Effect of Fraud and Corruption on Capital Market Performance in Nigeria

Abstract
The study examined the effect of fraud and corruption on capital market performance. The core purpose of this research work is to investigate the effect of fraud and corruption on Nigeria CapitalMarket Performance. The study used secondary data sourced from the Nigeria Exchange Group and transparency index from 1999 to 2018. Transparency Index, Corruption Perception Index and Total Fraud were the independent variables and the dependent variables are all share index and stock value traded.A time-series data methodological approach was adopted. The study used secondary data sourced from the NigeriaExchangeGroup and transparency index from 1999 to 2018. The study employed the Error Correction Model (ECM) as the estimation techniques.The study found that fraud and corruption has a negative effect on all share index but a positive effect on stock value traded in Nigeria. The granger causality test also shows a unidirectional causality between fraud and corruption on capital market performance in Nigeria. The results suggest that fraud and corruption reduce investor's confidence in the market and can discourage investment in the market.The study recommends among others there should be cooperation between the appropriate law enforcement agencies and anti-corruption bodies with theSecurities and Exchange Commission (SEC) to provide an equitable and rational market for all class of investors. Whistleblowing scheme should be strengthened and made to be effective in the capital market.

Keywords: Integrity, Accountability, Capital Market, Corruption, CorporateGovernance, Granger Causality.

JEL Classification Code: D73, O16

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1. INTRODUCTION

An organized structure of institutions and services involved in the transactions of stocks, bonds and government securities is how we describe the capital market. It is a market where financial assets like shares and debentures are sold and purchased (Onyiuke, 2010). The capital market is simply referred to as a financial system or service that serves as an agent, playing the role of banks and financial institutions by which companies and businesses can directly buy or sell equity capital. The market helps both small businesses and large-scale investments to finance their projects. The capital market is defined by two sectors. The primary market sector is one concerned with the issuance of new stocks and bonds mainly from the companies and other institutions to investors. Secondly, we have the secondary market where stocks and other securities have been purchased from investment banks or businesses and are resold to potential investors.

In Nigeria, the history of capital market can be accounted from the late 1950s before independence. As at that time, financial systems were largely owned by foreigners and their commercial banks operating in Nigeria. This mode of operation made for capital and stock

balances to be invested abroad with the London Stock Exchange. Setting up the 'Barback committee' in search for strategic means to control stock transactions birthed the capital market by the then Federal Ministry of Industries. Soon enough, capital markets were established by the federal government as the need for funding private and public businesses. With the activities of and reports from the Barbackcommittee, the Lagos Stock Exchange was developed in 1959 and an Act to ensure effective function of the market and for private companies to be limited by guarantee was enacted in 1961.

A review in the mid-70s on the operations of Lagos Stock exchange identified weaknesses in the market. Reports were made on the need for expansion of market across Nigeria, inadequate currency circulation in the bank sector, the substandard segregation of the commercial banks and emerging merchant banks among others. the market in 1977 was renamed, "Nigeria Stock Exchange" and various exchange market branches across the country was established overtime causing wide engagement and operations of investment activities in Nigeria. In 1988, the SEC was established and till now is the zenith regulatory organization for the capital market activities. The primary objective of SEC is to promote transparency of market transactions. Over time, amendments and reforms have been made to the Act (SEC Act) guiding the exchange market for the purposes of restructuring the market regulations, fighting discrepancies, misconduct and irregularities in the system of operations. Correspondingly, in 1999, the Investments and Securities Decree became an Act by Section 315 of the Nigerian Constitution (1999), being amended in 2007. Employment of the amended Act helped incorporate governance in the capital market activities which in recent time is backed up by whistle-blowing policies and monetary guidelines in the exchange market administration. This regulation has been recorded to be functional in areas of controlling funds in the market, reducing fraudulent and embezzlement activities.

The development of reforms and policies to secure efficient transactions in the Nigeria capital market have become weak and recorded to be defective in performing operations. The issues of corrupt and unethical practices, fraud and other inefficiencies are still prominent in the system. Chieze&Onu (2013) in their study discovered the irregularities and corruption in the capital market identifying how frauds have affected the market with capitalization as indexes to study the market. Other researchers have agreed to the disturbing effect of fraud and corruption on the capital market's performance. This study was conducted to assess the management of the capital market and the changes from the impact of fraud and corrupt practices.
The remaining part of this study is structured as follows. The next section is the literature review and theoretical development for the study. The third section contains sources of data, sample size, model specification and method of data analysis. Following the methodology section, the results and discussion of findings was presented. Lastly, the conclusion and recommendation section was shown.

2. LITERATURE REVIEW

The capital market comprises of markets and finance related institutions that aids the issuance and trading of long term financial instruments to businesses and interested investors. (Onyiuke, 2010). He stated that in Nigeria, the capital market provides short and long term funds for project financing of both public and private sectors to support economic growth. Oladejo (2003), identified the functions and purpose of the establishment of capital market in the country- (a), to

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increase capital formation; (b), facilitate funding for small and medium scale businesses;(c), encourage discipline among investors and firms participating in trading.
With the impediment in the administration of an effective capital market, Adeniji (2004), identified fraud as part of the reasons for this weakness. He explained fraud as a deliberate act of misrepresenting and falsifying statements in order to manipulate a person or an entire organization for personal advantage. Adeduro (1998), stated that an act of theft, money laundering or unlawful withdrawal of funds from an entity, person or government is fraud.

