

An Empirical Review of Corruption and Economic Output in the Nigerian Banking Sector: An Empirical Review

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Abstract. The study utilized quarterly series from 2004-2018 in logarithmic form to investigate corruption impact on real economic output; and the eviews10 statistical software was employed to conduct the analysis. Data were sourced from the Central Bank of Nigeria (CBN), Nigerian Deposit Insurance Corporation (NDIC) Statistical Database and the FITC Report on fraud and forgeries in banks. Results from the unit root test reveal stationarity of the variables at first difference. The Johansen test shows that a long run equilibrium relationship exists at the 5 percent level. The F-statistic from the VAR estimates signify that all of the lags of each of the individual variable is jointly significant. Lags of Suppression of Entries (SE) and Teller Fraud (TF) have significant explanatory power for real economic output in the causality test. In addition, the impulse response and variance decomposition test reveal that innovations to the system impact negatively on real economic output. Overall, the result strongly suggest significant influence of the variables on the variations in real economic output; thus, supporting the ‘Sand the Wheels’ hypothesis that corruption is an impediment to growth and development. Consequently, the study advocate that banks should put in place leading-edge technologies as well as stringent penalties to discourage corrupt acts. Also, the Central Bank of Nigeria should authorize that banks conduct monthly training and retraining of its workforce on good ethical benchmarks as well as improved reward systems to minimize corruption among its officials.

Keywords: Corruption, Real GDP, Financial Institutions, VAR, Wald test.

1. Introduction

Corruption is an evil seed that poses great difficulty in trying to eradicate. It is an ill that tends to bring so much pains and sufferings on ordinary citizens and the economy as a whole. It pulls abysmally into the structures of the society and creates so much wealth for the average few. Most developing countries have been associated with high levels of corruption in both military and democratic dispensations. The International Monetary Fund expressed corruption as “misuse of authority for private gain; and an inducement indulged in by public officials as well as those in positions of trust in both non-profit organizations and private enterprises (IMF, 2000). The United Nations Convention against Corruption define corruption as activities such as trading in influence, abuse of power, money laundering and embezzlement (UNCAC, 2002). The Independent Corrupt Practices Commission Act (2000) states that Corruption includes fraud, bribe taking or giving, and other related offences. According to Justice Emmanuel Olayinka Ayoola, a former Chairman ICPC, the widespread form of corruption in Nigeria was bribery but in contemporary times, this has been outdone by embezzlement and theft from public funds, coercion, abuse of discretion, abuse of public supremacy for private benefit, favouritism and partiality, conflict of interest, blackmail and illegal financing of political party’s campaign expenditures. Ajie and Wokekoro (2012) see corruption as an enduring trait that is so wholly entrenched in the Nigerian society. According to them, corruption has eaten deep into the realm of culture and the value system; and is now a norm and no longer an eccentricity. Sachs (2007) opines that corruption remains a significant long-term challenge for the Nigerian political, social and economic environment. In this paper, we define corruption as a menace whereby someone enriches himself unlawfully at the detriment of the society at large.

In the case of public office holders, corruption is seen through abuse of power arising from non-availability of social services, over invoicing of contracts, acceptance of bribes and budget padding. These corrupt monies are channeled through formal financial institutions like banks to make it cleaner and more legitimate. According to Transparency International policy brief #05 (2004), people in positions of authority known as Politically Exposed Persons (PEPs) abuse their entrusted roles for their own personal gain leading to the fuelling of grand corruption.

Likewise corruption in private financial institutions is a recurring decimal. This is mostly seen in banks when they refuse to disclose their financial statements due to a conflict of interest between their jobs and their inability to whistle blow on wrong doings. Undoubtedly, the activities of corrupt bank officials have led to a breakdown in the financial system (CBN, 2018). The EFCC in 2012 published an article on “how Nigerian banks aid corruption”, and held that Nigerian banks deliberately provide inadequate information or completely hide information from anti-corruption officials; take part in unscrupulous practices that destabilize both the economy and the Commission’s fact-finding activities. Others include: non-compliance with know-your-customer (KYC) principle, doctoring or non-disclosure of true position of statement of accounts of suspicious account holders; and allowing the secrecy surrounding private banking. In the last quarter of 2018, Nigerian Deposit Money Banks conveyed that eighty-seven (87) employees were dismissed on grounds of corruption. Also, in the previous periods, a total of sixty-two (62) staffs had same issue which when compared, show an increase of 40.32 percent (FITC, 2018). Onibudo (2007) opine a rise in the number of bank employees involved in corrupt practices.

