further showed that there is a significant relationship between the amount spent on forensic expert consultation and the number of staff who lost their jobs on the grounds of fraud in deposit money banks. It can therefore be inferred that forensic accounting serves as a veritable instrument of fraud control in Nigeria. The study recommended, among others, that Nigerian government should evolve policies that would enhance the activities of forensic accountants towards the nation's quest to eradicate corruption.

KEY WORDS: forensic accounting, fraud, accountants, corruption, banks

1.

Introduction

The widespread of fraud in modern organizations have exposed the ineffectiveness and inefficiency of traditional auditing and investigation in the detection and prevention of various types of frauds confronting business worldwide. In today's increasing complex business environment, companies face numerous challenges and risk that are difficult for them to deal with. The threat is exacerbated by globalization and the advent of modern information technology that have combined to replace old business practices and advanced the pace of electronically manipulated fraud and corporate financial mismanagement.

Over time, fraud has formed the integral part of developing countries like Nigeria where corruption through its indices like money laundering, over pricing and compromise of procurement proceedings are prevalent has fused in the society and are regarded as a norm, resulting in widening gap between the poor and the rich widen up. The cancer of corruption has eaten so deep into the society, that the society perceives one weak when one decides to live within the confines of his income when one is occupying a front desk or strategic office in a public service. This has pushed employees to indulging in fraudulent activities which ripples the existence of organizations where they serve. Karwai (2002) postulated that the increasing wave of fraud is causing a lot of concern in Nigeria. This is because fraud has eaten deep into every aspect of the Nigerian society to the extent that many organizations have lost the confidence of their customers. In Nigeria, corruption, money laundering and other related crimes have assumed alarming proportions. Pervasive mismanagement of resources has become the order of the day both in the public and private organizations. According to Okolo (2007) financial crime has become really pervasive and the likelihood of corporate fraud occurring has also become more severe. According to EFCC (2004), financial crimes such as embezzlement, bribery, bankruptcy, security and fraud, among others, have taken the center stage in public discourse and is assuming a position of preeminence in the scale of governmental preference. Nigeria has been bedeviled with corruption in all facets of her polity and economy with the banking sector as a major victim since the late 1980s till date, Nigeria has witnessed many failed banks and finance houses resulting in the prosecution of many bank chief executives due to their involvements in employee related frauds and money laundering scams.

In a bid to take advantage of forensic accounting mechanisms which have the additional ability to qualify and quantify damages sustained by parties whether or not involved in legal disputes and can assist in resolving disputes even before they reach the court room and to checkmate fraudulent activities in organizations, the banking industry in Nigeria has joined her counterpart in developed countries like the USA, Britain, and the Switzerland in incorporating forensic accounting processes into their operations, as an internal control mechanism. Forensic accounting mechanisms can also assist in designing effective internal control system and fraud prevention schemes for organizations. This development seem not to have significantly reduced the occurrence of fraudulent activities in the banking industry in Nigeria prompting curiosity to further investigate the impact of forensic accounting on fraud control in Nigerian banks.

This study seeks to examine the impact of forensic accounting on the prevention and detection of fraud in the Nigerian banks. The rest of the paper is presented in four sections: the next section, presents a review of related literature on the subject; in section three the methodology of the research is presented; the data obtained in the course of the research is presented and analyzed thereafter; in the last section, the conclusions conjectured from the analysis and some policy recommendations were presented.

2. Literature Review

2.1 Conceptual Framework: Forensic Accounting

According to Rasey (2009), the origin of the term forensic accounting is credited to Maurice E. Peloubet via his 1946 essay "Forensic Accounting: Its Place in Today's Economy". Rasey also identified that forensic accounting proved its worth during World War II even though its formalized procedures were not put in place until the 1980s when major academic studies in the field were published . Since the 1980s in some Western countries, particularly in the USA, a new area of the accounting profession which identified a field composed of accounting, auditing, and investigative skills has emerged (Ozkul & Pamukc, 2012).

