



Impact of Corruption on Economic Growth in Nigeria: Greases or Sand the Wheel Hypothesis

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ARTICLE DETAILS	ABSTRACT
History Revised format: Feb, 2021 Available Online: Mar, 2021 Keywords Corruption, Ordinary Least Square (OLS), ADF, Government Expenditure, Labor Force Participation Rate.	Current study investigates that how economic growth of Nigeria is influenced by corruption. On data of time series from 1995 to 2020, the study applied Ordinary Least Square (OLS) method to estimate the effect of corruption on economic growth. The study also utilized Augmented Dickey Fuller test for stationary purpose. The results of OLS show negative but significant impact of corruption on economic growth. While other variables government expenditure and labor force participation rate has positive and significant but inflation put positive and insignificant impact on economic growth. The results also confirm the Sand the Wheel Hypothesis (SWH) in Nigeria. The results recommend that economic growth is improved by with the zero acceptances with corruption. The study also suggests that anti-corruption agencies should be stronger in eliminating corruption.

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1. Introduction

Any country economic growth is set on the gross domestic product of that country. Increment in gross domestic product shows the better economic condition that country. Any type of variation in gross domestic product will affect the overall economic performance of the state. Many factors are there, that affect the economic development of the state. Corruption is one of them. In general, corruption is clarified as mishandle of the public authority for personal consolation; or it contains protecting wealth or authority through illicit way for personal gain. It also takes place when, a private negotiator provides bribes to avoid public policy for personal benefit through nepotism. It also includes stealing of the possessions of the nations. An officer is doing corruption if he acquires cash for doing something that he is under responsibility to do or that is under duty not to do. A person is also corrupt who participate in nepotism and favouritism. Corruption exists in all nations whether they are, poor or wealthy, democracies or dictatorship, capitalist or socialist. It is also existing in feudal system, socialist system and capitalist system. As report of International Transparency, corruption is mistreatment of the public authority for personal benefit which mutilates every person who relies on the honesty of people in a position of power. Corruption is a worldwide disease which span within the territories of the world and at every stage of the nation, but the effect of corruption is utmost in developing nations (Interpol, 2016). The World Bank identifies corruption

is the exploitation of public office for personal benefits through bribery, nepotism and extortion. According to Oxford Dictionary, corruption is identified as dishonest and criminal behaviour when a person in public power. Corruption is very dangerous and ruinous to any economic system. It not only rises misallocation of resources but also causes to raise the production cost, diminish the productivity of resources. It tends to create high rate of poverty, high prices of the product, and decrease in investment in physical and human capital. This tends to slow down the economic system. Like other countries Nigeria is also facing the problem of high level of corruption. In Nigeria, Poor health system, less spending on education, high rate of unemployment, high level of poverty, lack of confidence and many others all problems are because of enormous level of corruption in official sector. The president of Nigeria proclaims that “if Nigerians don’t kill corruption, corruption will kill Nigeria”. It is evaluated that, since independence Nigeria have to vanish more than \$400 billion to corruption. According to Transparency International Index, Nigeria ranked 144th in the list of 180 countries in 2018. In recent Corruption Perception Index by International Transparency 2020, Nigeria ranked 146th out of 180 countries. Corruption effect economic growth directly and indirectly in Nigeria. Some authors e.g (Okenna, 2020; Olamide. Folorunso & Oriola Oyewole, 2018; Adegboyega, 2017; Ertimi, Dowa, Albisht & Oqab, 2016; Nwanko, 2014; Aliyu & Elijah, 2008) postulate that in Nigeria, corruption put negative effect on economic development. The authors also conclude that corruption is obstacle to economic development and investment. The pivotal aim of this paper is to scrutinize the impact of corruption on economic growth as well as on other macroeconomic variables government expenditures, inflation and labour force participation rate. For this purpose, the research work covered the Federal Republic of Nigeria.

