

Effects of Forensic Accounting Investigation on Public Sector Financial Crimes in Nigeria

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Abstract

Traditional audit skills have become inadequate to unravel the skills associated with hi-tech-criminality of government funds in Nigeria Public Sector. Besides, most of the researches conducted on this same topic used primary data, which responses were discretionary, subjective and bias, as habits and characters that make criminals commit crimes cannot be quantified. These are the gaps this study intends to fill with the use of secondary data to quantify the effect of forensic accounting investigation on public sector financial crime in Nigeria. The specific objective of the study is to establish the extent to which prosecution and convictions has curtailed bribery and corruption in Nigeria and how funds recovered through systems studies and review has helped to reduce the value of bribery and corruption cases in Nigeria public sector. The study adopted ex-post factor research design. The target population of the study is the reported corruption cases from the compendium of cases compiled by the Independent Corrupt Practices and Other Related Offences Commission (ICPC) for the period of 21 years (2000 -2020). A total of fifteen (15) years from 2006 to 2020 was selected using purposive sampling techniques. Secondary source of data from publications and annual financial reports of ICPC were obtained and analyzed using Ordinary Least Squares (OLS) Regression with the aid of E-view 10 to analyze the formulated hypothesis. The findings revealed that there is a significant relationship between forensic accounting investigation and public sector financial crimes in Nigeria. The study concludes that with more application of forensic accounting investigation skills, public sector financial crimes in Nigeria will drastically be eliminated. The study recommends that ICPC and other Anti-graft Agencies should deploy more of forensic accounting skills in the investigation of financial crimes in Nigeria; while application of forensic accounting litigation and non-litigation services in the fight against public sector financial crimes in Nigeria should be encouraged.

Keywords: Forensic Accounting, Investigation and prosecution, Financial crime, System Study and Review

INTRODUCTION

Government Expenditure world over has always been big business and has become so massive today that the public through civil society groups and the citizenry are demanding to know how the huge outlays of funds are being spent and the impact on the overall economy. Officials and employees who manage Public Sector activities are by virtue of that duty, required to be transparent and accountable to the public. The politicians and bureaucrats who are entrusted with the responsibility of managing public funds have been found to be culpable in the discharge of their duties. They have been accused of massive corruption and finance related crimes (Nelken& Levi, 1996).

Financial Crime is crime against property, involving the unlawful conversion of the ownership of property (belonging to one person) to one's own personal use and benefit. Financial crimes may involve additional criminal acts, such as computer crime, burglary, armed robbery, and even violent crime. Financial crimes may be carried out by individuals, corporations, or by organized crime groups. Victims may include individuals, corporations, governments, and entire economies. (EFCC Act 2004). The incidence of financial crime continues to increase across Private and Public Sector Organizations and across nations. Financial Crime is a universal problem as no nation is immune, although developing Countries suffer the most pain. In the event that the activities of the public sector administrators are not transparent and satisfactory, the public demands further accountability through investigations. Financial crime is generally believed to be a fundamental problem in the Nigerian Economy as it has hindered the economic growth and development of Nigeria as a Nation (Odimegwa 2015). According to Economic and Financial Crime Commission (EFCC) (2004), financial crimes such as embezzlement, bribery, bankruptcy, security fraud, among others, have taken the centre stage in public discourse and is assuming a position of preeminence in the scale of governmental preference. Standard auditing methods and investigations have not been able to find culprits accountable due to sophistication of the crime skills. Essentially, there is need to employ full investigatory talents for a deeper look at the records. Hence, forensic accounting investigation becomes a necessary tool that could not only expose the criminals and their antics but hold them accountable as well as being able to get them convicted in the courts of law (Rothberg 2012; Oworojori & Asaolu, 2009). To curb the ugly narrative of audit deficiency, Anti-Graft Agencies like Code of Conduct Bureau (CCB), Independent Corrupt Practices Commission (ICPC) and Economic and Financial Crimes Commission (EFCC) were established to uncover and prosecute public sector financial crimes in the nation (Edheku & Akpoveta 2020). Thus, the choice for ICPC for this research.

Realizing that forensic accounting investigation entails both litigation and non-litigation services, the researcher considered forensic accounting investigation as independent variable, proxied by investigation and prosecution, and system study and review while public sector financial crimes is dependent variable, proxied by number of petitions of bribery and corruption cases; and value of bribery and corruption petitions. In this study, investigation and prosecution of financial crime are litigation services of forensic accounting, while system study and review are the non-litigation services. The study objective therefore is to examine the extent to which prosecution and convicted cases has curtailed bribery and corruption in Nigeria and how funds recovered through systems studies and review has helped to reduce the value of bribery and corruption cases in Nigeria public sector. It has been observed that traditional audit skills have become inadequate to unravel the skills associated with hi-tech-criminality of government funds in Nigeria Public Sector. Additionally, most of the previous researches conducted on the subject topics such as Edheku and Akpoveta (2020), Dada and Jimoh (2020), Nurudeen and Marcin (2019), Safiyanu, Saifullahi and Armaya'u (2019), Olukayode (2018), Anuolam, Onyema and Ekeke (2017), Oseni (2017), Amaka and Ikhatua (2016), Onodi, Okafor and Onyali (2015), Enofe, Onyeokweni and Onobun (2015), Okoye and Gbegi (2013), Okunbor and Obaretin (2010), Kasum (2009) among others used primary data, with the aid of questionnaire, which responses were discretionary, subjective and bias, as habits and characters that make criminals commit crimes cannot be quantified. These are the gaps this study intends to fill with the use of secondary data to quantify the effect of forensic accounting investigation on public sector financial crime in Nigeria. The basic hypothesis underlying this study are stated thus:

H0₁: Convicted cases have no significant effect on petitions of Bribery and Corruption in Nigerian public sector.