This deceitful means of collecting funds is also described as, 'corruption'. It is the misuse of an assigned position for personal gain (Hasan & Nuri, 2013). Natalia (2016), opines that the practice of corruption includes extortion, bribery, insider trading, embezzlement and other illegal collection of funds. Fraudulent and corrupt practices have been recorded to be the most hindering factor to the economic, investing and financial growth of an organization or government.

According to report from World Bank (2017), then impact of fraud and corruption in the capital market is a trillion dollar global industry. This means huge amount of funds and resources have been lost to the hands of corruption and fraud. Their impact is visible on the poor growth in shareholders' value, stock market and corporate governance performance (Bonini&Boraschi, 2009). The study review conducted by Aliyu (2011) revealed that the impact of this crime is purely negative causing loss of investors' funds, loss of trust in market and financing institutions to provide reliable investments and weakening economic growth. The presence of fraud and corruption in the market will increase borrowing costs, low stock evaluation, weaken market competition and the withdrawal of some businesses from operating in the market. In addition to local market loss, foreign exchange transactions and investments will suffer fund shortage weak competitive advantage, leakages in the cash flows and possible loss of foreign investors. Originally, the capital market was developed to facilitate the creation of wealth in the economy and assist businesses execute viable projects, but with the sickness of fraud and corruption, its purpose have been smeared damaging the effectiveness of activities going on in the market.Fraudand corruption acts as a secret tax on production inputs, increasing costs and uncertainty, reducing investment activity, profits and the impetus to reinvest (Fisman and Svensson 2007; Farooq et al., 2013; Vu et al., 2018). It also reduces foreign direct investment inflows (Jadhav and Katti, 2012) by dissuading potential foreign participation in joint ventures. Financial markets that have frequent corruption scandals erode trust and confidence in their functioning and governance (Borodina and Shvyrkov, 2010) — which would further raise risk. In contrast, lowering corruption allows financial sector development (Cooray and Schneider, 2018).

2.1 Theoretical Framework

There are three important theories that guide the operations of this research work. However, the research work is anchored on Diamond theory

2.1.1 Diamond Theory

As proposed by Wolfe and Hermanon(2004), the Diamond theory was used to explain the factors that causes and augment the case of fraud. They applied certain models to describe the root of fraud to be- greed, opportunity and exploiting these opportunities as they arise. Hayward (2007), noted the greed factor to be a high cause for the practice of fraud, where individual(s) for hunger for personal profits decide to manipulate figures, reports and statements to mislead to other end with the intention of extracting material or non-material profits. Conducted surveys pointed that where an organization suffers weakness in internal control system, a defective security system and poor management, the practice of fraud is inevitable. These weaknesses create the opportunity for persons to engage these fraudulent activities.

2.1.2 Social Disorganization Theory

This theory focuses on the influencing factors to the behavioral characteristics of individuals. it studies the criminal behavior based on social processes. Social disorganization theory bases its assumptions that the environment of an individual affects his/her behavior. it identified the weakness in societal control mechanisms causes criminal and aberrant activities on a high scale (Steenbeek&Hipp, 2011). According to this theory, disorganized communities produce dysfunctional practices resulting into misbehavior of individuals and the community at large. The negative effect of this failed society is that it equally suffers high crime cases, poor development, unemployment and economic disadvantages (Vito, Maahs, & Homes, 2007). It can be denoted that fraudulent practices of some persons are due to the lack of control and orderliness in their social or communal background.

2.1.3 Social Control Theory

This theory developed by Travis (1969) can also be called, 'Social Bond Theory'. It buttresses on socialization process and the employment of control policies to facilitate order and discipline of the society and the resident individuals. The theory suggests points that could enhance self-control in individuals and curb anti-social practices. It seeks to impose regulations that will caution the incidence of corruption and fraud, establishing a moral society. Schubert (2015), assigned four principles to support the social control theory. Communication among individuals in the society to spread the awareness of the impact of fraud and corruption, and benefits for warding off such practices; adherence to regulations guiding ant-corruption; positive social behavior and a basic value system were opined to build social control.

2.2 Empirical Review

Nwude (2006) analyzed bank fraud and its consequences using data from 9 commercial banks and revealed fraud and the stock market values of banks significantly related. However the study showed that the banks affected were those that their fraudulent activities were made public.

According to Onuorah&Ebimobowei (2011) in their study on the activities of fraud in the capital market using Forensic accounting in Nigeria. They discovered high practice of fraud that have caused huge fund loss, recommending Nigerian banks to apply effective measures and techniques to mitigate the prevalence of fraud in the system. Mansor (2015) evaluated the influence of fraud related issues on corporate performance in Nigeria. The study was conducted enroute to the 2015 general elections in the country. Applying the analytical method of comparative analysis, the study specifically investigated the performance in banking industry. Out of six banks studied. The empirical results showed that three out of the six banks were involved in fraudulent issues and consequently performed poorly on the stock market while the others stock prices were either unchanged or experienced a boost.

