

EFFECT OF FORENSIC ANALYSIS ON TAX FRAUDS ON OIL COMPANIES IN NIGERIA

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Abstract

The primary objective of this study is: to evaluate the effect of forensic analysis on the level of tax fraud prevention of oil companies in Nigeria. In doing this, the study focused on oil companies that are listed in the NSE as the year ended 2021. This study purposively selected ten (10) oil companies operational in Nigeria for a period of ten years, that is, 2012-2021. A multi-regression analysis of panel data was used as the analysis tool which reveals that forensic audit and litigation has no significant effect on tax frauds prevention in oil companies in Nigeria. However, the study clearly concludes that forensic analysis can positively influence tax fraud prevention even though it is not significant at this point in time. Based on this therefore this study recommends that they should be a better regulatory oversight by the government relevant agencies in order to ensure continued safeguard of government's interest.

Keywords: Forensic analysis, forensic audit, forensic litigation, tax fraud

1.0 BACKGROUND

Financial ingenuity and frauds activities among others have been one of the most popular problems facing businesses. Fraudulent practices and corruption seem to be a global threat that affects the economies of nations and the societies where they exist. This has made it subjects of continuous deliberations, discussions and analysis in literatures as the cause of retrogression of developing countries like Nigeria. Economic, financial and related crimes are believed to be the fundamental challenge to the economy as they have negative impact on its growth and development. These frauds are common public sectors and big enterprises like multinational companies, financial institutions, among others. Fraudulent activities and financial crimes include bribery, embezzlement, oil bunkering, looting, tax frauds, money laundering and foreign exchange malpractice (Kolawole, Salman, Durodola, Babatunde & Igbekoyi 2018).

In order to reduce these noticeable frauds and other financial crimes, the idea of forensic analysis was introduced. The forensic analysis investigates into legal and financial documents with the aim to detecting frauds and where necessary prevents their recurrence. The techniques used in forensic analysis include: forensic fraud preventions, detections and deterrence; forensic auditing, investigation and interviewing, forensic litigations, mediations and arbitrations and; computer assisted document reviews. In an attempt to find a solution to resultant economic woes in Nigeria due to mono-economy nature and over reliance on proceeds from crude, the federal government decided to focus on increasing revenue from other sources such as increasing the tax net and tax administration through

forensic analysis companies operating in the country. The seemingly fraudulent activities perpetrated companies especially in areas of tax returns and tax avoidance have likely negatively affects the tax revenue projection which therefore necessitates the focus on tax fraud preventions.

Oil companies in Nigeria are one of the companies with enormous resources and assets bases with huge economic activities going on in the country in the areas of exploration and exportation/importation of crude oil products and as such are huge tax payers in the country. The tax return from the companies contribute significantly to the revenue accrued to the government and therefore requires scientific analysis to ensure that there are no frauds in the level and extent of their activities. It is against this backdrop, this study seek to consider the effect of the forensic analysis of government on the tax returns of the oil companies in Nigeria.

Statement of the Problem

There is a widespread nature and increasing dynamics in tax fraud especially in the areas of tax return and these have combined to making reliance on conventional or traditional auditing tool grossly insufficient to address the overwhelming challenges. Oil and gas is a big business in Nigeria as it accounts for over 70% of its foreign earnings and therefore, the chances are also high that tax revenue from the companies in that sector if adequately returned will also be huge (Chepngeno & Fred 2020). However, it was noticed by the federal government that tax return of the oil companies does not commensurate with the expected tax revenue and therefore the needs for forensic analysis into the books of the company to investigate their level and extent of tax returns. Based on this, the problem identified by this study is to consider whether government forensic analysis has had any impact on the level of tax fraud prevention of oil companies operating in Nigeria. Consequently, this study targets addressing this identified gap by considering the following questions:

- i. What is the effect of forensic audit on tax frauds of listed oil companies operating in Nigeria?
- ii. What is the effect of forensic litigations on tax frauds of listed oil companies operating in Nigeria?