It was corruption that led to the consolidation reforms of the banking sector in 2009. In a publication by the CBN, non-performing loans totaled N1.69tn, representing 44.38 percent of the total loans; and capital adequacy ratio in the banks ranged between 1.01 and 7.41 percent, which were below the minimum ratio of 10 percent. According to the ex-CBN governor, Mallam Sanusi Lamido Sanusi, the bank’s CEOs/chairman frequently exhibited a domineering effect on board members and some boards lack independence; directors repeatedly fail to make significant inputs to uphold the growth and development of their banks and had fragile moral ethics; the board committees were also repeatedly unproductive; CEOs set up specific channels to

receive loans in order to maneuver share price, acquisition of private jets, establishment of phony companies to carry out their corrupt interest and a lot of the capital put up by the so called “mega banks” were fake capital bankrolled from depositors’ funds e.g. 30 percent of the share capital of Intercontinental bank was purchased with customers’ deposits (CBN, 2014)

In 2015, the government based on its ‘fight against corruption’ manifesto, burst the corrupt activities of six CBN officials and 16 commercial bankers to the tune of \$40.2 million. According to the report, the bankers who were to destroy the defaced notes of the local currency, rather substituted them with newspaper cut to look like bank notes and took them. This act brings inflationary pressures on economic output.

Technological innovations are an avenue through which corruption is perpetrated more frequently too. A case of money laundering where criminally obtained money is converted into apparently lawfully obtained money by re-cycling the tainted money through banks and other legitimate financial institutions (NEPAD, 2003). The global financial market crisis of 2008 was as a result of unchecked abuses of non-transparency, proper accountability and risk management. Similarly, the sudden collapse of the Italian conglomerate, Parmalat, in 2003; and the US energy firm, Enron, in 2002 are cues of what can happen when accounting practices are used to misrepresent a company’s true financial affairs (Transparency International, 2009).

The role of financial institution is financial intermediation. This means that banks are responsible for lending to deficit units of the economy to invigorate productivity which will in the long run contribute to overall growth and development. However the corrupt activities of bank officials have led to the inability of banks to contribute to the real sector (Olukotun and James, 2013). According to them, poor risk management approach, weak internal control structures, insider abuses and technical incompetence, are critical to bank failures. It reduces the capital base of banks and jeopardizes its organizational growth (Olukotun and James, 2013; Onibudo, 2007; Aderibigbe, 1999).

The objective of this study is to examine corruption as it relates to banks in the Nigerian economy using real gross domestic product as a proxy for economic output and; fraud and forgeries in banks as a proxy for corrupt activities of bank officials. These variables chosen for the study are strategic in explaining acts of corruption carried out by bank

officials. Specifically, this study investigates how corrupt activities of banks' officials have in reality dampened or improved real output in Nigeria. Existing literature have argued that corruption in banks have deterred good returns on investment but have not predicted the causal impact of shocks to the variables employed. This paper utilized an up-to-date data to examine the 'grease the wheels' or 'sand the wheels' hypothesis in the Nigerian banking sector. Quarterly series covering the period 2004Q1 – 2018Q4 was gotten from notable databanks like the National bureau of Statistics, the Nigerian Deposit Insurance Corporation (NDIC) Statistical Database and the FITC Report on fraud and forgeries in banks. More robust tests were conducted to enable quality policy deductions and suggestions be made for use by managers of financial institutions, foreign and national investors, government policy makers as well as research organizations. The remaining sections of this paper are as follows: section 2 deals with conceptual, theoretical and empirical literatures on corruption as it relates to banks. Section 3 give details on sources of data and the methods applied. Section 4 explains the empirical results and evaluates them and section 5 concludes, recommends, and justifies limitations.

2. Corruption in Nigerian Banks

The role of deposit money banks (DMBs) as financial institutions is to carryout financial transactions such as loans, deposits, currency exchanges and offer of other investment products. They are also involved in the custodian of valuable documents and jewelries for their clients, hence, they are vital to the economy as a whole. No economy can survive on its own without having a direct or indirect relationship with financial institutions who help to lubricate its activities. Banks assist customers to create credit by way of its availability to mediate between the deficit and surplus economic units. In addition, its provision of financial services ensures that the economic and social units secure sustainable and stable growth.

Corruption is an impairment of moral principles or integrity, or right virtues in an individual. It can be categorized into various scales of petty corruption, grand corruption or systemic corruption. Petty corruption is usually done in the civil service where public servants use their personal connections to offer small improper gifts to obtain favours like promotions or appointments. Grand corruption is when highly placed individuals subvert the legal, political and economic systems for their personal gains or interest. Systematic corruption is as a result

of weaknesses in organizational processes and structures that cause failure of a system (Transparency International, 2009).

