



FRAUD AND BUSINESS CYCLE: EMPIRICAL EVIDENCE FROM FRAUDSTERS AND FRAUD MANAGERS IN NIGERIA

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Abstract:

This paper aims at investigating the link between fraud and business cycle in Nigeria using primary data sourced from questionnaires administered on both fraudsters and fraud managers. This is premised on the ground that Nigeria is in recession and has been recently described as fantastically corrupt. Understanding the link between fraud and economic behaviour would give an in depth understanding of fraud levels in the different phases of the Nigerian economy and would help the fraud management system in Nigeria which is believed to have great consequences on the nation's economy. Our result shows that though there is a significant relationship between fraud and business cycle in Nigeria, the level of fraud committed does not solely depend on either expansion or recession exists in the economy, rather, there is an identified range of fraud that might be increased in adverse economy.

Key words: *fraud, fraudsters, fraud managers, business cycle, Nigeria*

1. Introduction

The change in the economy is a law of life. It has been man's fate throughout the ages, no matter the means by which he makes his living. The economic activities of a country would create some phases in its oscillatory movement from recession to recovery and from depression to boom which is naturally experienced for a period of

time. This change, movement or instability is known as the business cycle. Since fraud borders on financial capital, it is proper to regard it as an economic activity capable of influencing the movement of the economy on its natural oscillatory path of boom and bust. Fraud is an act of deliberate deception with the aim of securing a personal benefit by taking advantage of others. In the simplest thinking it is also known as "stealing by trickery" (Houqe and Monem (2016); Cooray *et al* (In press); Aghion *et al*, (2016); Liu, X. (*In Press*) Rotimi *et al*, (2013)).

Currently there is a major concern on the impact of recessions and expansions on the crime levels in the economic climate. Association of British Insurers (ABI, 2009) has warned that 'fraud thrives in a recession', while Kin *et al* (2016) notes in a slightly different but parallel context that 'chronically high levels of unemployment in certain sectors of the economy, and the existence of a marginalized under-class of individuals and families living in poverty are all conditions which can lead to fraud and can just as easily be found in booming as in contracting economies (see also Paunov, (2016); Vadlamannati (2015); Papageorgiou *et al* (2016); Baldi, *et al* (2016); Jancsics, (2015)). Nigeria is known to be a corrupt country, and is at present facing severe economic recession; and one of the ways to curb the level of corruption is first by understanding the relationship between the fraud levels and the business cycle within the country. There is a common belief that an economic expansion encourages and conceals financial fraud and misrepresentation by firms, which are then revealed by the ensuing bust. This study seeks to examine the relationship between fraud and the business cycle, the extent to which fraud is influenced in an economic boom or bust and the effectiveness of the various anti-graft agencies on fraud management in Nigeria. These would be achieved by answering the following questions: is there a relationship between fraud and business cycle in Nigeria? If there is, to what extent does fraud influences economic boom or bust in Nigeria? And how effective are the various anti-graft agencies on fraud management in Nigeria? The study would be ascertained based on the information gathered from questionnaires administered on 250 fraudsters around Nigeria and 50 fraud managers within Economic and Financial Crime Commission (EFCC), the key law enforcement agency in Nigeria charged with the responsibility of investigating and managing financial crimes such as fraud. This would give an in depth understanding of fraud levels in the different phases of the Nigerian economy and would help the fraud management system in Nigeria which is believed to have great consequences on the nation's economy.

2. Literature review

THE BUSINESS CYCLE: No precise date can be assigned for the first mature expression of the business cycle; this is because the phenomenon developed gradually in the western world through the emergence of the different institutions that carried out diverse economic activities. It appears however, that business cycle has been in existence in the United States, Great Britain, and France for over two hundred

years, and they have marked the economies of other modern nations practicing free enterprise since the latter part of the nineteenth century. Earlier centuries even without the existence of the business cycle did not escape the ordeal of economic instability. This is evident from the hardships frequently accompanied by bad harvests, epidemics, wars, earthquakes, and monetary upheavals, high-handed acts of rulers, civil disorder, and similar fortuitous events (Cole and Ohanian, 1999; Cooley and Hansen, 1995).

Business cycle or trade cycle is a part of the capitalist system. It refers to a phenomenon of cyclical booms and depressions; these are wavelike fluctuations in aggregate employment, income, output and price levels in a business cycle (Alege, 2008). The term business cycle has been defined in many ways by different by different economists.

Lucas (1977) defined business cycle as the recurrent fluctuations of output about a trend and the comovements among other aggregate time series fluctuations are deviations from some slowly varying path. Gordon (1990) defined it as consisting of reoccurring alternation of expansion and contraction in aggregate economic activity, the alternating movements in each direction being self-reinforcing and affects virtually all parts of the economy.