Objectives of the Study

The primary aim of this study is to: evaluate the effect of forensic analysis on the level of tax fraud prevention of oil companies in operating Nigeria. The specific objectives of the study are to:

- i. determine the effects of forensic audit on tax frauds of listed oil companies operating in Nigeria
- ii. determine the effects of forensic litigations on tax frauds of listed oil companies operating in Nigeria

2.0 CONCEPTUAL EXPLORATION

The concepts reviewed by the study include forensic accounting and tax frauds

Forensic Accounting

Al-Sharaiyi (2018) defines forensic accounting as the utilization of specialized skills and knowledge to explore the evidence of economic transaction. Anuolam, Onyema and Ekeke (2017) opined that forensic accounting include the process of summarizing, interpreting and presenting complex financial situations succinctly, clearly and factually, particularly in the legal jurisdiction as expert. It concerns itself with the utilization of accounting disciplines to facilitate the determination of issue of fact in business litigations (Ehioghiren & Atu, 2016). Furthermore, Association of Certified Fraud Examiners (ACFE) see forensic accounting as the use of specific skills in potential, real criminal or civil disputes, that include generally accepted auditing and accounting principles; establishing profits or losses, property, damage or income, estimation of internal controls, frauds and other related matter that involves inclusion of accounting skills into legal system (cited in Kolawole *et al.* (2018). This indicates that forensic accounting technique could be used to investigate and detect a crime in order to reveal all the attending attributes and identify the culprit(s).

Forensic accounting is seen as the applications of analytical and investigative skills for the sole purpose of solving financial issue in the manner that meet the required standards given by the legal instrument (Abdulrahman, 2019). According to this study therefore, forensic accounting is also described as an amalgamation of forensic accounting and science that uses the application of auditing, accounting, analytical and investigative skills in resolving financial distortions in the required manner according to existing legal framework.

Tax Fraud

Tax fraud is naturally very difficult to conceptualize or measure in organizations. Although tax administration usually presents estimation of the level of fraud, the approaches utilized are scarcely declared, vary widely, and some time even unsuitable (Okoye, 2017). Tax fraud is defined as that behaviour that is aimed at gaining an unlawful tax advantages and / or causing un-lawful tax negativity. The means of gaining such advantages usually vary, as do also the potential cost yielding from the fraud (Feria, 2020). To this extent, there is often the inability to understand the complexity of the phenomenon that then reflected in the insufficiency of any measure adopted to control it. Tax fraud involves evasion and organized fraud. Evasion results from either temporary time crimes or informality, and can be seen as a deliberate concealment, omissions or misrepresentations of the information in order to reduce the tax liability (Gemmel & Hasseltine, 2014). However, organized fraud involves a systematic and coordinated action, with various degree of level of sophistication and organization, targeted towards gaining unlawful tax financial advantages (Okoye & Ndah 2019).

Tax evasions tend to be perpetuated by small and medium companies or enterprises, operating at local or national level – although not exclusively limited – who normally take advantage of the nation’s administrative limitation and distinction in the tax base (Feria, 2020). Organized fraud on the other hand which is the focus of this study tends to be perpetuated by large companies with their allies (criminal gangs) operating at multinational or transnational level, who take advantage of the system and/or tax authorities’ enforcement limitation regarding the cross-border trades (Okpala, 2019).

These two categories of tax fraud as highlighted also gives rise to different types of cost burden to the nation. Organized fraud more often than not tends to result in higher level of revenue losses and subsidy to organized fraud networks, whereas evasions tend to have significant impact in the areas of tax inequality and creating an unequal playing ground for the tax payers (Feria, 2020).

3.0 LITERATURE REVIEW

Okoye (2019) assessed the forensic analysis as it impacts fraud prevention and detection in the operations of selected deposit money banks in Nigeria. It was revealed that forensic analysis has statistically positive relationship with fraud prevention and detection. It is therefore important to ensure that fraud investigations are always followed with forensic skills legally in order to deter frauds. Similarly, Ukoma and Azikiwe (2019) and Amake and Ikathua, (2016) also found that forensic investigation and accounting deters fraudulent activities in firms and organization that effectively deploy the techniques.

Dada and Audu (2021) found that forensic analysis had significant positive effects on tax fraud prevention. Also, Al-Sharairi (2018) indicated that forensic accounting emanated as a way of determining and investigating fraud related matters, inclusive of tax fraud and tax evasion. Aduwo (2016) posited that it is a skill to assist and aid reduction in tax fraudulent activities during tax returns which reduces the collection in tax revenues that impaired on economic, social and infrastructural growth. Regularly, various forms of tax frauds, corruptions and sharp practices occurred on tax matters without notice, detection or even investigation, affect the system.