Corruption in the banking system is due to systemic failures or weaknesses (IMF, 2000). This leads to bank officials indulging in fraudulent activities to cause financial loses on its institution. According to Ojo (1994), systemic corruption are from weak internal control/accounting structures; below-average trainings/staff development; inadequate welfare packages; inability of senior colleagues to penalize staff on wrong doings; suboptimal supervision; lack of trust on the part of management to keep up with their commitments; little regard for an in-depth knowledge of who bank customers really are; poor information management of existing customers etc. In addition, other external challenges also pose threat to bank officials causing them to think and act fraudulently. Examples include peer pressure, fear of job loss, increasing poverty levels, societal expectations, and consistent financial burden especially from family members. Boniface (1991) identified the corrupt acts of bank officials to include the following:

- **Cash/cheques defalcation:** This is effectively done using dormant accounts. Bank officials take advantage of such accounts by not disclosing full information and use the incomes for his personal gratification.
- Theft of cash from tills. This is the fraudulent collection of monies from cash tills with the intention not to pay at all. They further manipulate their entries.
- **Forged cheques:** When a customer's cheque and signature are forged to enable withdrawal.
- The act of **opening and operating fictitious accounts** to which illegal transfers can be effected.
- **Lending to fictitious borrowers** through fictitious accounts at a particular branch of the bank.
- **Computer fraud:** The altering of computer software programs using remote sensors in order to gain access to accounts of high net worth customers.
- **Teller fraud:** The act of cashiers/bank tellers undermining the capital resources of the bank by not reporting the total deposits obtained from customers to the till.
- **Miscellaneous corruption** includes theft of physical assets, presentation of forged certificates, conversion of official equipment

to personal property and the presentation of fake deposit slips.

- Suppression of entries. This is when bank officials restrict or delay a customer from having a true values of transactions made in his account.

3. Theoretical and Empirical Analysis

Basically, there are two hypothesis that explains corruption:

'Grease the Wheels' hypothesis views corruption as a growth stimulant. It holds that corruption is beneficial to an economy as it positively contributes to growth and development by compensating for bad policies and defective bureaucratic processes. Leff (1964) believes that corruption hedges bad policies of government and makes it friendlier to growth. It also raises the level of investment as bribes taken can be employed into more investment activities. Leys (1965) found evidence that public officials who take bribes speed up the bureaucratic system. Bailey (1966) suggested that perks in the civil service improves the quality of civil servants in attracting more efficiency, and improving the policy actions of government. Lui (1985) is of the view that corruption efficiently reduces the time spent while queuing, and speeds up a process. Lien (1986) argued that the higher the bribery, the more competent and efficient the firm that wants to execute the procurement contract. Klapper, Laeven and Rajan (2006) found that in corrupt countries, regulatory barriers do not affect market entry of new firms.

'Sand the Wheels hypothesis views corruption as an impediment to growth and development; and its impact is more on less rigid economies. Myrdal (1968) argue that public officials weaken a bureaucratic process in order to see more opportunities for bribe taking. Shleifer and Vishny (1993) opine that corruption has a very high cost when there are more persons in a project authorization process. This is also the views of Bardhan (1997) and Jain (2001). Kurer (1993) contend that corrupt officials tend to create more distortions in the economy so they can benefit from more illegal monies; specifically, is the deprivation of competent civil servants into strategic positions. Rose-Ackerman (1997) show that firms who pay high bribes to get an operational license end up producing substandard products leading to inefficiency. Campos, Lien and Pradhan (1999) provide strong evidence that corruption increases uncertainties leading to higher risk.

Previous scholars tends to either find support or oppose the corruption hypotheses. Benfratello, Del Monte and Pennacchio (2018) adopted a cross-country panel analysis of corruption and public debt. Employing data ranging from 1995-2015, they found that corruption increases public debt. This is more for advanced economies and less for low-income countries. Pyman (2017) examined how corruption in military institutions can be addressed. Using available data on countries from the World Bank, the study attempts to address the issue of abuses such as abuse of position, nepotism in promotion, corruption in procurement, infiltration by sectarian groups and the use of military intelligence for personal interest. The study recommends for a quantitative approach to combatting military corruption. Huang (2016) employed the bootstrap panel granger causality technique to examine if Asian-Pacific economies decline due to corruption, for the period 1997-2013. The analysis prove that for China and South Korea, an increase in corruption results to increase in economic growth rate which supports the 'grease the wheels' hypothesis. The study further recommends that countries in the Asian-Pacific region should employ stringent anti-corruption policies for them to be economically developed. Lučić, Radišić and Dobromirov (2016) examined the causality between corruption and economic growth level of the GDP from 1995-2011. They expressed corruption using the corruption perception index to measure its short term, medium term and long term impact on GDP movements in a fiscal year. Their analysis indicate a very strong medium term impact of corruption. Dzhumashev (2014) demonstrate how corruption and economic growth is been affected by the size of public spending, quality of governance and economic development. The study reveal that there is a decline in corruption due to economic development (a rise in wages). Hence, a target on tax evaders is a more effective way to reducing corruption and improving overall growth. Ugur (2014) report that for low-income countries, the marginal effect of corruption on per-capita GDP growth is unfavorable when the primary study estimates correlate to long-run growth. Zidi and Dhifallah (2013) conducted a panel analysis on corruption, governance and economic growth on a group of 30 developing countries from 1998-2011, sourced from the World Bank database. They employed institutional variables such as policy stability, democratic responsibility, bureaucratic quality, rule of law, regulatory quality and corruption index as independent variables; while the level of real GDP per capita is the dependent variable. From the findings, rule of law and corruption index has a negative correlation with economic performance with an index of -0.36 and -0.18. They conclude that for a