Gali (1999) attributes business cycle to external and internal factor. The external factors includes; sunspots, revolutions, wars, political events, gold discoveries, growth rate of population, migration, discoveries and innovations while the internal factors includes; Bank Credit, Over-Saving or under-Consumption, Over Investment, Competition, Innovation etc. A typical cycle is generally divided into four phases: Expansion or Prosperity or the Upswing; Recession or Upper turning point; Contraction or Depression or Downswing; and Revival or Recovery or Lower turning point (see also Garrison, 1997; Bakus *et al*, 1995; Basu, 1998).

FRAUD: The history of fraud dated back to 300 B.C., when a Greek trader named Hegestratos took out a huge insurance policy well-known as bottomry and deliberately did not want to repay (Andrew 2014). The concept of fraud is chaotic in itself but scholars have expressed their different and significant views on fraud. Hur-Yagba (2003) opined that there is a general consensus among criminologists that fraud is caused by three elements called: Will, Opportunity, Exit (WOE) that is, the will to commit frauds, the opportunity to execute the fraud and the exit which is the escape from law or from punishment. Wells (2011) sees fraud as different from error, which refers to —unintentional misstatement or omissions of amount or disclosures from an entity's accounting records or financial statements.

THE ECONOMIC FINANCIAL CRIMES COMMISSION (EFCC): EFCC was established by Act No. 50 of 2004, and it remains the lead anti-corruption agency in Nigeria. It has the responsibility of the prevention, investigation and prosecution of economic and financial crimes. The operational department in the commission is tasked with the responsibility of investigating economic and financial crimes which is

the core function of the commission as contained in section 6 of the EFCC Establishment Act (2004).

Offences investigated by the commission include:

- Advance Fee Fraud and Other Related Crimes
- Public Sector Corruption and money laundering
- Bank and securities
- Cyber crime
- Illegal oil Bunkering & Pipeline Vandalism
- Procurement Fraud and
- Real Estate Fraud

The table below shows the breakdown and Comparison of major offenses investigated under each category from 2011 - 2014. In 2012, advance fee fraud dominated the crime scene. In that year, the economy expanded by 3.96 percent and many individuals were investing their excess funds into the economy. The year 2013 recorded the highest number of offences, with the offenses committed being up to 4,054 with the highest offence committed being advanced fee fraud. In 2014, advance fee fraud still recorded the highest offence committed in Nigeria. The year 2014 also witness a rise in cyber-crime offences with the influx of technology. In 2014, the economy recorded a great expansion of about 6.21% due to a rebound in oil production. This suggests that there is a relationship between fraud levels and the business cycle and also that certain types of fraud are rampant in an expansionary period (e.g. advance fee fraud) while others during a recession.

Table 1. Percentage distributions of offences reported by the EFCC

S/N	OFFENSE TYPE	2014		2013		2012		2011	
		NO.	%	NO.	%	NO.	%	NO.	%
1	Advanced Fee Fraud and Other Related Offenses	1,910	59.43	2,379	58.68	1,585	58.66	1,386	48.48
2	Public Sector Corruption and Money laundering	594	18.48	621	15.32	700	25.91	872	30.5
3	Bank and Securities Fraud	506	15.74	878	21.66	331	12.25	492	17.21
4	Cyber Crime Offenses	147	4.57	96	2.37	–	–	–	–
5	Illegal Oil Bunkering and Pipeline Vandalization	21	0.65	25	0.62	53	1.96	45	1.57
6	Procurement Fraud	21	0.65	44	1.09	20	0.74	64	2.24
7	Real Estate Fraud	15	0.47	11	0.27	13	0.48	–	–
	TOTAL	3,214	100	4,054	100	2,702	100	2,859	100

SOURCE: EFCC ANNUAL REPORT FOR 2011 – 2014

3. Theoretical framework

THE FRAUD TRIANGLE BY DONALD CRESSEY:

Cressey's Fraud theory explains that the motivation for fraud has three key elements: Pressure, Opportunity and rationalization (Cressey 1953). He observed that individuals commit fraud when these three factors explained below are present.

Pressure/Incentive: Research has observed both business owners and employees at one point or the other are faced with pressure to be fraudulent. The financial pressure becomes more prevalent when the business owner becomes burdened by the dependence of his family livelihood on the success of the business. Cressey submitted that when faced with pressure, economic agents may see fraudulent act as the only alternative route.

Opportunity: This arises from the very structure of an organization. Opportunity can be seen as the ability to commit fraud and not be detected. It has been estimated that 10 per cent of individuals would commit fraud in any situation, 5 per cent would not commit fraud in any situation and the remaining 85 per cent of people would only commit fraud, given the right conditions.

Rationalization: Rationalization is the part of the fraud triangle that is most difficult to measure. Rationalization creates the perception that although the action is not socially acceptable, some unique, extraneous circumstance justifies it.