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Ojeka et al., (2019) investigated the influence of the perception and institutional quality of corruption on firms' performance covering five years from 2013 to 2017. Transparency international corruption perception index, institutional quality which is obtained from principle component analysis of six governance measures obtained from world bank governance indicators, return on assets (ROA) and market value (Tobin Q) were used as data for the analysis. Generalized method of moment (GMM) was used to analyze data. The result showed the negative effect of corruption on market value and accounting performance. The study recommended the implementation of strong and effective mechanisms to reduce weak institutional quality as well as corruption practices. In support of this study is Bolgorian(2012) study on corruption, banking sector and stock market development. Forty- two developing economies were used in the study and the result revealed that financial system improvement and the level of corruption are negatively related. The result also showed that stock market development and banking sector development in these economies are positively related.

Berney (2008) conducted research on the influence of fraud on the stock price Nigerian banks (2006-2007). Utilizing the descriptive statistical tool, the results showed that fraud negatively affects the stock price of Nigerian banks. According to the study, the reason for the negative impact is as a result of the negative press that fraud engenders. Ogunleye (2013) examined the impact of corporate corruption on market capitalization of commercial banks in Nigeria (2008-2011). Employing the liner regression model, they observed that the incidence of corporate corruption and the growth in market capitalization are negatively related.

According to Shogunle (2009), he observed a negative effect attributable to fraud on bank market capitalization. David, Lucey & Winne, (2015) assessed the capital market performance of banks in Kenya during periods when they were embroiled in corruption issues. The findings showed a negative correlation between bank stock market performance and occupational fraud and corruption. The study showed that the stocks of the banks shrank during their period of controversies.

3. Methodology

The study used secondary data sourced from Nigeria stock exchange and transparency index from 1999 to 2018.The study employed descriptive statistics to describe the variables used in the study. Since the study involves time series data, unit root test was carried out using Philips-Perron(PP) and Augmented Dickey-Fuller (ADF) in order to determine the stationarity of the variables. It was discovered that the variables were incorporated at order I(1) as such Error Correction Mechanism models was used as method of data analysis.

The study adopts and modified the model used by Omodero and Dandago (2018). Their model specified thus: SPI = f (CPI, NCR)

Where SPI = Share Price Index. CPI = Corruption Perception Index. NCR = Nigeria Corruption Ranking.

The model was adopted and modified below:

To incorporate the specific objectives, the following models stated in functional form will be estimated:

ASI= f (TPI, CPI, TF)..... 3.1

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SVT= f (TPI, CPI, TF)……..... 3.2

The mathematical form of the model and to normalize the models to avoid the possible effect of any outlier, the models were transformed in a log-linear econometric format as follows:

Hypothesis One (Model 1)

$ASI = a_0 + a_1TPIs_{it} + a_2CPIs_{it} + a_3TFs_{it}$ .....……..... 3.3

$ASI = a_0 + a_1logTPIs_{it} + a_2logCPIs_{it} + a_3logTFs_{it} + e_{it}$…….....3.4

Hypothesis Three (Model 2)

$SVT = a_0 + a_1TPIs_{it} + a_2CPIs_{it} + a_3TFs_{it}$ .....…….....3.5

$SVT = a_0 + a_1logTPIs_{it} + a_2logCPIs_{it} + a_3logTFs_{it} + e_{it}$…….....3.6

Where: ASI= All Share Index
SVT= Stock Value Traded
TPI = Transparency Index
CPI= Corruption Perception Index
TF= Total Fraud
a_0 = Intercept of the model
$a_1 – a_6$ = Parameters of the regression coefficients
e_{it} = Stochastic error term

4. DATA PRESENTATION AND ANALYSIS

The characteristics of the data series used in the analysis are presented in table 1.The table shows the summary of descriptive statistics used in the analysis. The mean value was shown to be 25842.08 for ASI, 749266.00 for SVT,131.0000 for TPI,21.40000 for CPI and 21755.63 for TF. The median value was shown to be 25822.57for ASI, 742814.3 for SVT, 139.5000 for TPI,24.00000 for CPI and 154470.28 for TF. The maximum and minimum of the series are 57900.22 and 5266.400 for ASI, 2350876 and 14072.00 for SVT, 152.0000 and 90.00000 for TPI, 28.00000 and 6.000000 for CPI,73944.28 and 2851.110 for TF. The series standard deviation are 12262.41 for ASI, 625807.1 for SVT, 20.00263 for TPI, 6.394076 for CPI,17930.97 for TF. All the variables are positively skewed towards normality as shown by the positive sign of the skewness except for TPI and CPI. The Jarque-Bera statistic p-values for all the variables disclose the non-normality of the data hence; the study applied another econometric test of normality – Shapiro-Wilk W. The result of Shapiro-Wilk W normality test (at 5% significance level) in Table 2 entails that 3 of the variables are normally distributed which can still be used for statistical inferences.