H0₂: Funds recovered through Systems Study has no significant effect on value of bribery and corruption cases in Nigeria public sector.

LITERATURE REVIEW

Conceptual Framework

Investigation and Prosecution

The separation of investigation and prosecution is a more recent phenomenon, although apparently inspired by similar ideas. The approach to institutional design in regulatory law has been significantly different, since in general, regulatory agencies exercise not only investigatory or prosecuting powers, but they are also involved, to some extent, in rule-making and adjudication (Garoupa, Ogus & Sander; 2011). Investigation is usually carried out by a law enforcement agency using all the resources available to the government, local, state, or federal, to discover, locate, or establish evidence proving and verifying the relevant facts for presentation to a court or other judicial authority (OECD Anti-Corruption Network for Eastern Europe and Central Asia; 2010). Section 27 (3) of the Corrupt Practices and Other Related Offences Act (CPOROA), 2000, provides for the investigation and prosecution of persons on suspicion of corruption and section 5 (1) of CPOROA, 2000 vests officers of the Commission with all the powers and immunities of the police and any other Law Enforcement Agencies (LEAs). The Commission (ICPC) investigates cases based on intelligence, information gleaned from electronic, print and social media, whistle blowers informants, amongst others.

Systems Studies and Review

System study and review is non-litigation services of forensic accounting. According to Udofia (2020), System Study as the name implies inquiry into government systems, practices and procedures to identify vulnerabilities permitting corruption and advise a review. The most efficient way of controlling or checking corruption, as several authorities have suggested is to strengthen vulnerable systems and procedures and flush out sleazy practices. This includes suggestions that institutions should be reviewed constantly along with officials manning them. System corruption emanates amorphously and asymptotically over time from the predispositions of an institution or systems. Notwithstanding, where systems are strong or impervious, corrupt officials create and instigate weaknesses and opportunities for abuse and corruption (Udofia; 2020). Keeper (2012) argues that corruption is systemic in a society when it is subsumed and entrenched in social structures of communal relations, official engagements and transactions. This transactional hold be dispelled and controlled by taking off or strengthening weak-links in systems and practices.

System study and review is part of what constitutes Non-litigation services of forensic accounting investigation. The non-litigation involves analyses or investigations that may require the same skills used, but may not involve the litigation process. Since 2003, the ICPC has deployed the System Study and Review (SSR) tools on policies, processes, and procedures of public ministries and Parastatals to detect the susceptibility to corruption with a view to facilitate effect measures in blocking leakages. Agencies for the SSR are arrived at through results of investigations, reports from the media, petitions and complaints from the public and the Commission's direct intelligent reports (Udofia; 2020).

Bribery and Corruption

Bribery and corruption is an element of public sector financial crime. The term corruption comes from the Greek term "corruptus" involving an aberration (CLEEN FOUNDATION, 2010). In the same vein, corruption is viewed as a deviation from the formal obligations and duties as a result of personal benefits (Nye, 1967). The Corrupt Practices and other Related Offences Act 2000 viewed corruption to include fraud, bribery and other similar offences (Otite, 2000). The vision 2010 committee sees corruption as an inordinate exercise aimed at changing the position of trust and the normal cause of judgments (Otite, 2000). Taylor; 2010; Wokekoro and Ajie; 2012, classified corruption into nine types, which include bribery, political corruption, fraud, extortion, electoral corruption, bureaucratic corruption, nepotism, favoritism and embezzlement. **Forensic Accounting and Investigation**

There are several definitions of forensic accounting in the literature. Bolgna and Linquist (1995) defined forensic accounting as the application of financial skills and investigative mentality to unresolved issues conducted within the context of the rules of evidence. Forensic accounting is also defined as the application of accounting and auditing, financial and investigative skills, to unsettled issues conducted within the context of the rules of evidence (Arokiasamy & Cristal-Lee; 2009, Ozkul & Pamuk; 2012). Howard and Sheetz, 2006; Stanbury and Paley-Menzies, 2010 viewed forensic accounting as the process of gathering, interpreting, summarizing and presenting complex financial issues in a clear, succinct and factual manner often in a court of law as an expert. Manning (2010) defined forensic accounting as the application of financial accounting and investigative skills at a standard acceptable by the courts, to address issues in dispute in the context of civil and criminal litigation. According to Oyedokun (2013), forensic accounting is a scientific accounting method of uncovering, resolving, analyzing and presenting fraud matters in a manner that is acceptable in the court of law.

Akintoye (2008), explains that forensic accounting is accounting that is suitable for legal review, offering the highest level of assurance, and including the new generally accepted connotation of having been arrived at in a scientific fashion and providing the needed findings in settling disputes. Forensic accounting according to Zysman (2010) is an "accounting analysis that can uncover possible fraud that is suitable for presentation in court. Such analysis will form the basis for discussion, debate, and dispute resolution." Investigation is the act or process or the condition of searching. It is an inquiry for ascertaining facts; detailed or careful examination. Investigation is a vital part of forensic accounting and auditing process but only applied when the event or transaction is beclouded. It is carried out when lapse has been established to ascertain who is responsible, the reason for the action including the extent of damage if any. It could be referred to as a detailed verification and clarification of doubt about a transaction or event (Oyedokun, 2013). Bronner (2014) concluded that Forensic Accounting Techniques such as interviewing, computer assisted reviews such as data mining, and document review techniques are also useful to detect financial crimes. In most forensic accounting investigation engagements, the forensic accounting investigator uses knowledge, skills, education, training, and experience to advise the client as to a menu of recommended forensic procedures. (Golden, Skalak & Clayton; 2006).