nation to achieve stability in long term economic growth, then a high degree of democratization is needed to address the poor quality of low-income bureaucrats as well as weak legal institutions. Rotimi, Obasaju, Lawal and IseOlorunkanmi (2013) analyzed corruption and economic growth in Nigeria spanning 1995-2010. They used lagged values of corruption and corruption index to measure its effect on the economy. The technique used to analyze the data were the OLS and Granger causality; which validate that corruption impair economic growth. They recommend that the government should employ public and private anti-corruption initiatives alongside campaigns against corruption. Dreher and Gassebner (2013) found support for the 'grease the wheels' hypothesis in 43 countries from 2003-2005. They argue that due to larger minimum capital requirements and larger bureaucratic procedures needed to start a business, corruption is beneficial as it tends to facilitate entrepreneurial activities significantly. Ajie and Wokekoro (2012) investigated the impact of corruption on sustainable economic growth and development in Nigeria from 1980-2011. The variables exploited were corruption, GDP, debt stock, unemployment rate, political stability and government expenditure. They found that Nigeria was seriously corrupt for 17 years; while a slight improvement was recorded from 1997-2011. d'Agostino, Dunne and Pieroni (2012) observed the impact corruption and military expenditures have on economic growth. Applying an endogenous growth model on public spending and resource allocation, they found that corruption and military spending have a significant burden on GDP per capita. Nguyen and Van Dijk (2012) model corruption, growth and governance in 741 private and 133 public state-owned firms in Vietnam. They utilized the multiple regression analysis to establish the effect of corruption on firm's growth. First, there is a negative correlation between the growth of private firms and corruption. Second, there is a positive but insignificant relationship between the growth of state-owned firms and corruption. They conclude that government should give a level-playing ground to all Vietnam firms so that corruption can be reduced to result to economic growth. Khan, Khan, Ahmed and Mehmood (2012) measured corruption as economic rent plus discretionary powers less accountability. They opine that the more opportunities for economic rent existent in a country, the greater the corruption; also, the greater the discretionary powers, the greater the corruption. From their findings, they recommend that the state may need to punish highly visible corrupt officials in order to establish credibility on its fight against corruption. Welsch (2011) assess the welfare cost of corruption. The direct (GDP per

capita) and indirect (a self-rated subjective well-being) effect was used to proxy genuine indicators of welfare. The result demonstrate that non-material factors are directly affected by corruption to a very considerable level. Ata and Arvas (2011) stated that the main determinants of corruption are high inflation and skewed income distribution. Campos, Estrin and Proto (2010) argued if corruption is a barrier to entry. They find corruption as a barrier to creation of new firms hence reducing competition and economic performance. Further findings show that the act of bribery is strongly correlated with the performance of firms. Méon and Weill (2010) used five measures of governance and three measures of corruption for a panel of 54 developed and developing economies; and show support for the 'grease the wheels' hypothesis. Everhart, Vazquez and McNab (2010) explored the effect of corruption on private and public capital, investment in human and on governance. Employing data from the International Finance Corporation, the result show that corruption associated with the buildup of private capital is highly significant and hence more destructive. Also, corruption has a negative correlation with governance which is believed to really daunt economic growth. Dreher and Schneider (2010) found that in low-income countries, corruption and the size of the shadow economy are complements. Aburime (2009) questioned the impact of corruption on bank profitability in Nigeria from 1996-2006; using a step-wise multiple regression analysis. Variables utilized are company-level, industry-level and macroeconomic indicators that could affect bank profits alongside corruption index. The study observed that an increase in corruption index is significantly associated with an increased in bank's profits; thus finding support for the 'grease the wheels' hypothesis. Accordingly, its view is that banks are mercenaries for corrupt financial flows, hence, bank officials should be made to live by the code of good conduct in addition to stringent penalties for defaulters. Boerner and