KEYNESIAN THEORY OF THE BUSINESS CYCLE:

The Keynesian theory of the business (trade) cycle was propounded by J M Keynes in 1883. It is thought to be one of the most provoking theories of the business cycle. Trade cycles are periodic fluctuations of income, output, and employment. Keynes regards the trade cycle as mainly due to a "cyclical change in the marginal efficiency of capital, though complicated and often aggravated by associated changes in the other significant short- period variables of the economic system". According to Keynes, the principal cause of depression and unemployment is the lack of aggregate demand. Revival can be brought about by raising the aggregate demand which, in turn can be raised by increasing consumption and investment. Since consumption is stable during the short run, revival is possible by increasing investment. Similarly, the main cause of the downturn is reduction in investment. Thus in the Keynesian explanation of the trade cycle "the cycle consists primarily of fluctuations in the rate of investment. And fluctuations in the rate of investment are caused mainly by fluctuations in the Marginal Efficiency of Capital". The MEC (marginal efficiency of capital) depends on the supply price of capital assets and their prospective yield. Since the supply price of capital assets is stable in the short run, the MEC is determined by the prospective yield of the capital assets, which, in turn, depends on the business expectations. Fluctuations in the rate of investment are also caused by fluctuations in the rate of interest. But Keynes gives more importance to fluctuations in the MEC as the principal cause of

cyclical fluctuations (see Carmichael *et al*, (1991); Char *et al*, (1994); Bergoing and Soto, (2012)).

4. Empirical evidence

Different authors have different views on fraud and the business cycle. For instance, Povel and Winton (2007) found that the incidence of fraud does not always respond as expected to change in the circumstance. While it is natural to assume that improved business conditions lead to less fraud and reduced cost of monitoring also lead to less fraud, the opposite might also apply.

A research carried out by Dzhumashev (2013) observed that the interaction between corruption and governance shapes the efficiency of public spending which in turn determines the growth effects of corruption; this implies that a growth-maximizing level of corruption is possible. He also found that the incidence of corruption declines with economic development due to the rising of the wage rates and the private rent seeking costs thereby discouraging corruption.

For Pakistan, Abdul *et al*. (2013) used structural break unit root test to analyze time series data over the period of 1987-2009 and observed that corruption impedes economic growth and trade openness in Pakistan (see also Keith and Gonzalo (2010); Shrabani and Rukmani (2012); Cerro and Michel (2012); Paul and Kristoufek (2015); Li, Xiao and Gong (2015); Gills (2011a and b)).

Goulas and Zervoyianni (2015) carried out a research to find out if an asymmetric relationship existed between economic growth and crime by examining the relationship between crime and per capita growth in a panel of 26 countries for 1995-2009, and found that growth effect of crime is strongly asymmetrical in that the state of the economy matters. They also found that crime does not seem to be harmful to growth when economic conditions are sufficiently satisfactory but reduces growth mainly in times of unfavorable conditions.

Augustine, Dunne and Pieroni (2016) after developing an estimable model to investigate empirically how interaction between corruption and government spending together with the quality of institutions help to explain the variance in growth rate across sample countries observed that, a negative effect exist between corruption and spending. They also found that through complimentary and indirect effect, corruption interacts with military burden to further increase its negative effect. This implied that the effect of corruption on economic growth is high in countries with high military growth.

Kin *et al*, 2016 developed a multi-class financial misstatement detection models to detect misstatements with fraud intentions based on Hennes, Leonen and Miller (2008) model. The authors undertook a cost sensitive learning using metacost and three multiclass classifiers Multinomial Logistic Regression, Support Vector Machine and Bayesian Networks to serve as predictive tools to detect and classify misstatements based on the presence of fraud intention. The authors observed that

understanding and detecting fraud intention is a crucial step towards preventing misstatements effectively.

Luo and Han (2009) examined the impact of graft in emerging economies with focus on the behavior of graft engaging firms. The author built their study on the logic of organizational ecology and envisaged that firms that engages in graft are influenced by its (i) institutional structure such as public ownership, foreign ownership and government ownership; (ii) Market orientation which could be foreign vs local markets; and (iii) firm capacities. Based on World Bank data from 1782 firms in China, Brazil, Poland and South Africa, the study observed that a firm's engagement in graft is at least in part, an organizational phenomenon influenced by the firms founding conditions, required legitimization in the market and capacity.

Carson and Prado (2016) observed that institutional multiplicity is a key strategy to deal with corruption on a structural platform as it allows for creation of new institutions without dismantling the existing ones, and possesses the potential resistance to political pressure. The study supports its claims with evidence from Brazil's anti-corruption crusade which is based on institutional multiplicity in the Brazil's accountability system (see also Sundstrom, (2016); Vadlamannti, (2015); Liu, (In Press)).

For Myanmar, Soans and Abe (2016) observed that firms with higher ability to pay (proxy by Sales revenue and employee growth) are more likely to pay bribes than firms with lower refusal power. The study went further to inquire whether or not bribes acts as efficiency grease by allowing firms to circumvent red tape. It was observed that no evidence abound to support the hypothesis, as evidence shows that firms that pay bribe witnesses greater bureaucratic hassle compared to firms that do not. The study concludes that red tape could be used to extract bribes from firms.