What then is forensic accounting? Forensic accounting, according to Crumbley, Heitger and Smith, (2009) is the specialty area of the accountancy profession which describes engagements that result from actual or anticipated disputes or litigation. They identified that "Forensic" meant "suitable for use in a court of

law," and it is to that standard and potential outcome that forensic accountants generally have to work. In the view of Howard & Sheetz (2006), forensic accounting is the process of interpreting, summarizing and presenting complex financial issues clearly, succinctly and factually often in a court of law as an expert. Succinctly stating forensic accounting skills requirement, Hopwood, Leiner, and Young (2008) described forensic accounting as the application of investigative and analytical skills for the purpose of resolving financial issues in a manner that meets standards required by courts of law. Degboro and Olofinsola (2007) also noted that forensic investigation is about the determination and establishment of fact in support of legal case. That is, to use forensic techniques to detect and investigate a crime is to expose all its attending features and identify the culprits. Engaging an angle similar to that of Hopwood, Leiner, and Young, The America Institute of Certified Public Accountants (AICPA) defines forensic accounting as services that involve the application of specialized knowledge and investigative skills possessed by Certified Public Accountants. Concisely, Singleton & Singleton (2010), observed that forensic accounting is the comprehensive view of fraud investigation.

Arokiasamy and Cristal (2009) in their study, identified the systematic and organized path involved in forensic accounting and defined it as a science dealing with the application of accounting facts and concepts gathered through auditing methods, techniques and procedures to resolve legal problems which requires the integration of investigative, accounting, and auditing skills, same definition was provided by Dhar and Sarkar (2010). Assenting to forensic accounting being a science, Stanbury & Paley-Menzies (2010) stated that forensic accounting is the science of gathering and presenting information in a form that will be accepted by a court of jurisprudence against perpetrators of economic crime. Forensic accounting is a discipline that has its own models and methodologies of investigative procedures that search for assurance, attestation and advisory perspective to produce legal evidence. It is concerned with the use of accounting discipline to help determine issues of facts in business

litigation (Okunbor & Obaretin, 2010), the evidentiary nature of accounting data, accounting fraud and forensic auditing; compliance, due diligence and risk assessment; detection of financial misrepresentation and financial statement fraud (Skousen & Wright, 2008); tax evasion; bankruptcy and valuation studies; violation of accounting regulation (Dhar & Sarkar, 2010), preventing frauds, analyzing antifraud control and the gathering of nonfinancial information (Singleton & Singleton 2010).

The overarching concept of forensic accounting is summarized in Bhasin (2007) who noted that the objectives of forensic accounting include: assessment of damages caused by an auditors' negligence, fact finding to see whether an embezzlement has taken place, in what amount, and whether criminal proceedings are to be initiated; collection of evidence in a criminal proceedings; and computation of asset values in a divorce proceedings. He argues that the primary orientation of forensic accounting is explanatory analysis (cause and effect) of phenomenon including discovery of deception (if any), and its effects introduced into the accounting domain. According to Bhasin, forensic accountants are trained to look beyond the numbers and deal with the business realities of situations. Analysis, interpretation, summarization and the presentation of complex financial business related issues are prominent features of the profession. He further reported that the activities of forensic accountants involve: investigating and analyzing financial evidence; developing computerized applications to assists in the analysis and presentation of financial evidence; communicating their findings in the form of reports, exhibits and collections of documents; and assisting in legal proceedings, including testifying in courts, as an expert witness and preparing visual aids to support trial evidence. Forensic accounting services clearly utilize the practitioner's specialized accounting, auditing, economic, tax, and other skills (AICPA 2010).

2.2   Conceptual Framework: Financial Fraud

Financial fraud has been variously described in literature. No one description suffices. Wikipedia

dictionary describes fraud as crimes against property, involving the unlawful conversion of property belonging to another to one's own. Williams (2005) incorporates corruptions to his description of financial crimes. Other components of fraud cited in Williams (2005) description include bribes cronyism, nepotism, political donation, kickbacks, artificial pricing and frauds of all kinds. The array of components of financial crimes, some of which are highlighted above, is not exhaustive.

The EFCC Act (2004) attempted to capture the variety of economic and financial crimes found either within or outside the organization. The salient issues in EFCC Act (2004) definition include "violent, criminal and illicit activities committed with the objective of earning wealth illegally… in a manner that violates existing legislation… and these include any form of fraud, narcotic drug, trafficking, money laundering, embezzlement, bribery, looting and any form of corrupt malpractices and child labor, illegal oil bunkering and illegal mining, tax evasion, foreign exchange malpractice including counterfeiting currency, theft of intellectual property and piracy, open market abuse, dumping of toxic waste and prohibited goods, etc. This definition is all-embracing and conceivably includes financial crimes in corporate organization and those discussed by previous authors (William, 2005 & Khan, 2005).