Litigation and Non-litigation Support Services

Forensic accounting deals with litigation and non-litigation services. In the corporate world, disputes between businesses arise. In the majority of cases, these issues can be easily resolved through alternative dispute resolution or through legal channels. Litigation support is one of the most common reasons to hire a forensic accountant. Litigation support is, essentially, the process by which accountants familiar with the commercial disputes provide consultation and advice to attorneys. The kind of support provided can vary significantly from case to case. In some circumstances the advice might mean assistance during research or the provision of relevant facts and documentation; and it might entail determining the extent of damages once the case has been tried. Forensic accounting can also provide crucial support in the early stages of a legal dispute by conducting reviews of relevant documentation to form an initial assessment of the case, or by aiding in the discovery proceedings by helping to formulate key questions with regard to the financial evidence (Rothberg 2012).

Litigation services provide assistance for actual, pending or potential legal or regulatory proceedings before a trial of fact in connection with the resolution of disputes between parties. Litigation service occur when petition is received, analysis of factual information carried out and investigation report written and presented for legal proceedings; to give expert evidence at eventual trial such as cost of damages on personal injury, product liability, contract disputes, intellectual property and uncovering hidden assets on matrimonial cases (Renzhou 2011). Non-litigation services perform analyses or investigations that may require the same skills used, but may not involve the litigation process. Forensic Accounting nonlitigation services are the professional assistance accountants provide that are not related to the litigation Process.

These services may involve accounting, financial, auditing, tax, quantitative analysis, and investigative and research skill as well as an understanding of the legal process to provide assistance in connection with matter or issues not involving the litigation process (Rothberg 2012). Non-litigation services include: guidance on evaluation of potential business transactions, assessment of company's true worth during mergers and acquisition, working for the government to unearth suspicious financial transactions such as system study and review of procedures and operations of government and entities.

Public Sector Financial Crimes

In general terms, the public sector consists of governments and all publicly controlled or publicly funded agencies, enterprises, and other entities that deliver public programs, goods, or services. The concept of public sector is broader than simply that of core government and may overlap with the not-for-profit or private sectors. Public sector organizations may exist at any of four levels: International - multistate entities or partnerships; National - an independent state; Regional - a province/state within a national state); and Local - a municipal-level body such as a city or county, (The Institute of Internal Auditors, Global; 2011).

Financial crime is generally defined as any activity that involves fraudulent or dishonest behavior for the purposes of personal financial gain, although it may also include the illegal conversion of property ownership. Financial crime may be committed by individuals or groups and involve the following activities: Money laundering, Terrorism financing, Fraud, Tax evasion, Embezzlement, Forgery, Counterfeiting and Identity theft. Financial Crime is crime against property, involving the unlawful conversion of the ownership of property (belonging to one person) to one's own personal use and benefit. Financial crimes may involve additional criminal acts, such as computer crime, burglary, armed robbery, and even violent crime. Financial crimes maybe carried out by individuals, corporations, or by organized crime groups. Victims may include individuals, corporations, governments, and entire economies (EFCC Act 2004). In the works of Mukoro (2013), Public Sector financial crimes include oil bunkering, embezzlement, bribery, looting, and money laundering, fraud, tax evasion and foreign exchange malpractice. Ehioghiren and Atu (2016) as well as Onodi, Okafor and Onyali (2015) discoursed that financial crimes comprise of subsidy fraud, advance fee fraud, identity fraud, bank fraud, mortgage fraud, cheque fraud, embezzlement, credit card fraud, hedge fund fraud, consumer fraud and occupational fraud. Gottschalk (2010) advances that financial crimes are categorized into four groups such as theft, fraud, manipulation and corruption; these crimes are perpetrated by individuals, organized persons as well as institutions.

Empirical Literature

Edheku and Akpoveta (2020) explored the impact of forensic accounting on fraud detection in public and private sectors in Abuja metropolis, Nigeria, from the accountants' perspective. The study adopted descriptive survey design. A sample of 43 accounting officers from selected four Federal Ministries of Government and five private Multinational Organizations operating in the Abuja metropolis, Nigeria was used. A validated questionnaire containing 10 items with an overall reliability of 0.73 established by Cronbach alpha was used for data collection. Mean and standard was used to answer the research question while t-test was used to test the hypothesis at 0.05 level of significance. Findings revealed that accounting officers in the private and public sectors strongly agree that forensic accounting has an impact on fraud detection and did not differ significantly in their mean ratings on the impact of forensic accounting on fraud detection in the Abuja metropolis. The study concluded that genuine compliance of forensic accounting principles by internal and external auditors will not only reduce corporate frauds but will also improve the financial reporting quality of accountants in the public and private sectors of the business world. It was recommended among others that government should establish an independent forensic accounting agency with legal provisions that will enable them to detect, monitor and report fraudulent activities in the business environment in Nigeria.

Dada and Jimoh (2020) examined the relationship that exist between forensic accounting and financial crimes in the Nigerian public sector by specifically assessing the measures put in place to ensure a reduction in financial crimes in the Nigerian public sector and evaluating the effect of litigation support service on the reduction of financial crime in the Nigerian public sector. The study adopted survey research design and linear regression technique to analyze the empirical data collected through questionnaire and oral interview and the hypothesis formulated was also tested. The findings revealed that litigation support service had significant but negative effect (reduction) on financial crimes in the Nigerian public sector and it is statistically significant at 5%. The study recommended that forensic accounting experts be employed to carry out more litigation support services to serve as expert witness that will assist the court to reach a conclusion on issues which the court may not ordinarily have the knowledge to decide, while more forensic accountants be engaged to reduce rate of fraudulent cases in the Nigerian public sector.