Saha and Gounder (2013) used hierarchical polynomial regression to evaluate existence of a non-linear relationship after controlling for socio-economic and institutional factors for a number of both developed and emerging economies. The study observed that unlike previous studies that documented existence of a negative income-corruption association in the literatures, evidence abounds from the results obtained that a quadratic function best explain the impact of corruption on business cycles. It further states that despite an upsurge of corruption among low – to – medium income countries, the advanced stages of development eventually reduce corruption substantially. The study suggests a combination of economic, institutional and social policies in combating corruption.

Few studies have been conducted on the connection between corruption and economic growth in Nigeria, some of these studies includes, Okoye and Gbegi (2013) who used regression analysis to analyzed data on the Nigerian economy and observed that fraud and financial crimes have significant effects on the Nigerian economy. In the same vein, Hamilton and Gabriel (2012) used simple percentages and frequency distribution tables to analyse data gathered through the use of questionnaires and oral interviews administered on 22 firms in Nigeria, and observed that the prime cause of fraud is inadequate internal control.

All these literatures reviewed testify to the fact that a significant relationship exists between fraud and the business cycle. The scanty of literature on the impact of fraud on economic growth as evidence in business cycle literature in Nigeria is one of the key factors that motivates the current study.

5. Methodology

In this research, both the qualitative and quantitative techniques were adopted. Qualitative technique involved processing the data gotten into meaningful information. It involved getting data through the use of open-ended questions which helped in getting peoples different perception on fraud. The research is limited to fraudsters in Nigeria and fraud managers within EFCC. The researcher in this study adopts the random sampling design method. Here every unit in the population has a chance of being chosen. The sample size of the research is 300 correspondents. 250 of the correspondents are expected to be fraudsters within Nigeria and 50 of the respondents are expected to be fraud managers from EFCC. Primary source of data was used in this research through the use of questionnaires. The Chi-Square Test (X^2), a statistical distribution tool was used for hypothesis testing. The null hypothesis or "hypothesis of no difference" is tested between the observed value and expected value of the analysis. The expected values for a particular category are calculated by multiplying the expected proportion (ratio) for that category by the total number of observations. The formula for the chi-square test is as follows:

$$X^2 = \sum \frac{(f_o - f_e)^2}{f_e} \tag{1}$$

Where Σ is the summation of value, f_o is the observed frequency and f_e is the expected frequency. The decision rule can be stated once the X^2 is determined. If the calculated chi-square value (X^2_o) is greater than the value gotten from the chi-square distribution table (X^2_e), then reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), but if the chi-square distribution table value is greater than the calculated value, then reject H_1 and accept H_0 .

RESULTS.

Table 2: Percentage Distribution of Respondent response to questionnaire

QUESTIONNAIRES	RESPONDENTS				TOTAL	
	FRAUDSTERS		FRAUD MANAGERS			
	NO	%	NO	%	NO	%
RETURNED	160	64%	5	10%	165	55%
NOT FILLED PROPERLY	5	2%	0	0	5	2%
NOT RETURNED	85	34%	45	90%	130	43%
TOTAL	250	100%	50	100%	300	100%

SOURCE: Field Survey 2016

A total number of 300 questionnaires were distributed, 250 of the questionnaires were distributed to fraudsters while the remaining 50 were distributed to fraud managers. A total of 165 (55%) were retrieved, 160 from fraudsters and 5 from the fraud managers. 5 (2%) were filled wrongly by the fraudsters and 130 (43%) were not returned, 85 from fraudsters and 45 from the fraud managers. The 55% filled and returned is a reasonable level upon which the research is based.

ANALYSIS OF QUESTIONNAIRES TO FRAUD MANAGERS

Table 3: Specific questions for fraudster views on fraud-economic condition

S/N	QUESTIONS
1	Does the level of fraud increase in an economic recession?
2	Is there an identified range of fraud that might increase in an adverse economy?
3	Does fraud depend on the availability of credit in an economy .i.e. in an economic boom?
4	80% of the fraud that occurs in an economy is said to come when there is an economic boom?