At the level of corporate organizations, financial crimes were known to have led to the collapse of several organizations. Cotton (2003) attributes the collapse of Enron, WorldCom, Tyco, Adelphia, to corporate fraud, overall, about $460 billion was said to have been lost. In Nigeria, Cadbury Nigeria Plc whose books were criminally manipulated by management was credited to have lost 15 billion Naira. In the case of the nine collapsed commercial banks in Nigeria, about one trillion naira was reported to have been lost through different financial malpractice. This is still being investigated by EFCC under the EFCC Act (2004). Generally, financial fraud is varied and committed by individuals and institutions.

Karwai (2002), Ajie and Ezi (2000) are of the view that financial fraud in organizations vary widely in nature, character and method of operation in general. Fraud may be classified into two broad ways: nature of fraudsters and method employed in carrying out the fraud. On the basis of the nature of the fraudsters, fraud may be categorized into three groups, namely; internal, external and mixed frauds. Internal fraud relates to those committed by members of staff and directors of the organizations while external fraud is committed by persons not connected with the organization while mixed fraud involves outsiders colluding with the staff and directors of the organization. Karwai (2002) reported that the identification of the causes of fraud is very difficult. He stated that modern day organizations frauds usually involve a complex web of conspiracy and deception that often mask the actual cause. Ajie and Ezi (2000) are of the view that studies have shown that on the average 6 out of every 10 staff would look for ways to steal if given the opportunity and thus only 4 could be normally honest.

Emeh and Obi (2013) opined that it is better not to define the term financial crime lest men should find ways of committing frauds which might evade such definitions. No internationally accepted definition of financial crime exists. Rather, the term expresses different concepts depending on the jurisdiction and on the context. Okafor (2004) also reported that financial crime is a generic term and embraces all the multifarious means which human ingenuity can devise, which are resorted to by one individual to get advantage over another in false representation. No definite and invariable rule can be laid down as a general proposition in defining crime as it includes surprise, trick, cunning and unfair ways by which another is cheated.

Gottschalk (2010) noted that financial crimes varied and are committed by individuals and institutions; it is categorized into four groups which include: fraud, theft, manipulation and corruption respectively. Okoye and Gbegi, (2013) observed that under common law, three elements are required to prove fraud; a material false statement made with intent to deceive, a victim's reliance on the statement and a resultant damages. Nwaze (2012) define fraud as a predetermined as well as planned tricky process or device usually undertaken by a person or group of persons with the sole aim of cheating another person or organization to gain ill-gotten advantage which

would not have accrued in the absence of such deceptive procedure. Ramamoorti (2007) argued that fraud is a human endeavor, involving deception, purposeful intent, intensity of desire, risk of apprehension, violation of trust, and rationalization. According to Gottschalk (2009) common bank frauds include: Advance fee fraud, bank fraud, cheque fraud, click fraud, consumer fraud, credit card fraud, embezzlement fraud, hedge fund fraud, identity fraud, mortgage fraud, occupational fraud and subsidy fraud.

International monetary fund (2001) interprets financial crime in a broad sense, as any non-violent crime resulting in a financial loss. When a financial institution is involved, the term financial sector crime is used. Federal Bureau of Investigation (FBI, 2001) states that financial crimes are characterized by deceit, concealment, or violation of trust and are not dependent upon the application or threat of physical force or violence, such acts are committed by individuals and organizations to obtain personal or business advantage. The FBI focuses its financial crimes investigations on such criminal activities as corporate fraud, securities and commodities fraud, health care fraud, financial institution fraud, mortgage fraud, insurance fraud, mass marketing fraud and money laundering. These are the identified priority crime problem areas of the Financial Crimes Section (FCS) of the FBI. Financial crimes may be traceable to some of the enumerated aspects of corruption, e.g., embezzlement, theft from public funds, bribery, kickbacks, public corruption, abuse of discretion and abuse of public power for extortion. Usually, huge amounts stolen from these sources, which cannot be legitimately explained as earnings, are siphoned and hidden across the borders to foreign banks regarded as safe haven (Owolabi, 2007).