Hainz (2009) studied on the political economy of corruption and the role of financial institutions using the Spearman Rank Correlation Coefficient. For both developing and transition economies, there is a clear positive correlation between corruption index and the degree of financial intermediation. They advocate that a well-functioning financial institution can intensify the political backing for anti-corruption measures. Hudson and Jones (2008) debate on corruption and military expenditure cost using a panel analysis of countries with available data from 1984-2006. The result indicates that due to high external threats, the number of military personnel

increased; also expenditure on arms imports increased with the extent of external threat, corruption and GDP per capita. Finally, military expenditures and arms imports significantly impact corruption. Alam (2007) researched on the economic cost of corruption in less developed countries. The study attest that officials engage in supply-stretching whose long-standing cost are likely to offset any gains in allocative efficiency. In addition, the act of bribery imposes more cost as they tend to create more opportunities to receive bribe. Drury, Kriekhaus and Lusztig (2006) conducted a cross-sectional analysis under a 16 years period and observed that democratic governments do not suffer economic impairment from corruption. Méon and Sekkat (2005) tested the 'grease the wheels' and 'sand the wheels' hypothesis using corruption, growth, investment and some dimensions of governance in 63-71 countries from 1970-1998. They observed that a violent political state, a weak rule of law in addition to an inefficient governance worsens corruption and leads to low investment and growth. Thus, their result does not see corruption as a lubricant; thereby negating the 'grease the wheels' hypothesis. Gyimah-Brempong (2002) declared that either directly or indirectly, corruption decreases investment in physical capital and economic growth of African countries. Mo (2001) observed that political instability is the most significant path through which corruption affects economic growth.

4. Data and Methods

The intent of this study is to ascertain the impact of corruption in banks and how it impacts on overall real economic output. Time series were gotten from the Central Bank of Nigeria, Nigerian Deposit Insurance Corporation (NDIC) Statistical Database and the FITC Report on fraud and forgeries in banks. The data were logged to allow for precision,

robustness of estimates, and a reasonable level of multicollinearity. The statistical E-views10 software was employed to analyze the variables. The tests adopted include: the Unit Root test to estimate if the variables are stationary at levels or after first differencing; the Johansen Cointegration test to ascertain if a long-run equilibrium relationship exist among the variables; the VAR and Granger causality test to describe the changing behavior of financial data and for forecasting. It better summarizes the causal impact of shocks to variables in the model since all the variables are endogenous with lagged terms. Finally, the impulse response and variance decomposition test to estimate shocks to a system. In accordance with the objectives of the study, the model in its functional form is specified thus:

$$RGDP = f(\text{Teller Fraud, Forged Cheques, Clearing Fraud, E-Fraud, Suppression of Entries, Theft of Cash, Fraudulent Loans, Fraudulent Withdrawals, Miscellaneous corruption})$$

The functional relationship is modified into an econometric log-linear model as follows:

$$\ln RGDP_t = \gamma_0 + \phi_1 \ln CF_t + \phi_2 \ln EF_t + \phi_3 \ln FC_t + \phi_4 \ln FL_t + \phi_5 \ln FW_t + \phi_6 \ln MC_t + \phi_7 \ln SE_t + \phi_8 \ln TC_t + \phi_9 \ln TF_t + \mu_t, \dots \dots I$$

- Where;
- RGDP = real gross domestic product
 - CF = clearing fraud
 - EF = electronic fraud
 - FC = forged cheques
 - FL = fraudulent loans
 - FW = fraudulent withdrawals
 - MC = miscellaneous corruption
 - SE = suppression of entries
 - TC = theft of cash
 - TF = teller fraud
 - γ_0 = intercept
 - $\phi_1 - \phi_9$ = sensitivity element
 - μ_t = uncorrelated stochastic error term that justifies other variables outside of the model

It is therefore expected "apriori" that the coefficients of the models will follow thus: $\phi_1 - \phi_9 < 0$. This signifies an inverse relationship.