2. Literature Review

There is plenty of study in which the effect of corruption on economic augmentation in different states has been discussed. Some studies also discuss the Sand the Wheel Hypothesis and Greases the Wheel Hypothesis in many countries. Some reviews of different studies are given below. Majumder et al (2020), find out the effect of corruption on economic extension in Bangladesh, Pakistan and India. The results of ARDL model show that, corruption put negative and inconsiderable effect on economic development in these three countries. The study also concludes that, economic growth is positively impacted by international trade in Pakistan, Bangladesh and India. Okenna (2020), investigate the impact of corruption on economic development by exerting annual time series data of 21 years starting from 1995 in Nigeria. The results of the Ordinary Least Square (OLS) show that there is negative association among Gross Domestic Product, Corruption Perception Index, Government Expenditure and Industry Value Add respectively. While, optimistic affiliation between FDI and GDP exist. The study concludes that economy cannot grow rapidly until corruption is eradicated. Omodero (2019), scrutinize the influence of corruption on inflow of foreign direct investment in Nigeria. The study used data of 21 years of different variables like FDI as dependent and CPI, Exchange Rate, Corruption Ranking of Nigeria (CRN) and Inflation as independent variables. The findings of multiple regression analysis show, positive effect of corruption on FDI. However, inflation put negative but significant, and Corruption Ranking of Nigeria and exchange rate put negative and unimportant effect on FDI. Abu & Staniewskia (2019), examines the drivers of corruption in Nigeria by using data of 32 years of different variables like Corruption Index as dependent and GDP per capita, rent % of GDP, Military Expenditure, trade openness % of GDP, civil liberties index and political right of freedom house as dependent variables. The results of Autoregressive Distributed Lag model show that the main deterrents

of corruption in Nigeria are political rights, civil liberation, spending on military, rents, economic development and openness in long run. Study also concludes that, increase in economic development, civil liberties, openness and military expenditure will lead to decrease corruption, and increase in rent and political right will lead to an increase in corruption. OriolaOyewole et al (2018), evaluate the effect of corruption on economic growth from 1996 to 2017 in Nigeria. The study employs GDP growth rate as dependent and corruption perception index, poverty rate and gross capital formation as independent variables. The results of ARDL and Johansen Co-integration analysis show significant but negative affiliation between GDP and Corruption in Nigeria. Shabbier (2017), examine the role of corruption, democracy and GDP whether the corruption sand the wheel or greases the wheel. The study used panel data of 18 years of 8 countries include Bangladesh, Indonesia, Malaysia, Turkey, Egypt, Iran, Nigeria and Pakistan. The empirical outcome shows considerable and positive association between corruption and democracy. The study concludes that corruption greases the wheel and promotes growth in which countries where democratic standard is very poor like in Egypt, Iran, Nigeria and Pakistan. While on the other hand corruption sand the wheel in which countries where soaring level of democracy like Bangladesh, Turkey, Malaysia and Indonesia. Adegboyega (2017), scrutinize that how economic growth is influenced by corruption in Nigeria by applying OLS method. After analysis, the study concludes the results that, corruption and poverty put negative and insignificant influence on economic growth, while FDI and Trade Openness put optimistic effect on growth of economy in Nigeria. Enhancement in FDI and Trade Openness will guide to enlargement in economic welfare in Nigeria. Oqab et al (2016), inquired the influence of corruption on economic development of OIC countries. The study analyzed panel data of 14 OIC countries and using only dependent and eight independent variables. The results of regression analysis show that corruption put negative effected growth of economy in the countries included. The study finds out also, some variables put positively impacted on economic growth and promote economic development, while corruption decrease economic performance in the countries. Nwankwo (2014), inspect the role of corruption on economic development in Nigeria. After the implication of different econometric models, the results show negative affiliation between economic growth and corruption in long run and slow down the performance of the economic activity. Mikaelsson & Sall (2014), scrutinized in developing countries the association among growth of economy and corruption. The study applied GDP as dependent and CPI, Education, Democracy, Fertility Rate, Life Expectancy and GDP initial as independent variables. The results of econometric technique show that economic growth is negatively impacted by corruption in developing countries. Also; the study finds out that corruption damages the innovative activities in the countries. Zaman et al (2013), examines the affiliation between economic growth and corruption in Pakistan. The results show positive and significant impact of population growth, government spending and education expenditure on economic development in Pakistan. However, in Pakistan, corruption put negative impact on economic growth. Pulok (2012), examines corruption influence on growth of economic in Bangladesh. The results of the autoregressive distributed lag approach states; negative impact of corruption on economic augmentation in Bangladesh in long run. It means that corruption affecting the economic performance in Bangladesh in long run. Ghani et al (2011), presented the influences of political uncertainty, Bureaucratic and Governance corruption on growth and inflation in Pakistan. The results show that, high rate of corruption along with weak governance led to increase in inflation and slow down the growth rate. Oludele et al (2008), probe into the impact of corruption on economic enlargement in Nigeria. The study also finds out the impact of corruption on other variables from 1986 to 2007. The results show that corruption put negative but significant effect on economic growth. Further,

corruption put negative impact on human capital development and total employment, but positive and significant impact on government capital expenditures.