Karwai, (2002); Ajie and Ezi, (2000); Anyanwu, (1993); Okafor, (2004) and Adeniji, (2004) summarized the types of fraud on the basis of methods of perpetration to include: defalcation, suppression, outright theft and embezzlement, tampering with reserves, insider abuses and forgeries, fraudulent substitutions, unauthorized, unauthorized lending, lending to ghost borrowers, kite flying and cross firing, unofficial borrowing, impersonation, teeming and lading, fake payment, fraudulent use of the firms documents, fictitious accounts, false proceeds of collection, manipulation of vouchers, dry posting, over invoicing, inflation of statistical data, ledger accounts manipulation, fictitious contracts, duplication cheque books, computer fraud, misuse of suspense accounts, false declaration of cash shortages etc.

It can be inferred therefore that defining fraud is as difficult as identifying it. No definite and invariable rule can be laid down as a general proposition in defining fraud as it includes surprise, trick, cunning and unfair ways by which another is cheated. Fraud is a legal term that refers to the intentional misrepresentation of the truth in order to manipulate or deceive a company or individual. Fraud is to create a misjudgement or maintain an existing misjudgement to induce somebody to make a contract". It involves enriching oneself intentionally by reducing the value/worth of an asset in secret. "When companies undergo severe financial problems and end up in bankruptcy, fraud by senior management may be involved.

3.   Methodology

The objective of this research is to examine the impact of forensic accounting on the prevention and detection of fraud in the Nigerian banks. Secondary method of data collection was adopted for the purpose of this study. The data collected was analyzed using ordinary lease square method. The research design adopted for study is the time series non-experimental research design. The data analyzed in this research work were obtained from both published and unpublished sources including data extracted from the annual reports of Nigerian Deposit Insurance Corporation (NDIC) and quarterly fraud and forgeries report of the Financial Institutions Training Centre (FITC) for the period 1996-2014.

Taking inference from the empirical findings and theories, which has been derived from the theoretical exposition and then making fraud central to the equation, a model was drawn up to determine its impact on banks in Nigeria context. The model is expressed as:

$$BFLF = f(FEC) - (1$$

$$SIF = f(FEC) - (2)$$

Thus, linearizing equation (1) and (2), we obtain:

$BFLF = \beta_0 + \beta_1 FEC + \mu_t - - - - - - - - (3)$

$SIF = \beta_0 + \beta_2 FEC + \mu_t - - - - - - - (4)$

Where;

$\beta_0 =$ The intercept or autonomous parameter estimate

β_1 and β_2 are the slope of the coefficients of the independent variables to be determined

FEC = Forensic Expert Consultation
SIF = Staff involved in fraud cases uncovered
BFLF= Bank funds lost to fraud
$\mu =$ Error term (or stochastic term).

We then differentiate partially with respect to of each variable to obtain *apriori* sign expectation of equation (3, and 4) to get;

$\frac{\partial BFLF}{\partial FEC} = \beta_1 < 0 - - - - - - - - - - - - - - - (5)$

$\frac{\partial SIF}{\partial FCE} = \beta_2 > 0 - - - - - - - - - - - - - - - (6)$

Unit root test was conducted on the variables using the Augmented Dickey Fuller (ADF) test. Unit root test is a test of stationary or non-stationary of time series data used in the model. This is to find out if the relationship between economic variables is spurious or nonsensical. The estimation was conducted using the econometric computer software package, E-Views version 7.0. APRIORI sign expectation and decision making criteria which consist of the apriori criteria, statistical criteria: first order test, econometric criteria: second order test were also used.

4.   Data presentation and interpretations

This section undertakes empirical analysis of the impact of forensic accounting on fraud control. The research set to test the hypotheses used in this study to ascertain if there is significant relationship between amount spent on forensic expert consultations and the amount of fraud uncovered in deposit money banks. The regression method was adopted using different models.