Table 1: Descriptive Statistics

	Mean	Median	Max.	Min.	Std.Dev	Skewness	Kurtosis	Jarque-Bera	P-value
ASI	25842.08	25822.57	57900.22	5266.400	12262.41	0.464414	3.783315	1.230254	0.540572
SVT	749266.0	742814.3	2350876	14072.00	625807.1	0.752565	3.203052	1.922204	0.382471
TPI	131.0000	139.5000	152.0000	90.00000	20.00263	-1.139803	2.836318	4.352833	0.113447
CPI	21.40000	24.00000	28.00000	6.000000	6.394076	-0.957094	2.863926	3.068862	0.215578
TF	21755.63	15470.28	73944.28	2851.110	17930.97	1.540046	4.826194	10.68496	0.004784

Source: Output Data from E-views 9.0

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Table 2: Shapiro-Wilk W test for normality

Variables	Shapiro-Wilk W test statistic	P-Value
ASI	0.950539	0.375348
SVT	0.922174	0.109112
TPI	0.799315	0.000843877
CPI	0.86184	0.00847191
TF	0.824886	0.00208101

Source: Output Data from E-views 9.0

The result of Shapiro-Wilk W normality test shows that TPI, CPI and TF are normally distributed with the p-value of less than 0.5 which allows statistical inferences to be made from the data. Stationarity test was carried out after determining the descriptive attributes of the data. The variables for the analysis were subjected to two types of unit roots test to determine whether there are unit roots or stationary series. In conducting this test, the Phillips-Perron (PP) and the Augmented Dickey-Fuller (ADF) unit root test with intercept would be employed to determine the stationarity of data.

Table 3: Result of ADF Unit Root Test at level

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
TPI	-1.809405 (0.3648)**	-3.831511	-3.029970	Not Stationary
CPI	-1.165167(0.6667)**	-3.831511	-3.029970	Not Stationary
TF	5.334937(0.0004)**	-3.831511	-3.029970	Stationary
ASI	-2.365008(0.1638)**	-3.831511	-3.029970	Not Stationary
SVT	-2.150741 (0.2289) **	-3.831511	-3.029970	Not Stationary

Source: Output Data from E-views 9.0

Table 4: Result of ADF Unit Root Test at 1ST difference

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
TPI	-3.896469 (0.0092)**	-3.857386	-3.040391	Stationary
CPI	-7.678872(0.0000)**	-3.857386	-3.040391	Stationary
TF	-6.476775(0.0001)**	-3.857386	-3.040391	Stationary
ASI	-4.341283(0.0037)**	-3.857386	-3.040391	Stationary
SVT	-5.261466 (0.0006)**	-3.857386	-3.040391	Stationary

Source: Output Data from E-views 9.0

Table 5: Result of PP Unit Root Test at level

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
TPI	-1.819796 (0.3602)**	-3.831511	-3.029970	Not Stationary
CPI	-0.887687(0.7693)**	-3.831511	-3.029970	Not Stationary
TF	-5.101451(0.0007)**	-3.831511	-3.029970	Stationary
ASI	-2.257156(0.1945)**	-3.831511	-3.029970	Not Stationary
SVT	-1.990728 (0.2879)**	-3.831511	-3.029970	Not Stationary

Source: Output Data from E-views 9.0

Table 6: Result of PP Unit Root Test at 1ST difference

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Remark
TPI	-3.917836 (0.0088)**	-3.857386	-3.040391	Stationary
CPI	-7.678872(0.0000)**	-3.857386	-3.040391	Stationary
TF	-15.53480(0.0000)**	-3.857386	-3.040391	Stationary
ASI	-5.263668(0.0006)**	-3.857386	-3.040391	Stationary
SVT	-10.28924 (0.0000)**	-3.857386	-3.040391	Stationary

Source: Output Data from E-views 9.0

The stationarity properties of the data were checked to prevent spurious result. The result from Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) unit root test in Table 3-6 shows that the variables were stationary at first difference this ensures the use of Error Correction Model as method of data analysis. After the determination of stationarity, correlation and diagnostic test were carry out. There after long run and short run relationship between the variables were determined.

4.1 Multicollinearity Test

Correlation indicates the degree of association between variables. It assesses the extent and strength of the association between two variables. The result as presented in the table 7 showed that most of the variables employed are highly correlated and that there is significant correlation between the variables used in the models as most of them are not considered insignificant as they

areabove 50% level of significant. The directions of the correlation for some are positive while some variables are negative. Hence, there is no suspicion of possible multicollinearity.