3. Theoretical Framework

Usually said that, corruption is terrible for GDP growth of any country, it should be eradicate it with an iron hand. The discussion about the influence of corruption on economic growth in any country is divided by two hypotheses: “Sand the Wheel Hypothesis (SWH)” and “Grease the Wheel Hypothesis (GWH)”. Some researchers are in favor of Sand the Wheel Hypothesis (SWH) and some are in favor of Grease the Wheel Hypothesis (GWH). Followers of (SWH) hypothesis proclaim that, corruption is unfavorable to economic growth it affects the overall sectors of economic growth (Tanzi, 1998). Indeed, corruption set unfavorable effect on economic growth via bribery. Bribery increases the cost in which countries where the governance system is low. Bureaucratic corruption also lead sand the wheels, it happened when Bureaucrats use their power for personal gain by bribes and extortion (Dzhumashev, 2014). Moreover, by the use of Bureaucratic supremacy on resources allocations accelerate corruption in the public sector. The productivity of physical capital and human capital is also diminishing because of dishonest in practice. This will occur when superiority of the resources is dehumanizing as little concentration is paid to the maintenance. This will affect the overall productivity of human and physical capital and also economic growth and investment (Gyimah – Brempong, 2002). On the other hand, some are supporter of Greases the Wheel Hypothesis (GWH). Supporters of Hypothesis of Grease the Wheel (GWH) declared that; due to the developmental and economic conveniences of corruption, it is finer to considered the affiliation between economic growth and corruption on ethical basis (Leys, 1965; Ney, 1967). Empirical proof of recent literature proposes that corruption make possible and accelerate the procedure of transaction and enhance productivity and efficiency (Aidt 2003; Cuervo-Cazurro, 2006). Corruption helps to bring enhancement in quality between social servants where corruption used as rewards in incompetent bureaucratic system (Van Rijckeghem and Weder, 1997, 2001; Meon and Wiell, 2010). So, corruption facilitate in eliminate misrepresentation connected with non-performing organization in states that have a faulty or average governance system.

4. Data and Methodology

The present study used time series data from 1995 to 2020 to ascertain that economic growth in Nigeria is influenced by corruption. The data of different variables like GDP, Corruption, Government Expenditures, Inflation and Labor Force Participation Rate are collected from different sources such as World Development Indicator (WDI), The Global Economy, Transparency International and different economic surveys of Nigeria. The present study applied Ordinary Least Square (OLS) technique to ascertain the relationship between dependent and independent variables. OLS is a methodology of evaluating the unidentified parameters in a Linear Regression Model (LRM). Data of dependent and independent variables are articulate in Logarithm form. The estimated equation can be written as: $\text{GDP} = f(\text{Corruption, Government Expenditure, Inflation, Labor Force Participation Rate})$

The Multiple Regression Model of the study is:

$$\text{GDP} = \beta_0 + \beta_1 \text{COR} + \beta_2 \text{GE} + \beta_3 \text{INF} + \beta_4 \text{LFPR} + \mu_i$$

5. Results and Discussion

In this part of the study, empirical data analysis will be present.

Descriptive Statistics:

The summaries of descriptive statistics of variables are given in the table below.

	LOGGDP	LOGCOR	LOGGE	LOGINF	LOGLFPR
Mean:	5.270672	-0.179892	1.988972	2.508034	4.057611
Median:	5.647701	-0.172258	2.937840	2.471071	4.090755
Maximum:	6.303864	0.102662	3.632309	4.288204	4.103304
Minimum:	3.785552	-0.564281	-0.755023	1.684176	3.964426
Std. Dev:	0.884293	0.149385	1.682252	0.515675	0.053439
Skewness:	-0.454026	-0.726643	-0.551772	1.551736	-0.835246
Kurtosis:	1.570697	3.376941	1.568168	6.763925	1.852259

Sources: Calculation by Using E-views 9

In the above table, the first row shows the average of LOGGDP, LOGCOR, LOGGE, LOGINF and LOGLFPR is (5.270672), (-0.179892), (1.988972), (2.508034) and (4.057611) respectively. The values of skewness are specified in the second last row of the table. Skewness is the asymmetry and inequity from the mean of data distribution. The distribution of data is skewed, if the mean is in the middle and top point of the bell curve and mean median and mode are same. Here in the table, we can see that, LOGGDP, LOGGE and LOGLFPR are skewed negatively because their mean value is lesser than their median value. While LOGCOR and LOGINF is positively skewed because their mean value is greater than their median value. Last row shows the values of Kurtosis, It shows the flatness and peakness of the data to normal distribution. If probability distribution is highly peaked, the value is greater than 3, it is entitled Leptokurtic. If probability distribution shows flatness of the data, the value is lesser than 3, it is entitled platykurtic. In the table below, we can see that the values of LOGGDP, LOGGE and LOGLFPR are less than 3, so these variables are platykurtic, on the other hand values of LOGCOR and LOGINF are greater than 3, so these variables are Leptokurtic.