Table 4.2: Amount of Bank funds lost to fraud by banks (N'M), Number of Bank Staffers Involved in Fraud Cases Uncovered and Forensic Expert consultancy expenditures (N'M), 1996-2014

Year	Number of Bank Staffers Involved in Fraud Cases Uncovered	Actual amount lost to Fraud by banks (N'M)	Forensic Expert consultancy expenditures (N'M)
1996	141	246.37	144971.60
1997	606	950.65	177373.80
1998	487	229.13	210945.60
1999	573	375.24	258968.10
2000	195	227.44	314185.50
2001	403	692.25	392478.20
2002	943	2730.06	569798.50
2003	796	1080.57	838592.60
2004	850	906.30	1017196.00
2005	1,175	1299.69	1226624.00
2006	1,229	857.46	1415786.00
2007	1,193	2610.00	1814745.00
2008	1,553	5602.05	2469070.00
2009	2,007	2768.67	3412273.00
2010	3,199	2870.85	5337174.00
2011	1,777	17543.10	8702996.00
2012	2,352	7549.23	9989843.00
2013	3,380	11679.00	10837144.00
2014	3,756	12565.20	12721342.00

Sources: NDIC annual Reports, and (FITC) Annual fraud and forensic report, 1996-2014.

4.1   Pre-Estimation Diagnostics Tests

4.1.1 Normality Statistics (Descriptive Statistics)

The normality statistics for the variables: FEC, SIF and BFLF are as shown in Table 4.1.1 below. The mean for FEC, SIF and BFLF are all different. This indicates that the variables exhibit significant variation in terms of magnitude, suggesting that estimation of the variables in levels will introduce some bias in the results. The Jarque-Bera statistics for all the variables are significant; hence we reject the null hypothesis and conclude that the series are normally distributed (or have a normal distribution) for FEC, SIF and BFLF.

Table 4.1.1: Basic Descriptive Statistics Relating to the FEC, SIF and BFLF

	FEC	SIF	BFLF

Mean	17.34696	10.12036	13.06905
Median	17.68634	7.579544	11.09412
Maximum	37.95685	49.28178	36.89332
Minimum	8.577088	3.682643	5.917133
Std. Dev.	6.387935	9.510279	6.991336
Skewness	1.496205	2.376218	1.756342
Kurtosis	5.767314	9.502381	6.187306
Jarque-Bera	20.07349	78.38049	27.18492
Probability	0.000044	0.000000	0.000001
Sum	503.0619	341.9204	379.0023
Sum Sq. Dev.	1142.560	2532.471	1368.606
Observations	19	19	19

Source: Computed by the Author using E-views 7.0

4.1.2 Unit Root Test

Macroeconomic time series data are generally characterized by stochastic trend which can be removed by differencing. Unit root test therefore is a test of stationarity or non-stationarity of series data used in the model. This is to find out if the relationship between economic variables is spurious or nonsensical. This test is conducted by adding the lagged values of the dependent variable so that the error term is serially uncorrelated.

As is the case with similar studies, the Augmented Dickey-Fuller (ADF) test was used to ascertain whether the four variables of the study exhibit unit root property. This is to find out if the relationship between variables is spurious or nonsensical.

Table 4.1.2: Summary of Unit Root Test Results

Variables	ADF Test Statistic(at first difference)	Order of Integration
FEC	-3.374532(-3.2614552)***	I(1)
SIF	-4.117993(-4.09330)*	I(1)
BFLF	-5.121044(-4.356068)*	I(1)

Source: Authors Computation, 2016 (Eview-7)

From the table 4.1.2 above, it was discovered that all the variables used in the analysis were found stationary at first difference. SIF and BFLF were found stationary at 1% first difference. However, FEC was found stationary at 10%. These first difference variables (stationary variables) were used for further analysis in computing and analyzing of our results. The next specification test that was computed is the Johansen co-integration test of these variables.

4.1.3 Co-integration Estimate

If two or more time series are not stationary, it is important to test whether there is a linear combination of them that is stationary. Economically, variables are co-integrated if they have a long term, or equilibrium relationship between them. It is a pretest to avoid spurious regression situations. It is possible for a combination of some series to achieve long run equilibrium; although they may be individually non-stationary. This phenomenon is referred to as the test for co-integration. The evidence of co-integration implies that there is a long run relationship among the variables. Asteriou and Hall (2006) argued that where there are more than two variables in a model, there is a possibility that the emerging co-integrating vectors governing the joint evolution of all the series will be more than one. This logic presents the superiority of Johansen Co-integration test over the Engle Granger approach. Thus Johansen Co-integration approach was adopted in this study.