Table 7 Multicollinearity Test

	ASI	SVT	TPI	CPI	TF
ASI	1.000000	0.728667	0.753944	0.639745	-0.166106
SVT	0.728667	1.000000	0.538317	0.753087	0.177506
TPI	0.753944	0.538317	1.000000	0.706976	-0.196257
CPI	0.639745	0.753087	0.706976	1.000000	0.245709
TF	-0.166106	0.177506	-0.196257	0.245709	1.000000

Source: Output Data from E-views 9.0

Table 8 Diagnostic test

Estimated Models	Serial Correlation LM		Heteroskedasticity Test		Ramsey RESET Test	
	F-statistic	Prob	F-statistic	Prob	F-statistic	Prob
Model 1	0.016804	0.9834	0.674485	0.6734	0.020109	0.8900
Model 2	0.608664	0.5675	0.589228	0.7518	3.034677	0.1155

Source: Output Data from E-views 9.0

Table 8 shows the diagnostic test for the two models visa viz: serial correlation LM test, heteroskedasticity and Ramsey RESET Test specification. Table 8 reveals that the variables are not serially correlated; no heteroskedasticity issue and the models were well-specified owing to insignificant p-values of F-statistics.

Table 9: Presentation of Johansen co-integration result- model 1

Eigen Value	Trace Statistic	5% Critical Value	Prob. **	Hypothesized no. of CE(s)
0.897020	68.61629	47.85613	0.0002	None*
0.604775	27.69835	29.79707	0.0857	At most 1
0.295289	10.98894	15.49471	0.2122	At most 2
0.229356	4.689511	3.841466	0.0303	At most 3*

**(**) denotes rejection of hypothesis @ 5% and (1%) Significant level*

L.R. test indicates 2 co-integrating equation @ 5% significant level

Table 10: Presentation of Johansen co-integration result- model 2

Eigen Value	Trace Statistic	5% Critical Value	Prob. **	Hypothesized no. of CE(s)
0.841142	64.80195	47.85613	0.0006	None*
0.528170	31.68652	29.79707	0.0299	At most 1*
0.462254	18.16607	15.49471	0.0193	At most 2*
0.322169	6.999423	3.841466	0.0081	At most 3*

**(**) denotes rejection of hypothesis @ 5% and (1%) Significant level*

L.R. test indicates 4 co-integrating equation @ 5% significant level

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Table 11a: Error Correction Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ASI(-1))	0.875943	0.291121	3.008863	0.0119
D(TPI)	176.2274	169.5147	1.039600	0.3208
D(TPI(-1))	-472.2894	181.7174	-2.599032	0.0247
D(CPI)	-278.3874	779.8484	-0.356976	0.7279
D(TF)	-0.277474	0.200573	-1.383404	0.1940
ECM(-1)	-1.121759	0.274432	-4.087573	0.0018
C	1867.865	1938.533	0.963546	0.3560
R-squared	0.764078	Mean dependent var		1534.300
Adjusted R-squared	0.635394	S.D. dependent var		10651.07
S.E. of regression	6431.392	Akaike info criterion		20.66107
Sum squared resid	4.55E+08	Schwarz criterion		21.00733
Log likelihood	-178.9496	Hannan-Quinn criter.		20.70881
F-statistic	5.937612	Durbin-Watson stat		1.941810
Prob(F-statistic)	0.005551			

Dependent Variable D(ASI)

Table 11b: Error Correction Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(SVT(-1))	0.201255	0.283140	0.710796	0.4935
D(TPI)	-3003.574	11069.29	-0.271343	0.7916
D(TPI(-1))	-6464.463	9305.573	-0.694687	0.5031
D(CPI)	4602.853	48293.34	0.095310	0.9260
D(CPI(-1))	-20247.37	33299.90	-0.608031	0.5567
D(TF)	14.41078	9.065061	1.589706	0.1430
ECM(-1)	-1.338267	0.376230	-3.557045	0.0052
C	75513.80	123505.2	0.611422	0.5546
R-squared	0.703977	Mean dependent var		69823.51
Adjusted R-squared	0.496760	S.D. dependent var		571816.1
S.E. of regression	405642.8	Akaike info criterion		28.96544
Sum squared resid	1.65E+12	Schwarz criterion		29.36116
Log likelihood	-252.6889	Hannan-Quinn criter.		29.02000
F-statistic	3.397303	Durbin-Watson stat		1.801698
Prob(F-statistic)	0.039630			

Dependent Variable D(SVT)

4.1 Co-Integration Test

Test for co-integration determines the relationship between variables. Tables 9 and 10 as above shows the existence of co-integration among variables. This is revealed in the trace statistics that shows a greater than 5 % critical value of respective variables. the ordinary least square estimation model was applied showing the negative effect of constant and TPI on the ASI, and the positive effect of CPI and TF on ASI,[see Table 11]. The first and second model from

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analysis reads that all variables are insignificant to ASI and SVT. This implies that fraud and corruption negatively affects share index on an insignificant level and shows an insignificant positive relationship with stock traded value.

ECM_{t-1}, the error term reveals a negatively significant impact in the equation. This means there exists a long-run relationship between variables in the model. The ECM shows 112% and 113% in both models on adjustment per period. Level of significance based on F-statistics is zero.Hence, we do not accept the null hypothesis.

4.2 Variance Decomposition

In this study variance decomposition was used to show which of the variables of fraud and corruption most influences capital market performance in Nigeria within the period of the study.