5. Results and Discussions

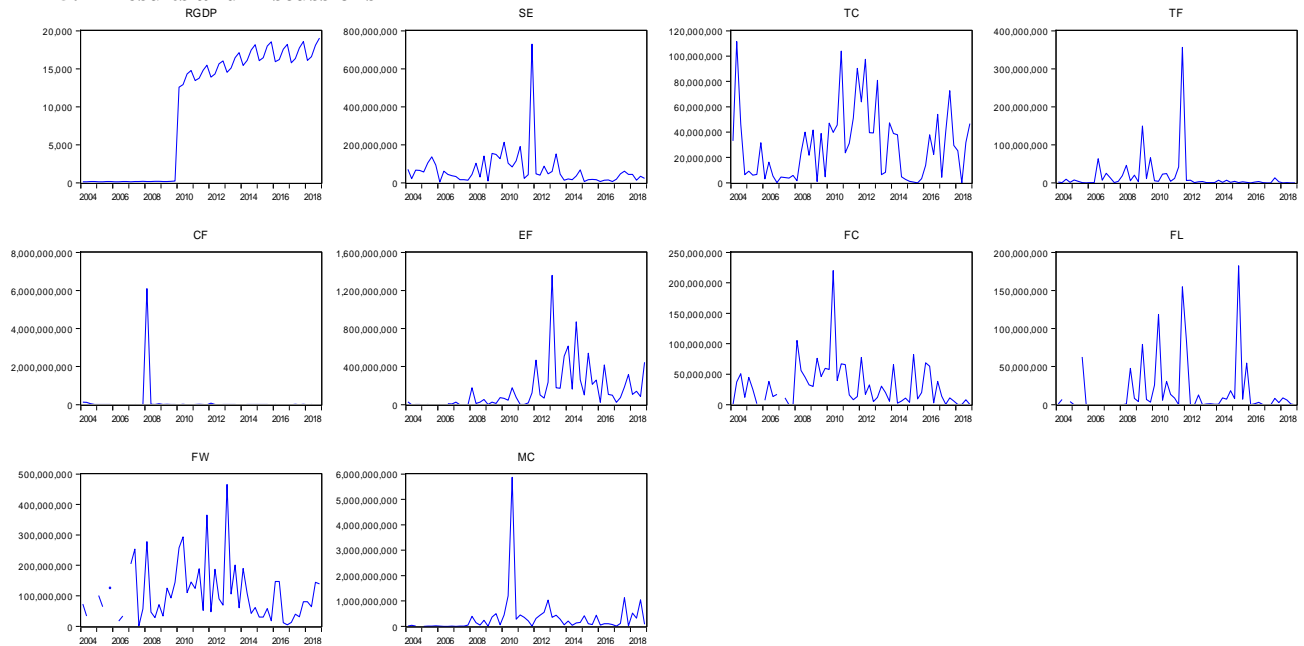


Fig 1: A graphical analysis of the variables (Eviews10)

From the plotted graph, all the variables exhibited periods of low and high volatility which goes to prove the frequency with which corruption occurred in the banking sector in all cases.

Table 4.1 Presentation of Results of ADF Unit Root Test of Stationarity

Variables	ADF statistic @5%	Test critical value @ 5%	Prob.	Order of integration
CF	-8.434315	-1.947665	0.0000	I(1)
EF	-9.218265	-1.947381	0.0000	I(1)
FC	-8.746960	-1.947665	0.0000	I(1)
FL	-12.20018	-1.947248	0.0000	I(1)
FW	-13.13483	-1.948140	0.0000	I(1)
MC	-11.85625	-1.946878	0.0000	I(1)
RGDP	-7.494006	-1.946549	0.0000	I(1)
SE	-10.96427	-1.966654	0.0000	I(1)
TC	-8.256689	-1.946654	0.0000	I(1)
TF	-13.08022	-1.946549	0.0000	I(1)

Source: Author's extraction from E-views10 computation

The first difference of the absolute test critical values in the ADF Unit root test are more than their test statistics; moreover, the probability values are less than their 5 percent level of significance. Consequently, we reject the null hypothesis that the variables are nonstationary.

From the cointegration analysis, the Trace test statistics indicate there are 7 cointegrating equations which are more than their critical values; and the p-values are less than their 0.05 level of significance which confirms the rejection of the null hypothesis that there is no cointegration between the variables. Hence, a long run equilibrium relationship exists among the variables.

Table 4.2 Johansen Test of Cointegration

Hypothesized No.of CE	Trace Statistic	0.05 Critical Value	Prob. **
RGDP*	527.9615	239.2354	0.0000
CF*	355.0445	197.3709	0.0000
EF*	255.9905	159.5297	0.0000
FC*	190.6253	125.6154	0.0000
FL*	131.3254	95.75366	0.0000
FW*	86.43759	69.81889	0.0014
MC*	50.14334	47.85613	0.0300
SE	27.75612	29.79707	0.0845
TC	9.795002	15.49471	0.2968
TF	2.933937	3.841466	0.0867

Source: Author's extraction from E-views10 computation

Table 4.3 VAR Test

Vector Autoregression Estimates

Date: 01/11/20 Time: 06:01

Sample (adjusted): 2008Q1 2018Q4

Included observations: 44 after adjustments

Standard errors in () & t-statistics in []