Table 4.1.3: Results of Johansen Co-integration Test

Date: 04/15/16 Time: 12:50			
Sample (adjusted): 1996 2014			
Included observations: 19 after adjustments			
Trend assumption: Linear deterministic trend			
Series: FEC, SIF and BFLF			
Lags interval (in first differences): 1 to 1			
Unrestricted Co-integration Rank Test (Trace)			
Hypothesized		Trace	0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.876563	88.84840	47.85613	0.0000
At most 1 *	0.569369	32.36373	29.79707	0.0248
At most 2	0.257795	9.616115	15.49471	0.3114
At most 3	0.056372	1.566625	3.841466	0.2107
Trace test indicates 2 co-integrating equation(s) at the 0.05 level			
* denotes rejection of the hypothesis at the 0.05 level			
**MacKinnon-Haug-Michelis (1999) p-values			
Unrestricted Co-integration Rank Test (Maximum Eigenvalue)			
Hypothesized		Max-Eigen	0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.876563	56.48467	27.58434	0.0000
At most 1 *	0.569369	22.74762	21.13162	0.0294

At most 2	0.257795	8.049490	14.26460	0.3737
At most 3	0.056372	1.566625	3.841466	0.2107
Max-eigenvalue test indicates 2 co-integrating equation(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: Authors Computation, 2016 (Eview-7.0)

Table 4.1.3 shows the results of the co-integration test, using the Johansen methodology. The results show that trace statistics test rejected the null hypothesis of no co-integration among the variables at the 5 percent level of significance. The trace statistics indicates two co-integrating equations at the 5% of significance. The co-integration test result thus shows that there is long run equilibrium relationship among the variables used in the model.

4.2 Statistical Test of Hypothesis

The two hypotheses formulated in this study were tested using student t-statistics. The level of significance for the study is 5%, for a two tailed test. The decision rule is that we shall accept the null hypothesis if the critical t-value (± 1.96) is greater than the calculated value, otherwise reject the null hypothesis. That is, using the student *t*-test (*t*-statistic), we say that a variable is statistically significant if t^* (*t*-calculated) is greater than the tabulated value of ± 1.96 under 95% (or 5%) confidence levels and it is statistically insignificant if the t^* is less than the tabulated value of ± 1.96 under 95 % (or 5%) confidence levels. Thus:

H_0: $\beta_0 = 0$ (Null hypothesis)

H_1: $\beta_1 \neq 0$ (Alternative hypothesis)

4.2.1 Hypotheses One: *H01: There is no significant relationship between amount spent on forensic expert consultations and the amount of fraud uncovered in deposit money banks in Nigeria.*
Model   one:
$BFLF = \beta_0 + \beta_1 FEC + \mu_t - - - - - - - (7)$

Table 4.2.1: Regression Result on *FEC and BFLF*
Dependent Variable: BFLF
Method: Least Squares

Date: 04/15/16   Time: 14:03
Sample: 19
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.141826	0.770190	4.835567	0.0010
FEC	-3.127386	0.258067	-2.208356	0.0027

R-squared	0.712808	Mean dependent var	4.120000
Adjusted R-squared	0.562436	S.D. dependent var	0.342783
S.E. of regression	0.351655	Akaike info criterion	0.910633
Sum squared resid	1.112951	Schwarz criterion	0.982978
Log likelihood	-3.008481	Hannan-Quinn criter.	0.865030
F-statistic	6.501769	Durbin-Watson stat	1.910508
Prob(F-statistic)	0.001159		

Source: Authors Computation, 2016 (Eview-7.0)

$BFLF = 11.14 - 3.12\,FEC - - - - - - - - - - - - - - (8)$

$SEE = 0.77 \quad 0.25$

$t^* = \quad 4.83 \quad 2.20$

$F^* = \quad 6.50;\ Prob\ (F\text{-statistic}) = 0.0011$

$R^2 = 0.7128;\ Adj.R^2 = 0.5624$

$DW = 1.91$

From the regression result in table 4.2.1, the calculated t-value for FEC is -2.20 and it's greater than the critical value of -1.96. It falls in the rejection region and hence, we reject the first null hypothesis ($H0_1$). *The conclusion here is that there is a significant relationship between amount spent on forensic expert consultations and the amount of fraud uncovered in deposit money banks in Nigeria.*