Nurudeen and Marcin (2019) examined the determinants of corruption in Nigeria: evidence from various estimation techniques. The study employs the ARDL, CCR and FMOLS methods to assess the determinants of corruption in Nigeria over the period 1984–2016. The result of the co-integration test indicates that corruption and its determinants (economic development, political rights, military expenditure, rents, civil liberties and openness) have a long-run relationship. The results of the ARDL, CCR and FMOLS estimation demonstrate that economic development, political rights, military expenditure, rents, civil liberties and openness, are the main determinants of corruption in the long-run. Higher-economic development, greater civil liberties, more openness and higher military expenditure are related to lower corruption, but higher rents and political rights are associated with higher corruption. Based on these outcomes, the study recommends policies to promote economic development, civil liberties, political rights and openness, including reducing the reliance on the oil sector to curb corruption in Nigeria.

Safiyanu, Saifullahi and Armaya'u (2019) examined the Effect of Forensic Accounting Investigation in Detecting Financial Fraud: A Study in Nigeria. This research work discusses whether the use and application of forensic accounting investigation have an effect in detecting financial fraud in Nigeria. The study relied on previous literature on forensic accounting and its application techniques. The findings shows that forensic accounting service has a significant effect in detecting financial fraud; and that forensic accounting investigation is a step forward on the discovery of financial fraud and other fraudulent exercises in Nigeria. The study recommended that the professional accounting bodies such as the Institutes of Chartered Accountants of Nigeria (ICAN) and Association of National Accountants of Nigeria (ANAN) should encourage specialization on forensic accounting service among the professional accountants in practice. This could possibly help to reduce financial fraud and related fraudulent activities in both public and private organizations in Nigeria.

Olukayode (2018) examined forensic accounting investigation techniques and successful prosecution of corruption cases in Nigeria. The objective of the study is to examine the potency of forensic accounting investigation techniques in corruption investigation and prosecution in Nigeria. The survey design was used in the study with sample population consisting of investigators and prosecutors drawn from the four anti-corruption agencies in Nigeria (Economic and Financial crimes commission (EFCC), Independent Corrupt Practices Commission (ICPC), Code of conduct Bureau (CCB) and Police Special Fraud Unit (PSFU). The Yamane's formula was used in the determination of the sample size. The technique adopted for analysis of returned questionnaires include descriptive and inferential statistical methods, while Kolmogorov-Smirnov test was used to test the only hypothesis formulated for the study. The findings form the study indicates that there is a significant and positive relationship between the adoption of forensic accounting investigation techniques in corruption investigation and successful prosecution of corruption cases in Nigeria. It was recommended that all the anti-corruption agencies in Nigeria should always adopt forensic accounting investigation techniques in all their corruption investigation so as to be able to come up with evidences that will be supportive in prosecution of corruption cases in courts.

Anuolam, Onyema and Ekeke (2017) examined the significance of forensic accounting and financial crisis in Nigeria. Sample of 98 respondents was selected from a population of 140 using the Taro Yemen formula. 90 questionnaires were returned fully and correctly completed by the respondents. Regression analysis, correlation coefficient, Ordinary Least Squares (OLS) and E-view 7 Geometric software were used to analyze the data. The study shows that forensic accounting is significant in the face of the increasing fraudulent practices in Nigeria. The study recommended that the government should make forensic accounting compulsory for all accounting majors in the University and create enabling environment for the practice of forensic accounting in the country.

Theoretical Review

Fraud Diamond Theory (FDT)

The Fraud Diamond Theory was first presented by Wolfe and Hermanson in the CPA Journal in December 2004. It is viewed as an expanded version of the Fraud Triangle Theory (FTT). In this theory, an element named capability was added to the three initial fraud components of the FTT. Wolfe and Hermanson (2004) argued that although perceived pressure might coexist with an opportunity and a rationalization, it is unlikely for fraud to take place unless the fourth element (capability) is also present. In other words, the potential perpetrator must have the skills and ability to commit fraud.

Wolfe and Hermanson (2004) maintained that opportunity opens the doorway to fraud, and incentive (pressure) and rationalizations lead a person toward the door. However, capability enables the person to recognize the open doorway as an opportunity and to take advantage of it by walking through repeatedly. Capability is the situation of having the necessary traits or skills and abilities for the person to commit fraud. It is where the fraudster recognized the particular fraud opportunity and ability to turn it into reality. Position, intelligence, ego, coercion, deceit, and stress, are the supporting elements of capability (Wolfe and Hermanson 2004). Abdullahi and Mansor, 2015 upheld that a fraudster is someone who understands and capable of exploiting internal control weaknesses and using the position; function or authorized access to the greatest advantage. They posited that intelligent, experienced, creative people with a solid grasp of controls and vulnerabilities commit many of today's largest frauds.

White-Collar Crime Theory (WCCT)

White collar crimes include such illegal acts which are characterized by deceit, concealment, or violation of trust and which are not dependent on the application of physical force or violence. Sutherland, 1949 cited in Michael, (2004) defined White collar Crime as crime committed by a person of respectable and high social status in the course of his occupation. He noted that in his time, less than 2 percent of the persons committed to Prison in a year belong to the upper class. He tried to establish a relationship between money, social status, and the likelihood of going to jail for a white collar crime with a more visible, typical crime. He tried to separate and define the difference between the blue collar street crimes like burglary, theft, rape, arson and vandalism which are often blamed on psychological, associational and structural factor with white collar crimes committed by criminals who are opportunists who overtime learn that they can take advantage of their circumstances to accumulate financial gains. These criminals are educated, intelligent, affluent individuals who can get a job which allows them unfettered and unmonitored access to often large sum of money.

According to the Association of Certified Fraud Examiners (2003), 51% of the criminals of occupational fraud had at least a bachelor's degree, and 49% of the fraudsters were over 40 years old. Also, managers or executives committed 46% of the frauds based on the Association's recent study. The fraudster has a strong ego and great confidence that he will not be detected, or believes that he could easily take himself out of trouble if caught. Such confidence or arrogance can affect one's cost-benefit analysis of engaging in fraud. The more confident the person, the lower the estimated cost of fraud will be (Wolfe and Hermanson, 2004). The researcher will align this study with the White Collar Crime Theory. This is so because, though bribery

and corruption are systemic in Nigeria public sector, the prevalence is more with the upper class, the educated, intelligent and affluent individuals with the wherewithal.