	RGDP	CF	EF	FC	FL	FW	MC	SE	TC	TF
RGDP(-1)	1.134312 (0.18281) [6.20472]	-60671.34 (99472.5) [-0.60993]	23373.88 (33300.9) [0.70190]	4389.605 (4041.64) [1.08610]	2827.876 (5682.18) [0.49767]	11315.55 (11507.2) [0.98335]	71921.88 (68103.5) [1.05607]	348.1303 (15373.5) [0.02264]	602.7674 (2580.38) [0.23360]	-6240.390 (7871.80) [-0.79275]
RGDP(-2)	-0.604374 (0.24096) [-2.50815]	21672.00 (131113.) [0.16529]	23253.87 (43893.2) [0.52978]	-4076.478 (5327.20) [-0.76522]	-907.8539 (7489.56) [-0.12122]	-3269.240 (15167.4) [-0.21554]	142804.7 (89765.9) [1.59086]	5416.478 (20263.6) [0.26730]	-1020.136 (3401.15) [-0.29994]	8110.181 (10375.7) [0.78165]
RGDP(-3)	0.477080 (0.19905) [2.39674]	-45158.52 (108309.) [-0.41694]	-50996.23 (36259.0) [-1.40644]	-2650.725 (4400.66) [-0.60235]	-2682.353 (6186.93) [-0.43355]	-11643.69 (12529.3) [-0.92931]	-206278.5 (74153.2) [-2.78179]	-8477.691 (16739.2) [-0.50646]	3300.332 (2809.60) [1.17466]	-3953.252 (8571.06) [-0.46123]
R-squared	0.978886									
Adj. R-squared	0.930162									
Sum sq. resids	36914034									
S.E. equation	1685.094									
F-statistic	20.09033									
Log likelihood	-362.5114									
Akaike AIC	17.88688									
Schwarz SC	19.14392									
Mean dependent	13160.73									
S.D. dependent	6376.435									

Source: Author's extraction from E-views10 computation

In order to determine the appropriate lag lengths, the multivariate generalization of Akaike's information criterion (AIC) was applied; and the Lag Exclusion Wald test selected three lags that help eliminate VAR residual autocorrelation. Furthermore, an unrestricted VAR was employed with equal number of lags in each equation so it can effectively be estimated by means of OLS (Table 4.4). From the analysis, the F-statistic of 20.09033 establish that all of the lags of each of the individual variable is jointly significant. Adjusted R² also prove that 93% of the variations in real gross domestic product is due to variations in the independent variables. The Durbin Watson statistic at 0.05 level of significance is 2.100508 which is greater than 1.902. This means that there is no evidence of positive first-order serial correlation.

Table 4.4 Ordinary Least Square Test

Estimation Method: Least Squares

Date: 01/11/20 Time: 10:51

Sample: 2008Q1 2018Q4

Included observations: 44

Total system (balanced) observations 440

$$\text{Equation: } \text{RGDP} = \text{C}(1)*\text{RGDP}(-1) + \text{C}(2)*\text{CF}(-1) + \text{C}(3)*\text{EF}(-1) + \text{C}(4)*\text{FC}(-1) + \text{C}(5)*\text{FL}(-1) + \text{C}(6)*\text{FW}(-1) + \text{C}(7)*\text{MC}(-1) + \text{C}(8)*\text{SE}(-1) + \text{C}(9)*\text{TC}(-1) + \text{C}(10)*\text{TF}(-1) + \text{C}(11)*\text{RGDP}(-2) + \text{C}(12)*\text{CF}(-2) + \text{C}(13)*\text{EF}(-2) + \text{C}(14)*\text{FC}(-2) + \text{C}(15)*\text{FL}(-2) + \text{C}(16)*\text{FW}(-2) + \text{C}(17)*\text{MC}(-2) + \text{C}(18)*\text{SE}(-2) + \text{C}(19)*\text{TC}(-2) + \text{C}(20)*\text{TF}(-2) + \text{C}(21)*\text{RGDP}(-3) + \text{C}(22)*\text{CF}(-3) + \text{C}(23)*\text{EF}(-3) + \text{C}(24)*\text{FC}(-3) + \text{C}(25)*\text{FL}(-3) + \text{C}(26)*\text{FW}(-3) + \text{C}(27)*\text{MC}(-3) + \text{C}(28)*\text{SE}(-3) + \text{C}(29)*\text{TC}(-3) + \text{C}(30)*\text{TF}(-3) + \text{C}(31)$$

Observations: 44

R-squared	0.978886	Mean dependent var	13160.73
Adjusted R-squared	0.930162	S.D. dependent var	6376.435
S.E. of regression	1685.094	Sum squared resid	36914032
Durbin-Watson stat	2.100508		

Table 4.5 VAR Granger Causality/Block Exogeneity Wald Tests

Date: 01/11/20 Time: 06:06

Sample: 2004Q1 2018Q4

Included observations: 44

Dependent variable: RGDP			
Excluded	Chi-sq	df	Prob.
CF	4.933166	3	0.1768
EF	1.358098	3	0.7154
FC	1.808660	3	0.6131
FL	5.376187	3	0.1462
FW	7.224604	3	0.0651
MC	2.766160	3	0.4291
SE	11.78914	3	0.0081
TC	6.186111	3	0.1029
TF	23.09009	3	0.0000
All	51.43750	27	0.0031

Source: Author's extraction from E-views10 computation

From the above analysis, only lags of Suppression of Entries (SE) and Teller Fraud (TF) have significant explanatory power for real economic output. This means that movements in SE and TF appear to lead movements in real gross domestic product as their probability values are less than the 0.05 level of significance.