The results of the variance decomposition estimates of ASI in Table 12 indicate that transparency index shock explain about 29% of the variation in ASI in the 10th period. This is followed by corruption perception index and total fraud which explains about 6.2% and 0.908% changes in ASI in the 5th period respectively, while about 91% of future changes in ASI are explained by present ASI. Table 13 shows that corruption perception index shock explains about 17% of the variation in SVT in the 10th period. This is followed total fraud and transparency index shock which explains about 9.19% and 3.15% changes in SVT in the 4th and 8th period respectively, while about 73% of future changes in SVT are explained by present SVT.

Table 12: Variance decomposition of ASI Model 1

Period	S.E.	ASI	TPI	CPI	TF
1	7572.992	100.0000	0.000000	0.000000	0.000000
2	7941.367	91.41524	2.581862	5.303318	0.699584
3	9372.123	77.72620	17.86694	3.892041	0.514823
4	10607.72	67.68611	26.28290	5.140767	0.890224
5	10742.42	67.03471	25.84871	6.208065	0.908510
6	10935.62	65.89593	27.20841	5.994408	0.901246
7	11167.05	64.50104	28.85353	5.774518	0.870914
8	11172.73	64.43544	28.88601	5.789074	0.889476
9	11235.77	64.07491	29.30093	5.730052	0.894106
10	11275.52	63.80771	29.56733	5.736113	0.888848

Source: Extracted from e-views 9 output data on variables of study

Table 13: Variance decomposition of SVT Model 2

Period	S.E.	SVT	TPI	CPI	TF
1	454626.1	100.0000	0.000000	0.000000	0.000000
2	534576.7	72.64607	1.712407	16.04601	9.595513
3	570303.9	73.38563	1.650840	16.17017	8.793356
4	576467.7	71.82552	3.145379	15.83386	9.195247
5	580055.0	71.02471	3.112974	16.75435	9.107972
6	585539.3	70.89057	3.153850	17.00083	8.954748
7	586490.0	70.92204	3.151941	16.94845	8.977570
8	586714.0	70.88740	3.154085	16.97703	8.981489
9	587365.3	70.74835	3.151617	17.07826	9.021776
10	587478.0	70.74820	3.151632	17.08103	9.019139

Source: Extracted from e-views 9 output data on variables of study

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Table 14: Pairwise granger causality test on input variables (PT) and (ASI)

	HYPOTHESIS	F-STATISTICS	PROBABILITY
A	H_0: - TPI does not Granger Cause ASI	6.89227	0.0091
	H_1: - TPI does Granger Cause ASI		
B	H_0: - ASI does not Granger Cause TPI	2.15381	0.1556
	H_1: - ASI does Granger Cause TPI		

Source: *Granger Causality test result*

Table 15: Total Fraud(TF) and All Share Index (ASI)

	HYPOTHESIS	F-STATISTICS	PROBABILITY
A	H_0: - TF does not Granger Cause ASI	0.57383	0.5770
	H_1: - TF does Granger Cause ASI		
B	H_0: - ASI does not Granger Cause TF	7.06967	0.0084
	H_1: - ASI does Granger Cause TF		

Source: *Granger Causality test result*

Table 16: Corruption Perception Index(CPI) and Stock Value Traded(SVT)

	HYPOTHESIS	F-STATISTICS	PROBABILITY
A	H_0: - CPI does not Granger Cause SVT	5.03995	0.0240
	H_1: - CPI does Granger Cause SVT		
B	H_0: - SVT does not Granger Cause CPI	0.48371	0.6272
	H_1: - SVT does Granger Cause CPI		