Henry and Ganiyu (2017) carryout investigation into the impact of forensic accounting on frauds reduction in selected banks in Nigeria with a particular focus on certain risk areas such as loans processing and management of foreign exchange. Data obtained through well-structured questionnaire and analyzed with the aid of correlation regression tool reveals that the adoption of forensic accounting styles has aided a significant reduction of incidences of fraud.

Chepngeno and Fred (2020) that evaluated impact of litigations support services on frauds mitigation measure taken by listed organizations on the Stock Exchange of Kenya. The study indicated a positive and direct linkage between the rendition of litigations support services and mitigation of fraud successfully among the entities. Okoye and Ndah (2019) explored the relationship between forensic accounting and frauds prevention in manufacturing companies operating in Nigeria. Okoye and Ndah (2019) utilized regression model and revealed that the adoptions of forensic accounting practices has significantly aided and supported the prevention of frauds in the outfits.

From the literature reviewed, it is indicated that none of the studies focused on oil companies in Nigeria despite the great importance this multinational companies hold in terms revenue generation through tax. It is also observed the literatures utilized primary data which were gathered through questionnaire which often than not subjective and do not absolutely reveal a verifiable through picture of tax fraud and its relationship with forensic analysis. It is the following gaps in knowledge in terms of methodology and domain that this study seek to cover

4.0 METHODOLOGY

In this study, the focus on oil companies that are listed in the NSE as the year ended 2021. The study purposively selected ten (10) oil companies operational in Nigeria for a period of ten years, that is, 2012-2021. The audited annual financial statement of the companies were sorted to source for the data required. A multi-regression analysis of panel data was used as the analysis tool. The panel data regression methodology was chosen because of the cross-sectional and time series data used in this study.

Hypotheses and Variables Measurement

H₀₁: Forensic audit has no significant positive effect on tax frauds prevention in oil companies in Nigeria

H₀₂: Forensic litigations has no significant positive effect on tax frauds prevention in oil companies in Nigeria

Based on the hypotheses of this study, the model specification is as presented below:

$$TF_{it} = \alpha + \beta_1 FA_{it} + \beta_2 FL_{it} + eit \quad \dots \dots \dots (1)$$

Where: TF = tax fraud prevention; FA = forensic audit; FL = forensic litigation; α = intercept; β_1 and β_2 = coefficient of FA and FL; e = error term; i = no of companies (i = 10) and; t = number of years (t = 10 years)

The variables' measurement is as presented in the table 1 below:

Table 1: Variables and Measurement

Variable		Definitions	Measurement	Source
Dependent Variable	TF	Tax Fraud	It is measured by the ratio tax to gross profit	Dada, J and Audu, M (2021)
Independent Variables	FA	forensic audit	Binary measure: "1" if there is FA and "0" if otherwise	Chepngeno K.F., and Fred S. (2020)
	FL	forensic litigation	Binary measure: "1" if there is FL and "0" if otherwise	Chepngeno K.F., and Fred S. (2020)

Source: Researcher's (2022)

5.0 RESULTS PRESENTATION AND DISCUSSION

In order to test the hypotheses of this study, the results were obtained from multiple linear regression analysis by using STATA version 13. The result is presented in table 2:

Table 2: Panel Multiple Regression Result

Variables		coefficient	Stderr.	T	P-value	Decision
Constants		0.1031	0.0119	8.64	0.000	
FA		0.0128	0.0128	1.10	0.305	H ₀₁ = accepted
FI		0.0141	0.0125	1.03	0.272	H ₀₂ = accepted
Adjusted R ²	-0.0071					
F-stat	0.65					
p-value	0.5243					
R	0.0132					

Source: Researcher's, (2022)

The results of the random effect model shown in table 2 indicate that the overall coefficient of determination R² is 0.0132 which means that the predictor variables explained 1.32% of the variations in the outcome variable. This is an indication that there is a very weak relationship between the outcome variables, tax fraud prevention and predictor variables (forensic audit and forensic litigation) in the oil companies in Nigeria. The value of adjusted R² was peg at -0.0071 which implies that the study explanatory variables (forensic audit and forensic litigation) jointly explain the outcome variable (tax fraud prevention) by 0.7%. The results further show that F= 0.65 and p-value = 0.5243 which is greater than 5% conventional level. This indicates that the overall model is not statistically significant.