SOURCE: Field Survey 2016

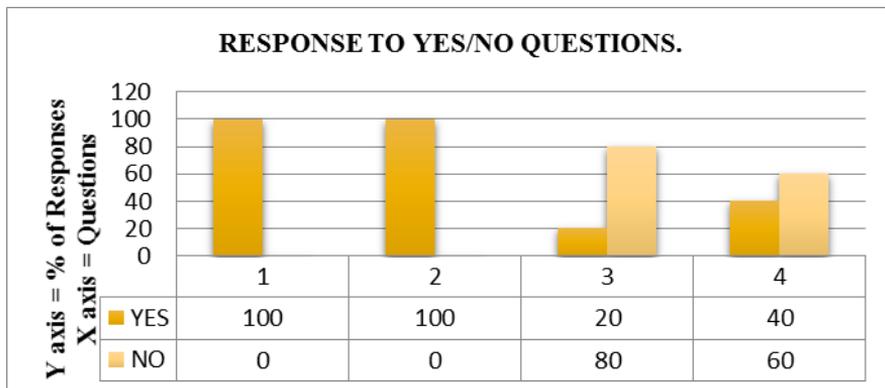


Figure 1: Graphical representations of fraudster views on fraud-economic condition

Analysis: For the first question with all the respondents saying yes, it shows that the level of fraud increases during an economic recession. The second question also had all the response as yes and therefore showed that during an adverse economic climate only an identified range of fraud would increase. The third question had 80% of its response on no and this showed that fraud does not depend on the availability of credit in the economy. And finally the fourth question had 60% of its response on no and this showed that 80% of fraud committed does not occur during an economic boom.

Table 4:
Specific questions for fraud Managers' views on fraud-economic condition

S/N	STATEMENTS
1	Recession causes a distraction to the management of corporate entities thereby increasing the chances of disgruntled staff to commit fraud.
2	Technology has enabled larger and quicker transaction and has also facilitated fraud.
3	Due to a recession staffs are paid less and this leads to an increase in the fraud levels.
4	Due to the emphasis on the need to use technology to identify fraud, staff are being made less diligent in their own fraud prevention effort.
5	In an economic boom the circulation of money leads people to care less about the sudden disappearance of money thereby making fraud easy to get away with.
6	In an economic recession money is tighter, making it hard to get away with fraud.
7	The various anti-craft agencies have been effective in fighting fraud in Nigeria.
8	Delay in judiciary system often induces or increase fraud related Crimes in Nigeria.
9	Politically motivated frauds are more pronounced in Nigeria.

SOURCE: Field Survey 2016

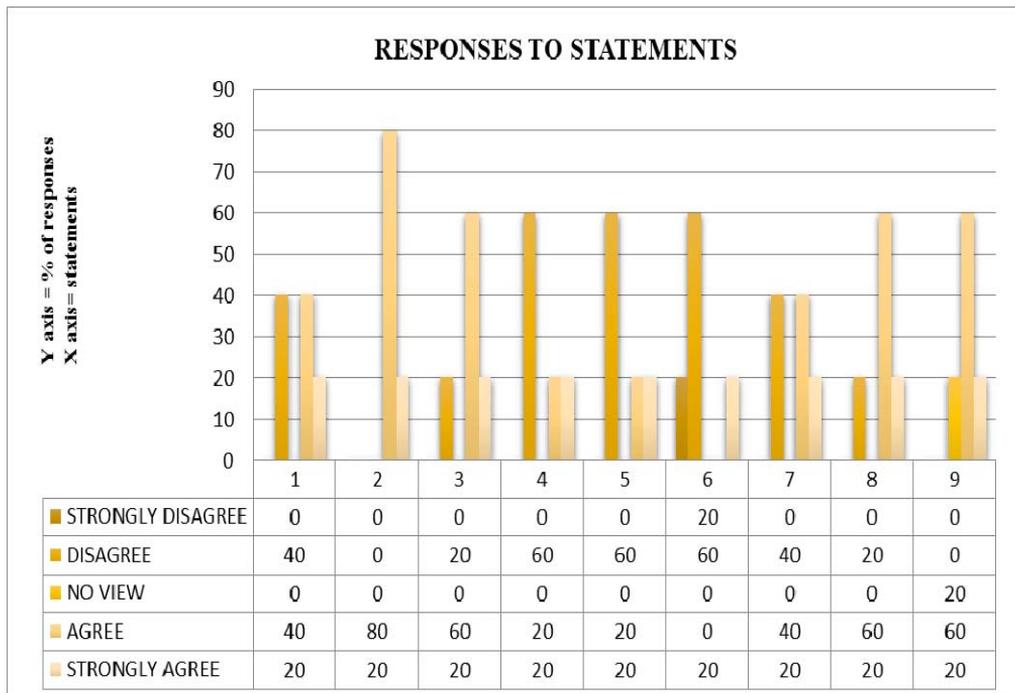


Figure 2: Graphical representations of fraud managers' views on fraud-economic condition

Analysis: In the analysis, the first statement showed that a recession causes a distraction to the management of corporate entities thereby increasing the chances of disgruntled staff to commit fraud, the second statement showed that technology has enabled quicker and faster transactions and has also facilitated fraud, the third statement showed that due to the low income given to staff during periods of recession fraud level increases, the fourth statement showed that staffs are not made less diligent in their own fraud prevention method due to the emphasis on the need to use technology to identify the fraud, the fifth statement showed that in an economic boom people do not care less about the disappearance of money, thereby not making fraud easy to commit, the sixth statement showed that money is not tighter during a recession and so does not make hard to get away with fraud, the seventh statement showed that the various anti-graft agencies have been effective in fighting fraud in Nigeria, the eighth statement showed that the delay in the judiciary system often increases fraud related crimes in Nigeria and the ninth statement showed that that politically motivated frauds are more pronounced in Nigeria.