Source: *Granger Causality test result*

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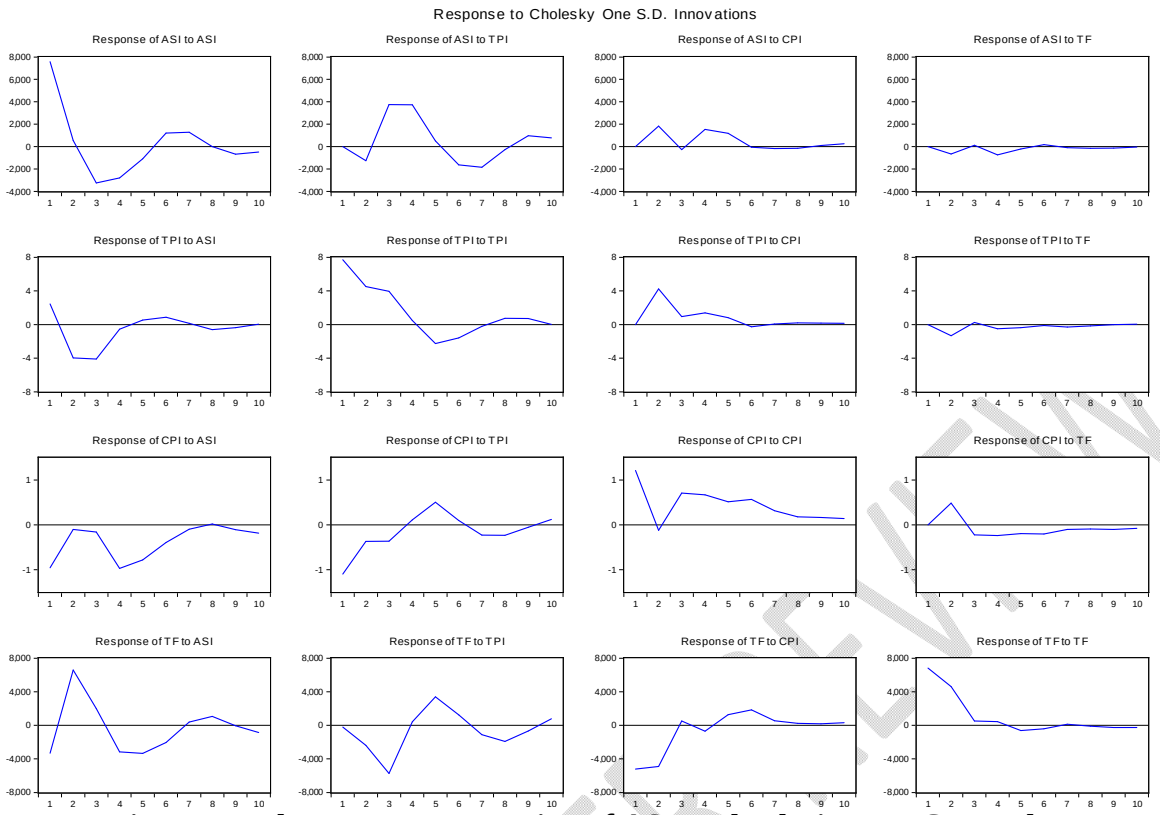

Fig. 1. Impulse Response Function of ASI to shocks in TPI, CPI and TF

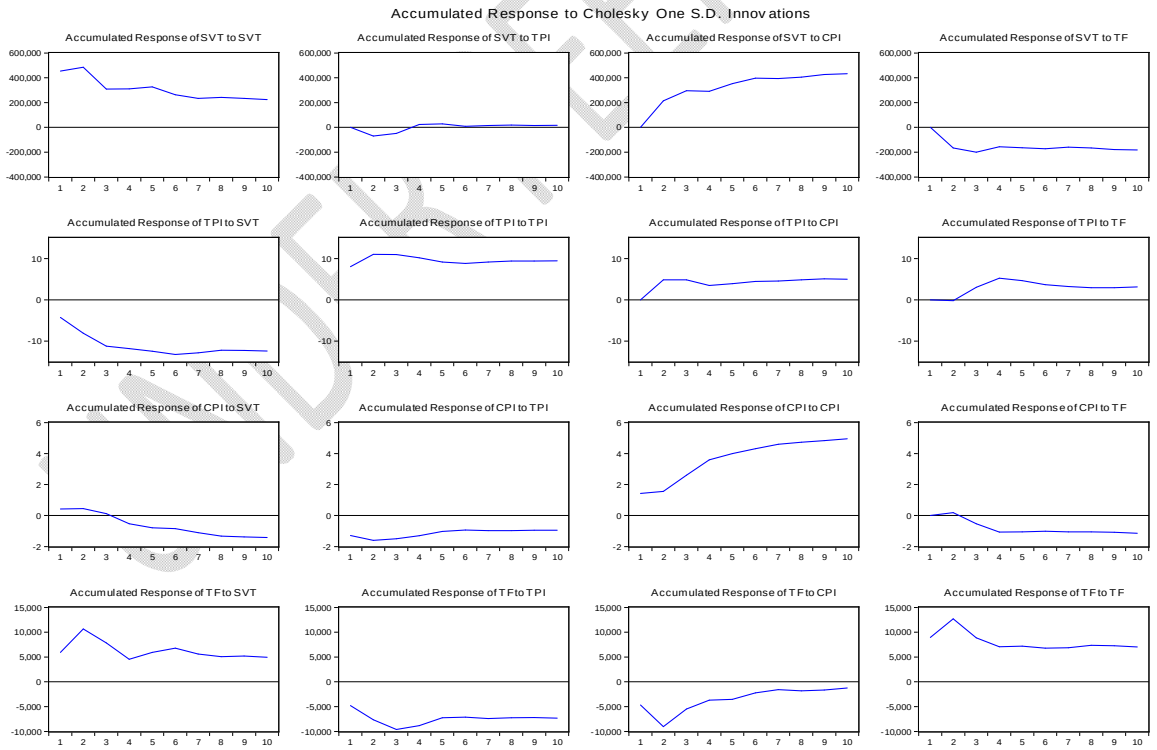

Fig. 2. Impulse Response Function of SVT to shocks in TPI, CPI and TF

4.3 Impulse Response Function

The impulse response will be used to trace the responses of the system to the innovations in fraud and corruption using impulse analysis. This analysis involves shocking the system's disturbances and tracing the sign and magnitude of the system's response to the shocks over time. Fig.1 shows that transparency index and corruption perception index have the highest shock impact on ASI among the variables. The effect of transparency index impulses is positive on ASI from 3rd to 5th period and from 9th to 10th period while making its full impact on the 3rdand 4th period.Fig.2 shows that corruption perception index and transparency index have the highest shock impact on SVT among the variables. Effect of Corruption perception index is positive on SVT from 2nd to 3rd period,5th to 6th period and from 8th to 10th period while making its full impact on the 3rd and 5th period.