The F-statistics which is used to examine the overall significance of regression model equally showed that the result is significant, as indicated by a high value of the *F*-statistic, 6.50 and it is insignificant at the 5.0 per cent level. That is, the F-statistic value of 0.0011 is less than 0.05. The R^2 (R-square) value of 0.7128 shows that model has a good fit. It indicates that about 71.28 per cent of the variation in **BFLF** is explained by **FEC**, while the remaining 28.72 percent is captured by the error term. The model also indicates that there is no autocorrelation among the variables as indicated by Durbin Watson (DW) statistic of 1.91. This shows that the estimates are unbiased and can be relied upon for policy decisions.

4.2.2 Hypotheses Two: *H02: There is no significant relationship between the amount spent on forensic expert consultations and the rate of fraud uncovered in deposit money banks.*

Model   two:

$$SIF = \beta_0 + \beta_2 FEC + \mu_t - - - - - - - (9)$$

Table 4.4.2: Regression result on FEC and SIF

Dependent Variable: SIF
Method: Least Squares
Date: 04/15/16   Time: 14:14
Sample: 19
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.177549	1.595040	2.193698	0.0342
FEC	1.616075	0.354115	3.413072	0.0004
R-squared	0.662522	Mean dependent var		4.363636
Adjusted R-squared	0.553864	S.D. dependent var		0.460071
S.E. of regression	0.483374	Akaike info criterion		1.546912
Sum squared resid	2.102850	Schwarz criterion		1.619256
Log likelihood	-6.508014	Hannan-Quinn criter.		1.501308
F-statistic	13.359084	Durbin-Watson stat		2.008277
Prob(F-statistic)	0.003399			

Source: Authors Computation, 2016 (Eview-7.0)

$$SIF = 2.17 + 1.61 FEC - - - - - - - - - - - - - - (10)$$

$SEE =$ 1.59 0.35

$t^* =$ 2.19 3.41

$F^* =$ 13.35; Prob(F-statistic)=0.0033

$R^2 = 0.6625; Adj.R^2 = 0.5538$

$DW = 2.00$

From table 4.2.2, the calculated t-value for FEC is -3.41 and the tabulated value is given as -1.96, under 95% confidence levels. Since the calculated t-value is greater than the tabulated value (-3.78 > -1.96), we therefore, reject the null hypothesis (H0$_2$). *We conclude that the amount spent on forensic expert consultation has a significant relationship with the number of staff involved in fraud uncovered in deposit money banks.*

Also, by examining the overall fit and significance of the fraud model, it can be observed that the model does have a good fit, as indicated by the relatively high value of the *F*-statistic, 13.35 and it is significant at the 5.0 per cent level. That is, the F-statistic value of 0.0033 is less than 0.05

probability levels. More so, the R^2 (R-square) value of 0.6625 shows that the model does have a good fit too. It indicates that about 66.25 percent of the variation SIF is explained by FEC, while the remaining 33.75 percent is captured by the error term. Durbin Watson (DW) statistics which is also used to test for the presence of autocorrelation indicates that there is no autocorrelation among the variables as captured by (DW) statistic of 2.0. This shows that the estimates are unbiased and can also be relied upon for policy decisions.

4.3   Discussion of research findings

From 4.2.1, FEC was also found to have a negative relationship with BFLF; thus showing that the higher the FEC, the lower the BFLF. The result showed that there is a significant relationship between the forensic expert consultation expenditures and amount of Bank funds lost to fraud in Nigeria. This result is in-line with the findings of Enofe et-al (2013) whose study revealed that the application of forensic accounting services on firms affect the level of fraudulent activities. Okoye and Gbegi (2013) found that forensic accountants effectively modify the extent and nature of audit test when the risk of management fraud is high. They recommended that forensic accountant should be involved in the risk of management fraud assessment process than consulting them.