ANALYSIS OF QUESTIONNAIRES TO FRADSTERS.

Table 5: Respondents views on the impact of money on fraud behaviour

S/N	STATEMENTS
1	The availability of money in the economy leads to an increase in fraud.
2	Fraud levels going up is not due to the state of the economy but due to it being discovered.
3	There would be a continuous increase in fraud both in an economic boom and recession due to the need for people to survive.

SOURCE: Field Survey 2016

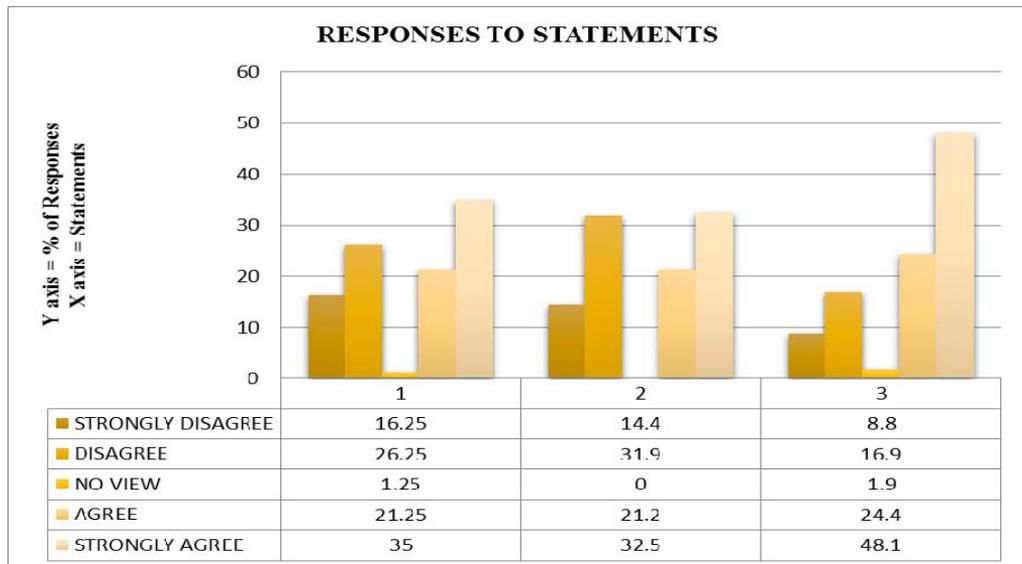


Figure 3: Graphical representation of the respondent views on the impact of money on the economy

Analysis: In the analysis, statement one showed that the availability of money in the economy leads to an increase in fraud, statement two showed that fraud level going up is due to it being discovered and the statement three showed that there would be a continuous increase in fraud in a boom and a recession due to the need for people to survive.

Table 6: Questionnaire on the link between fraud and the state of the economy

S/N	QUESTIONS.
1	Does the state of the economy have anything to do with why fraud is committed?
2	Would fraud levels increase in an economic boom?
3	The level of fraud committed does not depend on the expansion or recession in an economy?
4	The various anti craft agencies have been effective in taking fraud related cases.