Pair – Wise Correlation:

The issue of multicollinearity among variable is frequently recognized by Pair – Wise coefficient of correlation. The high values of coefficient of correlation of more than one variable show the problem of multicollinearity.

Variables	LOGGDP	LOGCOR	LOGGE	LOGINF	LOGLFPR
LOGGDP:	1.000000				
LOGCOR:	0.447063	1.000000			
LOGGE:	0.907392	0.504463	1.000000		
LOGINF:	-0.324365	-0.142812	-0.336559	1.000000	
LOGLFPR:	-0.682972	-0.300861	-0.570844	0.129250	1.000000

Sources: Calculation by Using E-views 9

The table above shows the correlation matrix of all variables. The results show that LOGGE is highly correlated (0.907392) with LOGGDP; this shows the problem of co-linearity another variable like LOGCOR, LOGINF and LOGLFPR (0.447063), (-0.324365) and (-0.6682972) respectively. This shows less correlation with LOGGDP.

Unit Root Test

For data stationary reason; the present study applied (ADF) Augmented Dickey Fuller unit root test. The results of the ADF are present in the table below.

Variable	Level		1 st Difference		Conclusion
	Intercept	Trend & Intercept	Intercept	Trend & Intercept	
LOGGDP	-----	-----	0.0361	-----	1(1)
LOGCOR	-----	-----	0.0024	-----	1(1)
LOGGE	-----	-----	0.0010	-----	1(1)
LOGINF	0.0002	-----	-----	-----	1(0)
LOGLFPR	-----	-----	0.0965	-----	1(1)

Sources: Calculation by Using E-views 9

As show in the table above, LOGGDP, LOGCOR, LOGGE and LOGLFPR are stationary at 1st difference and intercept and LOGINF is stationary at level and intercept. All variables except LOGLFPR are stationary at 5% but LOGLFPR is stationary at 10%.

Ordinary Least Square Results:

The table below shows the effect of independent variables on dependent variables.

Ordinary Least Square Method				
Dependent Variable Log of GDP				
25 Observation from 1995 to 2020				
Variables	Coefficients	Std. Error	t-Statistics	Prob.
LOGCOR	-0.325918	0.129401	-2.518670	0.0204
LOGGE	0.171783	0.033598	5.112920	0.0001
LOGINF	0.009071	0.044227	0.196225	0.8464
LOGLFPR	0.317360	0.059961	5.292806	0.0000
LOGGDP (-1)	0.687620	0.057312	11.997786	0.0000
R ² :	0.992109	Durbin-Watson Test:		2.373305
Adjusted R ² :	0.990530			

Sources: Calculation by Using E-views 9

The results show that, the value of coefficient of corruption shows the negative but significant impact on economic growth. It shows that 1% increase in corruption, -0.325918 units reduce in GDP. Present study supports the judgment of Odi (2014).

The value of coefficient of government expenditures shows optimistic and significance effect on GDP growth. If one percent increases in government expenditures 0.171783 units increase in GDP. The present study supports the findings of Ebong, F., Ogwumike, F and Ayodele, O (2016). The value of coefficient of inflation shows positive but insignificant impact on economic growth. It shows that 1% increment in inflation it will lead to increment in gross domestic product by 0.009071 units. My study confirms the findings of Bawa and Abdullahi (2012). The value of coefficient of labor force participation rate is also show positive and significant impact on GDP growth. It shows that 1% increase in labor force it will bring 0.317360 units increase in GDP growth. The result of the present study is also confirmed by Young, A. (2018). All the variables show positively impacted on GDP growth in Nigeria except corruption.

Auto – Correlation:

Breusch – Godfrey Serial Correlation LM test is utilized for the purpose of issue of autocorrelation. The table below shows the results LM test.