Accumulated impulse response functions for Fig.1 shows that transparency index and corruption perception index impact the highest shock on ASI among other variables making its full impact from thirdperiod to the tenth period. TPI has a positive effect on ASI from the 2nd period to the 10th period and CPI has a positive effect on ASI from 1st to 10th period while TF has a negative effect from 1st period to 10th.Fig 2 shows that corruption perception index and transparency index impact the highest shock on SVT among other variables making its full impact from the first period to the tenth period.CPI has a positive effect on SVT from 1st period to 10thperiod,TPI has negative effect from 2rd to 3rd period thereafter it generates positive effect while TF makes a negative effect from 2nd to the 10th period.

4.4 Granger Causality Test

The work tested the causality of the variables studied on the dependent variables ASI and SVT using granger causality test. The output data were shown in Table 14 to 16.Table 14 revealed that there exists a unilateral causality between Transparency Index (TPI) and All Share Index (ASI) with causality moving from TPI to ASI. Table 15 shows a unidirectional causality between All Share Index (ASI) and Total Fraud (TF) with causality moving from ASI to TF. Table 16 shows also a unidirectional relationship between corruption perception index (CPI) and stock value traded (SVT).Since the probability value in these Tables is less than 5% and the F-statistic is greater than the F-tabulated, therefore, we reject the Null Hypothesis (H_0) and accept the Alternate Hypothesis (H_1) in both cases. The unidirectional relationship between fraud and corruption on capital market performance shows that fraud and corruption reduces investor's confidence in the market. Since investors won't have trust in the market they will try to avoid the market which leads to loss of liquidity in the market. The liquidity of the capital market is an important characteristic of a capital market used to measure institutional efficiency. If not managed well can discourage foreign portfolio investment and lead to the crash of the market and financial institution.

5. Conclusion, Recommendation and Policy Implications

Fraud and corruption has been identified as the biggest impairments to investment and economic opportunities which have hindered the effectiveness and competitiveness of the capital market. Although, the empirical literatures on the focus of study as regards to the effect of fraud and corruption in Nigeria remains a conflicting on which basis this study sought to assess the effect of fraud and corruption on capital market performance in Nigeria The study revealed the relationship between considered variables on the long and short run estimate using co-integration technique. Various methods of data analysis in the likes of Ordinary Least Square (OLS) model,

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Granger causality and impulse response analyses were used to ascertain the influence of fraud and corruption in the Nigeria capital market. Results also showed that the practices of corruption are on the high scale that the activities of fraud in the market.

This study' findings disagree with (Akindela, 2008; Berney, 2008; Ogunleye, 2013) who did not highlight the effect of corruption and fraud in the capital market. Nwude (2006) as well as Omodera and Dandago (2018) revealed that corruption and capital market performance are positively related. It is important to note that fraud and corruption is inherent in the Nigeria system and considered a viable enterprise and practiced in different ways in the country. Government as well as companies can raise funds for investment purposes from capital market on long term basis. The existence of fraud and corruption in Nigeria capital market spells danger and may discourage investment in the capital market. It then goes to show that when fraud and corruption exists in capital market information becomes hidden and difficult to obtain. This means that insiders gain and average investors loses which goes to show that the market is not efficient anymore. Fraud and corruption tends to have significant as well negative influence on the capital market but yet the result of the study shows that fraud and corruption influence on capital market is negative and insignificant. This could be an area for further research.

It has been argued that fraud and corruption can cause share price not to reflect available information in the market which will result to inefficient capital market. Despite the government efforts to reduce the rate of fraud and corruption in the market and ensure efficient capital market there still exists fraud and corruption in the market as such the study makes the following recommendations. There should be collaboration between relevant anti-corruption and law enforcement agencies with SEC in order to ensure that the market is fair to all investors. The collaboration will ensure that the investors and their investment are protected. Investor's protection fund which was set up by government to compensate claimant for financial losses suffered by them as a result of erroneous doing by certain dealing member firms of the exchange should be enforced and strengthened. Whistle –blowing scheme should be strengthened and made to be effective in the capital market since it can serve to deter corporate executive's, capital market operators from engaging in fraud in the market. Committee chairman on capital market from National Assembly should have adequate knowledge and expertise on capital market before heading such committee as this will help them perform strong oversight functions and make necessary laws for efficient performance of capital market. Persons in those committees should partake in expanding their knowledge as well as make them updated of recent developments in capital market around and such training sessions such be effectively monitored by the government. There should be increase in investor's education by the regulators in the market. Investors' education will help protect investors and increase investors' confidence in the market.

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