SOURCE: Field Survey 2016

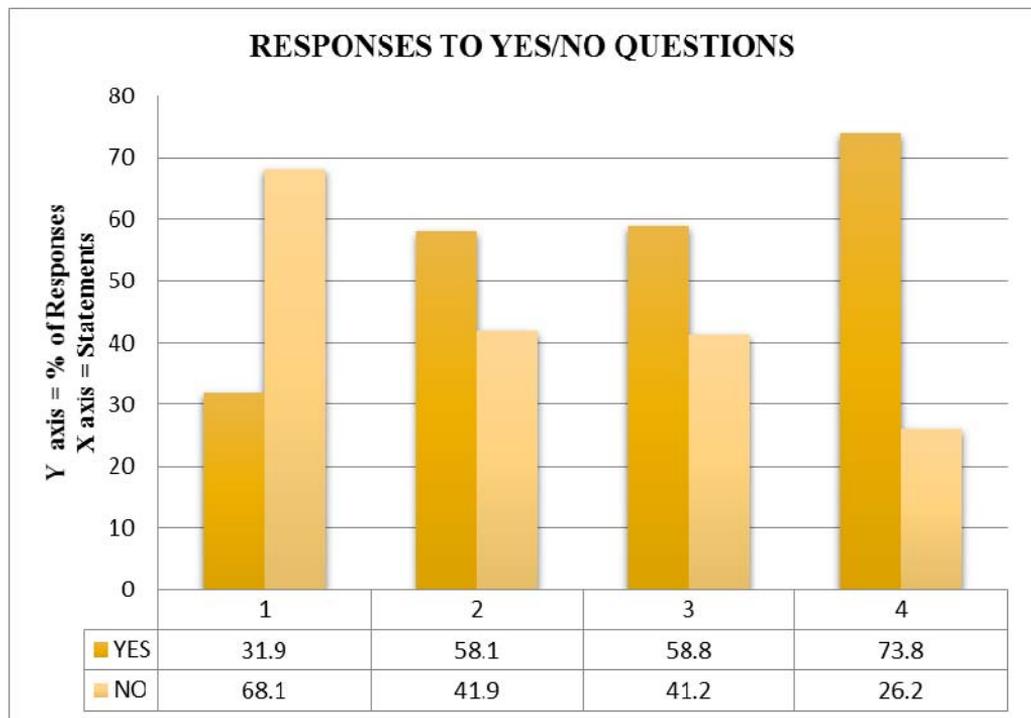


Figure 4. Graphical presentation of the respondents' response to Yes and No questions

Analysis: In the analysis, question one showed that there is a relationship between the level of fraud and the business cycle, question two showed that the levels of fraud would not increase during an economic boom, question three showed that the level of fraud depends on the expansion and recession in an economy and the fourth question showed that the anti-graft agencies have not been effective in taking fraud cases.

RESPONSE TO OPEN ENDED QUESTIONS

Four open ended questions were asked to the questionnaires in this study. This was done to enable the fraudsters to express themselves completely with no restrictions .

The questions asked included:

- What was the reason for committing the fraud?, Most the reasons given by the fraudsters ranged from the poor state of the economy, survival, poverty, greed, joblessness, accessibility, need to belong and following the wrong crowd of people
- What was the opportunity that presented itself?, the responses included; *"I got access to my rich uncles phone which contained his account information and I used his phone to hack his account", "I was given some money to buy a car on behalf of a friend", "I was placed at a high position in my office which gave me access to financial information and huge sums of money"*. Other reasons such as position at work, weak government regulations and policies, weak internal control, unregulated cyber network etc.
- Would the level of fraud increase in an economic boom?, 93 of the fraudsters who gave no as their response had reasons ranging from creation of job opportunities, reduction in social vices, increased productivity to an increase in standard of living. The remaining 67 who gave yes as their response gave reasons such as *"A greedy person would always be a greedy person and when there is an increase in the circulation of money the need to acquire more would lead to an increase in fraud"*, others gave reasons such as due to excess idle funds, more loopholes, less interest of people to the disappearance of money since its excess, increased willingness of people to invest their excess money thereby making it easy for fraudsters to pose as fake companies etc.
- The level of fraud committed does not depend on the expansion or recession in an economy?,66 fraudsters who gave yes as their response gave their reasons to be that fraud is a constant factor and would remain in an economy weather there is an expansion or recession, others gave their reason to be that the act itself is behavioral or habitual in nature and a person with such a habit or behavior would not wait till there is a recession or an expansion to commit fraud.

TEST FOR HYPOTHESIS.

Hypothesis 1.

H₀: There is no significant relationship between fraud and the business cycle.

H₁: There is a significant relationship between fraud and the business cycle.

Evidence from fraudsters.

Using the question: Does the state of the economy have anything to do with why fraud is committed?

TABLE 4.29: Response to the question .

		Frequency	Percent
Valid	No	51	31.9
	Yes	109	68.1
Total		160	100.0

Source: Field Survey 2016.

Degree of Freedom = (r-1) × (c-1)

where:

r = number of rows

c = number of columns

Thus:

$$d.f = (2-1) \times (2-1) = 1$$

$$X^2 = \{ \sum (f_o - f_e)^2 / f_e \}$$

$$f_e = \frac{1}{2} \times 160 = 80$$

$$f_e = 160$$

$$X^2 = \{ (51 - 80)^2 / 80 \} + \{ (109 - 80)^2 / 80 \}$$

$$X^2 = 21$$

As stated earlier in the chapter three, the testing of the hypothesis will be based on the 95% level of confidence, thus the critical level here is 0.05 (5%) level of significance.

Decision Rule.

The expected value of the chi-square table was given as 3.84, since the level of significance was 0.05 with the degree of freedom calculated to be 1, whereas the value computed above for X² equal to 21, Thus this will reject the null hypothesis, H₀; There is no significant relationship between fraud and the business cycle and will accept the hypothesis, H₁; There is a significant relationship between fraud and the business cycle.

Evidence from fraud managers.

Using the question: Does the level of fraud increase in an economic recession?

TABLE 4.6 : Response to the question above.

		Frequency	Percent
Valid	Yes	5	100.0
	No	0	0
Total		5	100

Source: Field Survey 2016.

$$d.f = (2-1) \times (2-1) = 1$$

$$X^2 = \{ \sum (f_o - f_e)^2 / f_e \}$$

$$f_e = \frac{1}{2} \times 5 = 2.5$$

$$f_0 = 5$$

$$X^2 = \{(5 - 2.5)^2 + 2.5\} + \{(0 - 2.5)^2 + 2.5\}$$

$$X^2 = 5$$

As stated earlier in the chapter three, the testing of the hypothesis will be based on the 95% level of confidence, thus the critical level here is 0.05 (5%) level of significance.