METHODOLOGY

The methodology employed in this study is the ex-post facto research design. This was designed to examine how the independent variable affects the dependent variable. The target population of the study is the total of all reported corruption cases as obtained from the compendium of cases compiled by the Independent Corrupt Practices Commission (ICPC) for the period of 21 years (2000 -2020). The first six years were however excluded due to paucity of complete data. A total of fifteen (15) years from 2006 to 2020) was selected. Data for the study was obtained from publications, bulletins, accounting records, annual financial reports and reports to the National Assembly by Independent Corrupt Practices Commission (ICPC) and publication of other relevant regulatory agencies.

The time-series data will be used in this study and ordinary Least Square (OLS) regression technique will be used for estimation. Public sector financial crime, which is dependent variable, will be regressed on the independent variable which is forensic accounting investigation. Some statistical and econometric tests will be conducted to evaluate the regression, which include descriptive statistics, unit root test, OLS Regression Analysis Model one and two. All of these are to measure the extent of relationship between dependent and independent variables. In formulating an econometric model for the relationship between Forensic Accounting Investigation and Public sector financial crime in Nigeria, the objective of this study will be specifying regression equations models. The models are to verify the effect of forensic accounting investigation on public sector financial crime in Nigeria.

Model One

$$\text{NoPR} = \beta_{0it} + \beta_1 \text{NoCSit} + \epsilon_{it} \dots \dots \dots (1) \text{ Where:}$$

NoPR = Number of Petitions Received on Bribery and Corruption Cases

NoCS = Number of Conviction Secured

Model Two

$$\text{LogVAP} = \beta_{0it} + \beta_{1it} \text{LogVARit} + \epsilon_{it} \dots \dots \dots (2)$$

VAP = Value of Assets in Petition

VAR = Value of Assets Recovered

ϵ = Stochastic error term

$\beta_{0\dots}$ Regression coefficient

Apriori expectation: $b_1 > 0$

RESULTS AND DISCUSSION

The result of the inferential statistics using regression analysis on the Effects of Forensic Accounting Investigation on Public Sector Financial Crimes in Nigeria is presented. The ordinary Least Square (OLS) technique of the regression model is adopted. In addition, the results of other statistical estimations such as correlation, R^2 , Adjusted R^2 , t-statistic and F-statistic are also presented, as the importance of data and empirical evidence in any research effort cannot be overemphasized. The estimation technique and procedure capture the objectives of the research as stated earlier. However, the result of the descriptive statistics shall be presented before the results of the regression.

Descriptive Statistics

Descriptive statistics presents the mean, maximum and minimum, Skewness kurtosis values of variables applied together with their standard deviations obtainable. The table below shows the descriptive statistics for the variables applied in the study. **Table 1: Descriptive Statistics**

ICPC DATA FROM 2006 -2020						
Yrs	No. of Petition Recvd	No. of Petition successfully investigated	No. of Cases filed in Court	No. of Convicti ons Secured	VALUE OF PETITIONS (N)	Assets recovered annually (N)
2006	777	295	42	7	3,994,145,533.81	56,101,000.00
2007	752	242	50	4	5,168,764,623.61	383,502,131.30
2008	998	49	43	6	154,096,056.92	44,964,689.22
2009	1,008	172	24	7	358,477,229.88	97,177,647.88
2010	1,117	172	41	9	91,935,335.11	91,506,130.37
2011	1,017	107	27	4	8,491,097,372.00	8,233,058,965.92
2012	708	156	26	5	9,232,254,617.14	9,232,245,766.74
2013	1,058	243	57	8	123,710,278.58	54,063,657.58
2014	1,016	392	60	12	209,730,292.41	733,789,810.54
2015	1,518	498	62	7	2,299,771,645.61	1,704,895,470.61
2016	1,569	704	70	11	313,506,703.56	277,418,393.25
2017	1,595	669	55	16	1,383,576,118.88	383,563,841.35
2018	1,653	501	45	24	18,516,414,000.92	18,006,114,000.92
2019	1,934	588	105	25	81,230,558,127.66	45,122,181,498.66
2020	1,364	357	73	26	82,576,924,172.00	70,370,818,302.05
TOTAL	18,084	5,145	780	171	214,144,962,108.09	154,791,401,306.39

SOURCE: Compendium of cases compiled by ICPC for the period of 15 years (2006 -2020)and obtained by the Researcher (2021).

Table 2: LOG DATA FOR ANALYSIS

	NOPR	NOCS	LOGVAP	LOGVAR
Mean	1205.600	11.40000	9.294797	8.961990
Median	1058.000	8.000000	9.361685	8.583838
Maximum	1934.000	26.00000	10.91686	10.84739
Minimum	708.0000	4.000000	7.963482	7.652872
Std. Dev.	373.9236	7.716402	0.996810	1.111357
Skewness	0.407495	0.995565	0.206338	0.406633

Kurtosis	2.020078	2.484928	1.810807	1.750116
Jarque-Bera	1.015285	2.643685	0.990301	1.389758
Probability	0.601913	0.266644	0.609479	0.499135
Sum	18084.00	171.0000	139.4220	134.4298
Sum Sq. Dev.	1957464.	833.6000	13.91081	17.29160
Observations	15	15	15	15