Hypothesis One

H₀₁: Forensic audit has no significant positive effect on tax frauds prevention in oil companies in Nigeria

The result from table 2 shows that the coefficient of forensic audit has no significant effect on tax frauds prevention in oil companies in Nigeria. This is indicated by the p-value 0.305 which is greater than 0.05 significant level. The study therefore infers that forensic audit has positive but insignificant effect on tax frauds prevention in oil companies in Nigeria. Hence based on the above the study accepts the null hypothesis which states that “Forensic audit has no significant positive effect on tax frauds prevention in oil companies in Nigeria”. This finding agrees with the findings of Ukoma and Azikiwe (2019) and Adegbite, Oyebamiji and Oyedokun (2019) who also found that forensic investigation and accounting deters fraudulent activities in firms and organization that effectively deploy the techniques. However, the finding which depict insignificant relationship disagree with Dada and Adu (2021) that posit forensic analysis had a significant positive effect on tax fraud prevention. Also, Al-Sharairi (2018) indicated that forensic accounting emanated as a way of determining and investigating fraud related matters, inclusive of tax fraud and tax evasion.

H₀₂: Forensic litigations has no significant positive effect on tax frauds prevention in oil companies in Nigeria

The result from table 2 shows that the coefficient of forensic litigation has no significant effect on tax frauds prevention in oil companies in Nigeria. This is indicated by the p-value 0.272 which is greater than 0.05 significant level. The study therefore infers that forensic litigation has positive but insignificant effect on tax frauds prevention in oil companies in Nigeria. Hence based on the above the study accepts the null hypothesis which states that “Forensic litigation has no significant positive effect on tax frauds prevention in oil companies in Nigeria”. This finding partially agrees with the findings Chepngeno and Fred (2020) that indicated a positive and direct linkage between the rendition of litigation support services and mitigation of frauds successfully among the entities. However, this study completely disagrees with the finding of Okoye and Ndah (2019) that reveal a strong relationship between forensic accounting and fraud prevention in manufacturing companies in Nigeria.

6.0 CONCLUSION AND RECOMMENDATIONS

This study that examines the effect of forensic analysis on tax fraud prevention in oil companies in Nigeria reveals that forensic audit and litigation has no significant effect on tax frauds prevention in oil companies in Nigeria. However, the study clearly reveals that forensic analysis can positively influence tax fraud prevention eventhough it is not significant at this point in time. Based on this therefore, this study recommends that: Firstly, they should be an improved regulatory oversight on the part of the government relevant agencies to ensure continued safeguard of government’ interest. Secondly, this study recommends that the training of forensic authorities be further strengthened so as to improve their proficiency in forensic accounting. Thirdly, it also recommends the retention of the services of forensic accountants on a permanent basis as well as regular investigation and prosecution of fraudulent activities to deter future tax frauds. Finally, this study recommends the need to establish detailed guidelines and standards to strengthen the practices and adoptions of forensic analysis in the oil sector in Nigeria.

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Appendix

A. Companies selected for the study

Company	Year	Id	TR	FA	FL
Addax	2012	1	0.097753	0	1
Addax	2013	1	0.104636	0	1
Addax	2014	1	0.079655	0	1
Addax	2015	1	0.089174	1	0
Addax	2016	1	0.109378	1	0
Addax	2017	1	0.178377	1	0
Addax	2018	1	0.06718	1	0
Addax	2019	1	0.180283	1	0
Addax	2020	1	0.095617	0	1
Addax	2021	1	0.089762	0	0
Chevron	2012	2	0.083801	0	1
Chevron	2013	2	0.109676	0	1
Chevron	2014	2	0.092453	0	1
Chevron	2015	2	0.089078	1	0
Chevron	2016	2	0.108976	1	0
Chevron	2017	2	0.083575	1	0
Chevron	2018	2	0.099467	1	0
Chevron	2019	2	0.10765	1	1
Chevron	2020	2	0.095679	0	0
Chevron	2021	2	0.089632	0	0
Equinor	2012	3	0.097165	0	1
Equinor	2013	3	0.083458	0	1
Equinor	2014	3	0.094569	0	1
Equinor	2015	3	0.080562	1	0
Equinor	2016	3	0.094568	1	0
Equinor	2017	3	0.107654	1	0
Equinor	2018	3	0.119765	1	0
Equinor	2019	3	0.164256	1	0
Equinor	2020	3	0.198983	0	1
Equinor	2021	3	0.157867	0	0
ExxonMobil	2012	4	0.109777	0	1
ExxonMobil	2013	4	0.095446	0	1
ExxonMobil	2014	4	0.107896	0	1
ExxonMobil	2015	4	0.108964	1	0
ExxonMobil	2016	4	0.095678	1	0
ExxonMobil	2017	4	0.095751	1	0