Breusch – Godfrey Serial Correlation LM Test	
F – Statistic	0.484042
Prob.	0.6241

Source: Calculation by Using E-views 9

The problem of autocorrelation is undertaken by taking lag of dependent variable. The probability value is insignificant it shows there is no autocorrelation.

Heteroskedasticity Test:

The problem of heteroskedasticity is test by Breusch – Godfrey test. The table below shows the results for Heteroskedasticity.

Heteroskedasticity Test Breusch – Pagan – Godfrey	
F – Statistics	0.756316
Prob.	0.5920

Source: Calculation by Using E-views 9

The results of Breusch – Pagan – Godfrey test for heteroskedasticity is shown in the above table. The probability value is insignificant which show no obstacle of heteroskedasticity in the data.

6. Conclusion

Core objective of the current study is to ascertain the impact of corruption on economic growth in Nigeria by exerting annual time series data from 1995 to 2020. The study reviews of some literatures that are associated with corruption and economic growth. In these reviews some studies put negative impact and some have positive impact of corruption. The study also discusses the sand the wheel and greases the wheel hypothesis. According to this, if corruption leads to economic growth this will confirm the greases the wheel hypothesis and if corruption decrease economic growth this will confirm the sand the wheel hypothesis. The study applied Ordinary Least Square (OLS) technique for the findings. The findings show that, corruption put negatively but significantly affect

economic growth in Nigeria. On the other hand, government expenditures, labor force participation rate put positive and significant impact and inflation has positively but insignificantly impacted economic growth in Nigeria. The results also confirm the San the Wheel Hypothesis (SWH) in Nigeria. On the basis of findings, the study recommends that economic growth is enhancing by with the zero tolerance with corruption. The study also suggests that anti-corruption agencies should be stronger in eliminating corruption.

REFERENCES

- Miah, M. M., Ratna, T. A., & Majumder, S. C. THE IMPACT OF CORRUPTION ON THE ECONOMIC GROWTH IN BANGLADESH, INDIA AND PAKISTAN: AN ARDL APPROACH.
- Okenna, N. P. (2020). Impact of Corruption on Nigeria's Economic Development. *Available at SSRN 3635544*.
- Omodero, C. O. (2019). Effect of corruption on foreign direct investment inflows in Nigeria. *Studia Universitatis „Vasile Goldis” Arad–Economics Series*, 29(2), 54-66.
- Nurudeen, A., & Waldemar Staniewski, M. (2019). Determinants of corruption in Nigeria: evidence from various estimation techniques. *Economic research-Ekonomska istraživanja*, 32(1), 3052-3076.
- Olamide, O. I., Folorunso, W. A., & OriolaOyewole, A. D. E. S. A. N. M. I. CORRUPTION AND ECONOMIC GROWTH IN NIGERIA, (1996–2017).
- Shabbir, G. (2017). CORRUPTION, DEMOCRACY AND ECONOMIC GROWTH. *Pakistan Economic and Social Review*, 55(1), 127-145.
- Adegboyega, R. (2017). CORRUPTION AND ECONOMIC GROWTH IN NIGERIA: A COINTEGRATION (FM-OLS) APPROACH. *Annals of the University of Petrosani Economics*, 17(1).
- Ertimi, B. E., Dowa, A., Albisht, E. M., & Oqab, B. A. (2016). The impact of corruption on economic growth in OIC countries. *International Journal of Economics and Finance*, 8(9), 91-103.
- Nwankwo, O. F. (2014). Impact of corruption on economic growth in Nigeria. *Mediterranean Journal of Social Sciences*, 5(6), 41-41.
- Mikaelsson, A., & Sall, S. (2014). Does corruption have a significant effect on economic growth? An empirical analysis examining the relationship between corruption and economic growth in developing countries.
- Amin, M., Ahmed, A., & Zaman, K. (2013). The relationship between corruption and economic growth in pakistan--looking beyond the incumbent. *Oeconomics of knowledge*, 5(3), 21.
- Haider, A., ud Din, M., & Ghani, E. (2011). Consequences of political instability, governance and bureaucratic corruption on inflation and growth: The case of Pakistan. *The Pakistan Development Review*, 773-807.
- Pulok, M. H. (2010). The impact of corruption on economic development of Bangladesh: evidence on the basis of an extended Solow model.
- Aliyu, S. U. R., & Elijah, A. O. (2008). Corruption and economic growth in Nigeria: 1986-2007.

Young, A. O. (2018). Impact of Labour Force Dynamics on Economic Growth in Nigeria: An Empirical Analysis Using ARDL Bound Testing Approach.