Source: Computed by Researcher (2021) Using E-View 10

Table 1 above presents the descriptive statistics of the Effects of Forensic Accounting Investigation on Public Sector Financial Crimes in Nigeriaduring the period of 2006 to 2020. Table 2 shows that NoPR has a mean value of 125.6 with a standard deviation of 373.92 and the minimum and maximum values of 708 and 1934 respectively. Although the range between the minimum and maximum is wide, it implies a stable performance as the standard deviation indicated that there is no wide dispersion of the data from the mean value. For the other measure of financial crimes, LogVAP the table shows a mean value of 9.295 with standard deviation of 0.997 and the minimum and maximum values of 7.963 and 10.917 respectively. This implies that the financial crimes in terms of Value of Assets in Petition witnessed minimal fluctuations from the mean during the study period, as the standard deviation is small compared to the mean, together with the wide range between the minimum and maximum values. Also, the mean values for Number of Convictions Secured (NoCS) and Value of Assets Recovered (VAR) are 11.4 and 8.962 respectively. The standard deviation values shown on table 1 indicate the dispersion or spread in the data series. The higher the value of the standard deviation, the wider the deviation of the series from its mean. Similarly, the smaller the value of the standard deviation, the lower the deviation of the series from its mean. The variable with the highest degree of dispersion from the mean among the independent variable is the Number of Cases/Convictions Secured.

Skewness which measures the shape of the distribution and equally shows the measure of the symmetry of the data set, indicated that NoPR, NCS, LogVAP and LogVAR are all positively skewed and have values greater than zero which suggest that the distribution tails to the right-hand side of the mean. Kurtosis value measures the peakness and flatness of the distribution of the series. If Kurtosis value is less than 3, it means the distribution of the variable is normal, but when it is more than 3, the distribution of the variable is said to be abnormal. Variables with value of kurtosis less than three are called platykurtic (fat or short-tailed) and all variable qualified for this during the study period. On the other hand, variables whose kurtosis values are greater than three are called leptokurtic (slim or long tailed) and none of the variable qualified for this during the study period. The Jarque-Bera statistic is for testing normality of a variable. If the variable is normally distributed, the histogram will be bell-shaped and as such the JarqueBera test of normality is an asymptotic or large-sample test. Jarque-Bera also measures the difference between the Skewness and kurtosis of each of the variables. NoCS has the highest Jarque-Bera value of 2.644, while LogVAP has the lowest Jarque-Bera value of 0.99. The Jarque-Bera for NoPR and LogVAR are 1.02 and 1.39 respectively.

Unit Root Tests

The unit root test is conducted to ascertain the stationarity of the panel data. Regression investigation conducted without subjecting the data to unit root test may be hazardous or spurious because the estimated parameters would be bias and inconsistent. To avoid this, a test was conducted using the Augmented Dickey-Fuller (ADF) statistic to investigate the presence of unit root. The unit root test was conducted on

the assumption of determining the trend and the intercept. All the variables are at first difference or transformed to order 1 except NoCS that is at level. The specified variables are NoPR, NoCS, LogVAP and LogVAR. The data used for the computation of the unit root are attached as appendix. The Unit Root hypothesis is stated as follows:

H₀: Panel data contains unit roots

H_a: Panel data are stationary (Does not contain unit roots)

The decision rule is to reject the null if the p-value is less than the critical value at 5% level of significance and to accept the alternative hypothesis. This means that the panel data is stationary and therefore does not contain unit roots. If however the P-value is greater than the critical value at 5% then we have no reason to reject the null hypothesis and reject the alternative signifying the existence of unit roots. The result of the Augmented Dickey-Fuller test conducted on the variables is shown below:

Table 3: SUMMARY OF ADF UNIT ROOTS TEST RESULTS

Variables		P Values	Order
NOPR		0.0067	1(1)
NOCS	-0.0013	1(0)	
LogVAP	0.0046	1(1)	
LogVAR	0.0021	1(1)	

Source: ADF result computed using E-View 10 (2021)

A quick view of the table reveals that all the p-values are less than the critical value at 5%. This suggests that the null hypothesis of panels unit root is rejected with 95 percent confidence level. Thus, the panels do not contain unit roots and all the variables are stationary at level and first difference. This means the data series have been purged of unit root or white noise by taking their first and second difference and they can now be fitted into models stated.

Test of Hypothesis One

H₀₁: Convicted cases have no significant effect on petitions of Bribery and Corruption in Nigerian public sector.

Decision Rule: The decision rule for accepting or rejecting the null hypothesis for any of these tests would be based on the Probability Value (PV) and the Probability (F-statistic). If the PV is less than 5% or 0.05 (that is, if $PV < 0.05$), it implies that the regressor in question is statistically significant at 5% level; and if the PV is more than 5% or 0.05 (that is, if $PV > 0.05$), it is categorized as not significant at that level. This implies that the level of significance for the study is at 5% (for the two-tailed test). Thus, the decision rule for accepting or rejecting the null hypothesis is based on both the Probability Value (PV) and the Probability (F-statistic).

Table 4: OLS REGRESSION ANALYSIS MODEL ONE

Dependent Variable: NOPR

Method: Least Squares

Date: 07/26/21 Time: 14:08

Sample: 2006 2020

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	787.9273	119.8144	6.576230	0.0000
NOCS	36.63796	8.796263	4.165173	0.0011
R-squared	0.571645	Mean dependent var		1205.600

Adjusted R-squared	0.538695	S.D. dependent var	373.9236
S.E. of regression	253.9669	Akaike info criterion	14.03585
Sum squared resid	838489.1	Schwarz criterion	14.13026
Log likelihood	-103.2689	Hannan-Quinn criter.	14.03484
F-statistic	17.34867	Durbin-Watson stat	1.884729
Prob(F-statistic)	0.001109		

Source: Computed by Researcher (2021) Using E-View 10

From table 3 above, the coefficient of determinations (R^2) is 0.572. This indicates that about 57.2% of the total variations in the Number of Petition on Bribery and Corruption cases is explained by the variations in the independent variable of Number of Convictions Secured while the remaining 42.8% of the variation in the model is captured by the error term. The adjusted R^2 is 53.87%. The standard error test is applied in order to measure the size of the error and determine the degree of confidence in the validity of the estimates. Usually if the standard error is smaller than half the numerical value of the parameter estimate, it can be concluded that the estimate is statistically significant. Having carried out a standard error test on the parameters estimated and as also indicated by the probability value, the parameter estimate for Number of Cases Convicted is statistically significant given that the probability is 0.0011 which is less than 5%. We therefore reject the null hypothesis which states that Convicted cases have no significant effect on petitions of Bribery and Corruption in Nigerian public sector and accept the alternative hypothesis.