In table 4.2.2, it was observed that FEC has a positive and significant relationship with SIF uncovered. It showed that the higher the amount spent on FEC, the higher the amount of staff involved in bank frauds that are uncovered in Nigeria. The result further showed that there is a significant relationship between the amount spent on forensic expert consultation and the number of staff involved in fraud uncovered in deposit money banks. The findings are in agreement with Okunbor and Obaretin (2010) whose result shows that there is a significance relationship between number of fraud cases and amount involved or lost to fraudsters in Nigerian banks. He found that in 2008 the number of fraud cases increased by 22.62% while the amount involved jumped to 817.52% and this may be attributable to many banks failure in 2008/2009. Chi-Chi & Ebimobowei (2010) in their analysis also discovered that the application of forensic

accounting services by corporate organization in Nigeria has been effective at determining fraudulent activities. Onuorah and Ebimobowei (2011) findings also revealed that the application of forensic accounting services enhances the discovery of fraudulent activities of banks staffers in Nigeria. Okolie and Taiwo (2014) findings also showed that using forensic accounting techniques has helped in exposing and identifying the culprits. Generally the intent is what separates error from fraud and forensic investigator prove intent with help of circumstantial evidence such as; motive, opportunity, repetitive acts, witness statement, concealment, victim reliance and damages.

5. Summary, Conclusions and Recommendations

This study examined the impact of forensic accounting on fraud detection and prevention in deposit money banks in Nigeria. The study reviewed the concept of forensic accounting, challenges of forensic accounting application in Nigeria, the need for forensic accounting as well as the concept of financial fraud. The study also analysed the types of fraud, effects of fraud, and theories of forensic accounting and fraud.

Ordinary least square (OLS) regression analysis (the simple linear regression method analysis) was used in the study. The empirical results show that all the variables were found stationary at first difference. More so, the result showed that there is long run equilibrium relationship among the variables used in the model. Empirical findings revealed that there is a significant relationship between the forensic expert consultancy expenditures amount of Bank funds involved and lost to fraud in Nigeria, this agrees with the findings of Enofe etal (2013) whose study revealed that the application of forensic accounting services on firms affect the level of fraudulent activities. Findings of Enofe etal (2013) also revealed that the application of forensic accounting services on firms affects the level of fraudulent activities uncovered in banks. It was observed that forensic expert consultations had a positive and significant relationship with bank staff involved in fraud uncovered. It showed that the higher the amount spent on forensic expert

consultations, the higher the number of staff involved in bank frauds that are uncovered in Nigeria. Okolie and Taiwo (2014) findings also showed that using forensic accounting techniques has helped in exposing and identifying the culprits. Okunbor and Obaretin (2010) result showed that there is a significance relationship between number of fraud cases and amount involved or lost to fraudsters in Nigerian banks. Thus, various business agencies attempting to fight corruption will need to engage the services of forensic accountants to compliment the efforts of other professional to reduce fraudulent activities in corporate organizations.

The importance of this study cannot be over-emphasized. The general public, investors, and corporate bodies especially the banks would benefit from minimization of fraudulent activities perpetrated by fraudsters in our society. The threat of fraud in the Nigerian banking industry can be contained by taking the right steps. A bank that is alert to the risks that affect its business, that puts in place appropriate controls and procedures, monitors the operation of these controls and their effectiveness, creates favorable working environment and maintains an anti –fraud culture, is going to be better placed to deter, prevent and at worst detect fraud timely. Above all, the fight against fraud requires a holistic approach through the efforts and cooperation between individuals, organizations, law enforcement agencies and other stakeholders. It can therefore be inferred that the roles of forensic accountant will be on the increase in corporate organizations especially banks.

For successful control of fraud in banks, the following measures are therefore recommended:

i. It is recommended that government and institution of higher learning should intensify effort in providing enabling environment for the training of forensic accountants. At the moment, there is acute shortage of forensic experts in Nigeria, in most cases, such experts services are acquired at very exorbitant fee from oversea.

ii. The research recommends that internal control measures should be strengthened by the banks and government agencies in

order to prevent and detect fraud in the system. Those fraud perpetrators should be prosecuted with the help of forensic expert services and adequate punishment meted to serve as deterrent

iii. The regulatory authorities should continue to encourage collaboration amongst various stakeholders. That has become necessary in order to facilitate understanding and reduce areas of distrust on the one hand and nurture opportunity for information sharing on the other hand. Stakeholders need to improve on prudential regulation of banks designed to encourage the adoption of best practices in the industry.

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