Decision Rule.

The expected value of the chi-square table was given as 3.84, since the level of significance was 0.05 with the degree of freedom calculated to be 1, whereas the value computed above for X^2 equal to 5. Thus, this will reject the null hypothesis H_0 ; there is no significant relationship between fraud and the business cycle and would accept the hypothesis H_1 ; there is a significant relationship between fraud and the business cycle.

Hypothesis 2.

H_0 : The various anti-graft agencies have not been effective in fraud management in Nigeria.

H_1 : The various anti-graft agencies have been effective in fraud management in Nigeria.

Evidence from fraudsters.

Using the question: The various anti-craft agencies have been effective in taking fraud related cases.

TABLE 4.35: Response to question above.

	Frequency	Percent
Valid No	118	73.8
Yes	42	26.2
Total	160	100.0

Source: Field Survey 2016.

$$d.f = (2-1) \times (2-1) = 1$$

$$X^2 = \{2(f_0 - f_e)^2 + f_e\}$$

$$f_e = \frac{1}{2} \times 160 = 80$$

$$f_0 = 160$$

$$X^2 = \{(118 - 80)^2 + 80\} + \{(42 - 80)^2 + 80\}$$

$$X^2 = 36.1$$

As stated earlier in the chapter three, the testing of the hypothesis will be based on the 95% level of confidence, thus the critical level here is 0.05 (5%) level of significance.

Decision Rule.

The expected value of the chi-square table was given as 3.84, since the level of significance was 0.05 with the degree of freedom calculated to be 1, whereas the value computed above for X^2 equal to 36.1. Thus, this will reject the null hypothesis H_0 ;The various anti-graft agencies have not been effective in fraud management in Nigeria and

will accept the hypothesis H₁;The various anti-graft agencies have been effective in fraud management in Nigeria.

Evidence from fraud managers.

Using the question: The various anti-graft agencies have been effective in fighting fraud in Nigeria.

TABLE 4.16: Response to question 7C.

		Frequency	Percent
Valid	Disagree	2	40.0
	Agree	2	40.0
	Strongly agree	1	20.0
	Total	5	100.0

Source: Field survey 2016.

$$d.f = (3-1) \times (2-1) = 2$$

$$X^2 = \{ \sum (f_o - f_e)^2 / f_e \}$$

$$f_e = \frac{1}{3} \times 5 = 1.67$$

$$f_o = 5$$

$$X^2 = \{ (2 - 1.67)^2 / 1.67 \} + \{ (2 - 1.67)^2 / 1.67 \} + \{ (1 - 1.67)^2 / 1.67 \}$$

$$X^2 = 0.399$$

As stated earlier in the chapter three, the testing of the hypothesis will be based on the 95% level of confidence, thus the critical level here is 0.05 (5%) level of significance.

Decision rule.

The expected value of the chi-square table was given as 5.991, since the level of significance was 0.05 with the degree of freedom calculated to be 2, whereas the value computed above for X² equal to 0.399. Thus, this accepts the null hypothesis H₀;The various anti-graft agencies have not been effective in fraud management in Nigeria and rejects the hypothesis H₁;The various anti-graft agencies have been effective in fraud management in Nigeria.

6. Conclusion and recommendation

In conclusions, there is a significant relationship between fraud and the business cycle but the level of fraud committed does not solely depend on the expansion or recession of an economy rather there is an identified range of fraud that might increase in an adverse economy. Furthermore, politically motivated fraud are more pronounced in Nigeria, the delay in the judiciary system often increases fraud related crimes and this is worsened by the ineffectiveness of the various anti-graft agencies in managing fraud.

Based on the finding made in this study the researcher has recommended some ways for proper and effective fraud management by the anti-graft agencies in Nigeria. These include: there should be an in-depth understanding of the different patterns of fraud by the anti-graft agencies. Certain types of offences occur during a recession while others during an expansion or boom. For instance during an economic boom more money is in circulation, which leads to the willingness of individuals to invest the excess money they have acquired thereby attracting investment and capital fraud which includes frauds such as; the ponzi scheme, the advance fee fraud, high yield investment fraud, affinity fraud etc. While during a recession, the need for a company to hide its depths from its shareholders might occur and this brings about financial statement fraud. Thus, the anti-graft agencies should implement awareness and training programs to enlighten the officers and employees on the different fraud patterns. Also the country should put in place better and stronger offence laws as it relates to fraud in order to discourage individuals from committing the act and lastly the anti-graft agencies should carry out an investigation on officers and staffs within the agencies in order to identify and remove the incompetent and fraudulent ones.

7. References

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