Test of Hypothesis Two

Table 5: OLS REGRESSION ANALYSIS: MODEL TWO

Dependent Variable: LOGVAP

Method: Least Squares

Date: 07/26/21 Time: 14:10

Sample: 2006 2020

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob
				.
				0.058
C	2.369694	1.140038	2.078608	0
LOGVAR	0.772719	0.126305	6.117884	0.000
				0
R-squared	0.742209	Mean dependent var		9.29479
				7
Adjusted R-squared	0.722379	S.D. dependent var		0.99681
				0
S.E. of regression	0.525216	Akaike info criterion		1.67355
				3
Sum squared resid	3.586078	Schwarz criterion		1.76795
				9
Log likelihood	-10.55165	Hannan-Quinn criter.		1.67254
				7

F-statistic	37.42851	Durbin-Watson stat	1.83752
Prob(F-statistic)	0.000037		5

SOURCE: Computed by Researcher (2021) Using E-View 10

Table 5 above shows the coefficient of determinations (R^2) is 0.7422. This indicates that about 74.22% of the total variations in the Value of Assets on Petition for Bribery and Corruption is explained by the variations in the independent variable of Value of Assets of Recovered while the remaining 25.78% of the variation in the model is captured by the error term. The adjusted R^2 is 72.24%. The probability value of the variables under consideration is 0.0000. This is less than the critical value of 0.05%. Based on the predetermined decision rule we have to reject the null hypothesis which states that Funds recovered through Systems Study has no significant effect on value of bribery and corruption cases in Nigeria public sector. The alternative hypothesis is therefore accepted.

Discussion of Findings

The findings in model oneshows empirically that forensic accounting investigation (proxied by convictions secured on bribery and corruption) has significant effect on the financial crimes in the public sector in Nigeria is in agreement with a number of other researchers. The result depicts more convictions of bribery and corruption cases would drastically reduce financial crime in Nigeria Public sector. In order words, the higher the convictions the lower or lesser cases of bribery and corruption in Nigeria public sector.

The study agrees with the findings and recommendations of Dada & Jimoh, 2020, Safiyanu, Saifullahi & Armaya'u, 2019, Olukayode, 2018, and Anuolam, Onyema & Ekeke, 2017, that forensic accounting and litigation support services should be adopted in the fight against public sector financial crimes in Nigeria. However, the researcher negates the position of Edheku & Akpoveta, 2020 on the establishment of an independent forensic accounting agency with legal provisions that will enable them to detect, monitor and report fraudulent activities in the business environment in Nigeria.

CONCLUSION AND RECOMMENDATIONS

The study reveals that forensic accounting investigation has effect on public sector financial crime in Nigeria through conviction secured and value of assets recovered. It was observed that Forensic Accounting Litigation Services (conviction of bribery and corruption cases) and Non-Litigation Services (value of assets recovered on petitions) are important forensic accounting investigation tools with strong efficacy on public sector financial crimes in Nigeria. Hence, forensic accounting investigation is one of the most powerful tools in the fight against public sector financial crimes in Nigeria. Therefore, the Independent Corrupt Practices and other Related Offences Commission (ICPC) and other Anti-graft Agencies are to deploy more of the forensic accounting investigation skills in the fight against public sector financial crimes. From the results of the study, forensic accounting investigation has impacted significantly on the public sector financial crimes. This corroborated the reviewed and existing literature associated with this study. Therefore, the study has contributed to the research effort at empirical measure of the effect of forensic accounting investigation on public sector financial crimes in Nigeria. Data analysis revealed that a relationship exists between forensic accounting investigation and public sector financial crimes in Nigeria. The study concludes that with more application of forensic accounting investigation skills, public sector financial crimes in Nigeria will be drastically be eliminated. In order to expose the criminals and their antics, hold them accountable, stripped them of looted funds, as well as being able to get them convicted in the courts of law, the following suggestions or recommendations are put forward:

- i. The ICPC and other Anti-graft Agencies should deploy more of forensic accounting skills in the investigation of financial crimes in Nigeria so as to be able to come up with evidences that will be supportive in prosecution of corruption cases in courts.

- ii. The application and use of forensic accounting litigation and non-litigation services in the fight against public sector financial crimes in Nigeria should be encouraged. Apart from convicting criminals of financial crimes, it will not only strip the looters, but helps in recovering the looted funds and ploughing same into the economy.