In furtherance, two opposite orderings were applied to capture sensitivity of the system in the impulse response and variance decomposition test. From the impulse response test, innovations to CF, FL, MC, SE and TC have negative impact on real economic output due to negative shocks that do not die away even after 10 quarters. Also, the variance decomposition test reveal that, by the first period forecasting horizon, shocks to CF, SE and TF account for over 57.9 percent of forecast error variance in real economic output, while EF, TC, and MC together gave a forecast error variance of 10.7 percent. Nevertheless this indicate that CF, SE and TF have a contemporaneous rather than a lagged effect on real economic output. The absence of lagged effects could imply a speedy adjustment of real economic output to alterations in these variables.

Table 4.6 Variance Decomposition and Impulse Response test of RGDP

Period	S.E.	RGDP	CF	EF	FC	FL	FW	MC	SE	TC	TF
1	1685.094	28.52223	21.29845	5.810464	1.096207	0.016471	1.670781	1.933410	11.42540	2.983726	25.24287
2	2693.778	25.52174	30.55036	3.130463	2.254232	1.092245	1.803934	1.273203	6.490259	1.423266	26.46030
3	3430.321	19.70590	35.82847	2.029765	1.740533	5.731972	6.191207	1.748894	6.026322	2.176511	18.82043
4	4821.016	14.33800	37.17728	1.071621	0.973461	15.82844	5.630193	1.398791	3.398558	2.287457	17.89621
5	5652.138	13.49727	37.67432	0.931057	0.724722	16.13492	4.097610	1.171794	5.110522	1.667240	18.99056
6	6123.510	13.23853	39.85507	0.804539	0.621613	15.13777	3.924948	1.481652	4.603597	1.430901	18.90138
7	6485.833	12.87828	40.77708	0.726937	0.584408	14.12230	3.543753	1.781057	4.216281	1.308140	20.06177
8	6812.926	12.39558	39.90939	0.781195	0.577302	14.40652	3.214024	2.121770	3.880508	1.232187	21.48152
9	6990.051	12.16489	38.83996	1.069673	0.949337	13.96257	3.060854	2.058430	3.912661	1.302724	22.67890
10	7096.979	12.05101	38.38133	1.169693	1.123930	13.70067	3.011051	2.693651	3.924107	1.27473	22.67309

Source: Author’s extraction from E-views10 computation

6. Conclusion, Recommendation and Limitations

This paper applied quarterly data on corrupt activities of banks’ officials and real economic output in the Nigerian economy, for a period of fifteen (15) years. Data were sourced from the Central Bank of Nigeria (CBN), Nigerian Deposit Insurance Corporation (NDIC) Statistical Database and the FITC Report on fraud and forgeries in banks; and the Eviews10 statistical software was employed to analyze it. The data were converted to logarithmic form to ensure precision and robustness of estimates. From the unit root test, all the variables were stationary at first difference. The Johansen test shows that a long run cointegrating relationship exists at the 5 percent level. The F statistic from the VAR estimates indicates that all of the lags of each of the individual variable is jointly significant. From the Granger causality/Block Exogenous Wald test, only lags of Suppression of Entries (SE) and Teller Fraud (TF) have significant explanatory power for real economic output. In addition, the impulse response and variance decomposition test reveal that innovations to the system impact negatively on real economic output. Specifically, Clearing Fraud, Suppression of Entries and Teller Fraud account for over 57.9 percent forecast error variance in real economic output. Overall, real economic output can be explained by the variables used in this study. The result strongly suggest significant influence of the variables on the variations in real economic output. There is robust evidence that Clearing Fraud, Suppression of Entries and Teller Fraud have a contemporaneous effect in the Nigerian economy; thus supporting the ‘Sand the Wheels’ hypothesis that corruption is an impediment to growth and

development in support of previous findings by Lučić, Radišić and Dobromirov (2016); Ugur (2014) and Rotimi, Obasaju, Lawal and IseOlorunkanmi (2013); that corruption impair per-capita GDP growth. . Consequently, the study advocate for banks to put in place novel expertise alongside stringent penalties to discourage corrupt acts. In addition, the Central Bank of Nigeria should authorize that banks conduct monthly training and retraining of its staff on good ethical standards as well as improved and transparent reward systems to minimize corruption among its officials.

This study’s investigation is limited to secondary data and as such the validity and/or accuracy of the raw data utilized are not within this research control.

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