ExxonMobil	2018	4	0.105423	1	0
ExxonMobil	2019	4	0.109997	1	0
ExxonMobil	2020	4	0.098437	1	0
ExxonMobil	2021	4	0.09479	1	0
Nexen	2012	5	0.105789	0	1
Nexen	2013	5	0.098429	0	1
Nexen	2014	5	0.078936	0	1
Nexen	2015	5	0.169754	1	1
Nexen	2016	5	0.128827	1	0
Nexen	2017	5	0.208767	1	0
Nexen	2018	5	0.17865	1	0
Nexen	2019	5	0.09725	1	0
Nexen	2020	5	0.089354	0	0
Nexen	2021	5	0.091846	0	1
NAOC	2012	6	0.128635	0	1
NAOC	2013	6	0.102228	0	1
NAOC	2014	6	0.096643	0	1
NAOC	2015	6	0.179971	1	0
NAOC	2016	6	0.091428	1	0
NAOC	2017	6	0.100922	1	0
NAOC	2018	6	0.099876	1	0
NAOC	2019	6	0.08976	1	0
NAOC	2020	6	0.090075	1	0
NAOC	2021	6	0.087976	0	1
NNPC	2012	7	0.094576	1	0
NNPC	2013	7	0.097288	1	0
NNPC	2014	7	0.162839	1	0
NNPC	2015	7	0.136728	1	0
NNPC	2016	7	0.092837	1	0
NNPC	2017	7	0.19389	1	0
NNPC	2018	7	0.119378	1	0
NNPC	2019	7	0.107382	1	0
NNPC	2020	7	0.110896	0	0
NNPC	2021	7	0.100891	0	1
Petrobas	2012	8	0.099675	0	1
Petrobas	2013	8	0.089281	0	1
Petrobas	2014	8	0.130991	0	1
Petrobas	2015	8	0.096453	1	0
Petrobas	2016	8	0.077888	1	0

Petrobas	2017	8	0.096634	1	0
Petrobas	2018	8	0.107891	1	0
Petrobas	2019	8	0.092781	1	0
Petrobas	2020	8	0.189276	0	1
Petrobas	2021	8	0.198276	0	1
Shell	2012	9	0.206083	0	1
Shell	2013	9	0.209173	0	1
Shell	2014	9	0.211074	0	1
Shell	2015	9	0.092453	1	0
Shell	2016	9	0.089078	1	0
Shell	2017	9	0.108976	1	0
Shell	2018	9	0.083575	1	0
Shell	2019	9	0.099467	1	0
Shell	2020	9	0.10765	1	1
Shell	2021	9	0.095679	1	0
Totalenergies	2012	10	0.089632	0	0
Totalenergies	2013	10	0.097165	0	0
Totalenergies	2014	10	0.083458	0	1
Totalenergies	2015	10	0.094569	1	0
Totalenergies	2016	10	0.130991	1	0
Totalenergies	2017	10	0.096453	1	0
Totalenergies	2018	10	0.077888	1	0
Totalenergies	2019	10	0.206083	1	0
Totalenergies	2020	10	0.209173	1	0
Totalenergies	2021	10	0.211074	1	0

B. Stata Output

. reg tr fa fl

Source	SS	df	MS	Number of obs	=	100
Model	.001969756	2	.000984878	F(2, 97)	=	0.65
Residual	.14697639	97	.001515221	Prob > F	=	0.5243
Total	.148946146	99	.001504507	R-squared	=	0.0132
				Adj R-squared	=	-0.0071
				Root MSE	=	.03893

tr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
fa	.0128474	.012461	1.03	0.305	-.0118841	.037579
fl	.014138	.0127987	1.10	0.272	-.011264	.0395399
_cons	.1031779	.0119464	8.64	0.000	.0794675	.1268883