REFERENCES

- Abdullahi, R. & Mansor, N. (2015). Concomitant Debacle of Fraud Incidences in the Nigeria Public Sector: Understanding the Power of Fraud Triangle Theory. *International Journal of Academic Research in Business and Social Sciences*, 5(5), 312- 326.
- Abdullahi, R. & Mansor, N. (2015). Forensic Accounting and Fraud Risk Factors: The Influence of Fraud Diamond Theory. *The American Journal of Innovative Research and Applied Sciences*. 1(5),186-192.
- Akintoye, I.R. (2008). The basis of environmental and forensic accounting, Akoka-Yaba: Unique Educational Publishers.
- Albrecht, W. S., Albrecht, C. & Albrecht, C. C. (2008). Current Trends in Fraud and its Detection: A Global Perspective. *Information Security Journal*, 17(4), 125-129.
- Anuolam O. M., Onyema T.E. & Ekeke U. (2017). Forensic Accounting and Financial Crisis in Nigeria. *West African Journal of Industrial and Academic Research*, 17(1), 126-132
- Koh, A. N., Arokiasamy, L. & Cristal L. S. (2009). Forensic Accounting: Public Acceptance towards Occurrence of Fraud Detection. *International Journal of Business and Management*, 4(11), 145.
- Bolgna, G & Lindquist, R. (1995). *Fraud Auditing and Forensic Accounting: New Tools and Technique*. 2nd Ed. New York, NY: John Wiley & Sons.
- Bronner (2014)
- Cleen Foundation, (2010), "Governance Challenges and Corruption". Retrieved on July 13, 2021. From: <https://www.Cleen.Org/Corruption%20and%20Challenges%20i...> (accesse).
- Dada, S. O. & Jimoh, F. B. (2020) Forensic Accounting and Financial Crimes in Nigerian Public Sector. *Journal of Accounting and Taxation*, 12(4), 118-125.
- Edheku, O. J. & Akpoveta, O. A. (2020). Forensic Accounting and Fraud Detection in Public and Private Sectors in Abuja Metropolis, Nigeria. *International Scholars Journal of Arts and Social Science Research*, 2(5), 60-68.
- Ehioghien E. E. & Atu O. K. (2016). Forensic accounting and fraud management: Evidence from Nigeria. *Igbinedion University Journal of Accounting* 2:248-308
- Garoupa, N., Ogus, A., & Sanders, A. (2011). The Investigation and Prosecution of Regulatory Offences: Is There an Economic Case for Integration? *Cambridge Law Journal*, 70(1), 229-259.
- Golden T. W., Skalak, S. L. & Clayton, M. M. (2006). *A Guide to Forensic Accounting Investigation*. Wiley Publishers.
- Gottschalk P (2010). Prevention of white-collar crime: The role of accounting. *Journal of Forensic and Investigative Accounting*, 3(1), 23-48.

- Howard S. & Sheetz, M. (2006). *Forensic Accounting and Fraud Investigation for Non-Experts*. Wiley Publishers.
- Keeper, D. G. (2012). "Systemic Corruption in Nigeria: A Threat to Sustainable Development" Proceedings of the 1st International Technology, Education, Environment Conference, *Journal of African Society for Scientific Research* 1(1) 172-179.
- Manning, G. A. (2010). *Financial investigation and forensic accounting*. New York: CRC Press.
- Mukoro D. (2013), The Role of forensic accountants in Fraud Detection And National security in Nigeria. (17), 90-106.
- Nelken, D. & Levi, M. (1996). The Corruption of Politics and Politics of corruption> An Overview. *Journal of Law and Society*, 23 (1) 1-17
- Nurudeen A. & Marcin W. S. (2019) Determinants of corruption in Nigeria: evidence from various estimation techniques, *Economic Research Ekonomiska Istraživanja*, 32(1), 3058-3082.
- Nye, J. S. (1967). *Corruption and Political Development: A Cost-Benefit Analysis*. Cambridge University Press, 61(2), 417-427.
- Madu, C. I. & Odimegwa, C.G. (2015). Use of Forensic Accounting Techniques in the Detection of Fraud in Tertiary Institutions in Anambra State, Nigeria. *African Research Review*, 12(1), 66-76.
- Onodi B. E., Okafor T. G, Onyali CI (2015). The impact of forensic investigative methods on corporate fraud deterrence in banks in Nigeria. *European Journal of Accounting, Auditing and Finance* 3(4):69-85.
- Otite, O, (2000), "Corruption against the Norms of African Life" in Femi, O. (ed.) *Efficient and Effective Execution of Nigeria's Current Anti-Corruption Law*, Abuja.
- Oyedokun, G. E. (2013). *Audit, investigation and forensic accounting: Similarities and differences*. Being a lecture delivered at the Institute of Chartered Accountants of Nigeria's forensic accounting certification programme.
- Ozkul, F. U. & Pamukc, A. (2012). *Fraud detection and forensic accounting*, Istanbul, Turkey.
- Rothberg, A. F. (2012). *Forensic Accounting and Litigation Support*. Retrieved on July 13, 2021. From: [https://www.cfoedge.com/blog/controls/forensic-accounting-and-litigation support/](https://www.cfoedge.com/blog/controls/forensic-accounting-and-litigation-support/)
- Oworoji, A. A., & Asaolu, T. O. (2009). The Role of Forensic Accounting in Solving the Vexed Problem of Corporate World". *European Journal of Scientific Research* 29(2).
- Stanbury, J. & Paley Menzies, C. (2010). *Forensic futurama: why forensic accounting is evolving*. Retrieved on July 13, 2021. From: <https://www.aicpa.org/Publications/Newsletter/AICPAInsider/2010/jun28>.
- Sorunke, O. A. (2018) Forensic Accounting Investigation Techniques and Successful Prosecution of Corruption Cases in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 8(3), 37-44.

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- Udofia.A. (2020).The Impact of System Reviews and Risk Assessments on Corruption Prevention. ICPC and the War Against Corruption in Nigeria. Reflection for the New Vision.
- Wokekoro, H.A., Ajie, (2012), “The Effect of Corruption on Sustainable Development in Nigeria”, *International Journal of Economic Investment and Development Research*, 3(1) , 12-16
- Wolfe, D., & Hermanson, D. R. (2004). The fraud diamond: Considering four elements of fraud. *Critical Perspective on Accounting Journal*, 74 (12), 38-42.
- Zysman, A. (2010). Forensic accounting Demystified, World investigators network standard Practice for investigative and forensic accounting engagements. Chartered Accountant: Canadian Institute.

