

# CORRUPTION CONTROL AND ECONOMIC DEVELOPMENT IN NIGERIA: AN EMPIRICAL ANALYSIS (1997 -2018)

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## Abstract

*This study examined the effect of corruption control on economic development in Nigeria. Data were collected from the World Bank worldwide governance indicator for the period 1997 to 2018. Using ordinary least square technique, the result shows that corruption control was positively insignificant (co-efficient = 0.067843 and probability = 0.7682). The F-probability of the model shows 0.000391 that is less than the significant level of 5%, the study concludes that the independent variables have an overall significant effect on the economic development of Nigeria. From the Granger causality test it shows that if corruption is appropriately controlled, it will bring about government effectiveness. Also, if economic development is improved there will be political stability (i.e. the following will be reduced; insurgency, agitation for resource control, disintegration, hate speech, revolution, etc.). The study, therefore, recommends that the government should legalise some form of settlement like public relation and social responsibility. Also, the government should be able to define clearly between corruptions and looting of the country's treasuries and strengthen the anti-graft organizations in this line. Again, the*

*government should evolve strategies that will improve economic development (i.e. human development index component of per capita income, level of education, and health) to reduce political instability.*

**Keywords:** Corruption Control, Government Effectiveness, Human Development Index, Political Stability, Regulatory Quality, Rule of Law.

## I. INTRODUCTION

Corruption and its control in Nigeria dated back to the first republic days. The corruption this period was mostly clouded by political in-fight and as such the law court was there to settle these in the absence of a control body. Hereafter, the military regimes of General Yakubu Gowon, General Murtala Mohammed (1975 – February, 1975) and General Olusegun Obasanjo (February, 1975 – September, 1979) fully aware of the corruptions of the previous regime did not establish any anti-graft agency to probe them (Frankel, 1984).

In the second republic of Shehu Shagari, no effort was made to control or bring corrupt members of the previous regimes to book as no anti-graft body was established, knowing full well that those regimes were

characterised by high levels of corruptions (Frankel, 1984). In 1985, a cross-section of politicians was convicted of corrupt practices as a control measure under the government of General Muhammadu Buhari, as the past regime was deemed pervasive of corruption. Also, the administration itself was only involved in a few instances of lapsed ethical judgment without any institution or body established to correct the ills (Obinna, 2014). The regime of General Ibrahim Babangida, popularly called “IBB” or “Maradona”, has been seen as the body that legalized corruption (Obinna, 2014). The death of General Sani Abacha revealed the global nature of graft, still, no corruption control institution except the decrees put in place to punish those found wanting. The administration of General Abdusalami was short (June, 1998 to May, 1999). It focused on transiting the country quickly to democracy and not control of corruption (Transparency International, 2015).

Olusegun Obasanjo's presidency (May 1999 to May, 2007), in the third republic, witness the establishment of bodies to prevent and control corruption practices in Nigeria. Despite the establishment of these anti-graft agencies, Independent Corrupt Practices and Other Related Offences Commission (ICPC) in 2000 and Economic and Financial Crimes Commission (EFCC) in 2003, corruption has continued unabated, enfeebling institutions and stifling investment. Politics is deplorably debased regardless of the establishment of these anti-graft agencies (Transparency International, 2015).

As per the 2018 Corruption Perceptions Index revealed by Transparency

International, Nigeria is the 144 least corrupt countries out of 175 nations. Corruption Rank in Nigeria arrived at the midpoint of 121.48 from 1996 until 2018, arriving at an all-time high of 152 in 2005 and a record low of 52 in 1997. This implies the malevolence of alarming corruption is unquenchable becoming uncontrolled in Nigeria.

Corruption control can thus be defined as a way of minimising the abuse of public office for private benefit (Johnston, 1998), is a universal measure. It can be seen on every wealthy and poor nation to a different extent and forms. Corruption control which takes many forms including the fight against bribery, extortion, nepotism, fraud, insider trading and conflict of interest. Corruption control is to bring about an increase in investments, growth, and expenditures (for education and health), increasing income inequality, distorting markets and allocation of resources.

Having seen the definition of corruption control, it can be adjudged that if properly carried out, it can significantly improve economic development, conversely economic growth, which in turn bring about political stability and fortify democracy, strengthen administrative capacity, reduce insurgency, and discourages national disintegration. James D. Wolfensohn, president of the World Bank in his address to the Board of Governance pointed out that: The causes of financial crises and poverty are the same, if countries do not have good governance, if they do not confront the issue of corruption, if they do not have complete legal system which protects property rights and contracts, their

development is fundamentally flawed and will not last. This study aims to examine the effect of corruption control on the economic development of Nigeria for the period 1997 to 2018. The study is based on the theoretical framework of Barro (1991) and Mauro (1995, 1997) as extended in the study of Akçay (2006). However, this differs from Akçay's in several aspects. Firstly, this study is on Nigeria regression and covers the period of 1997-2018 whereas Akçay's own was a cross-country regression covering the period of 1960-1985. Secondly, in this study, the human development index is used as the dependent variable and control of corruption indices as the independent variables. New control variables are introduced in the model of this study, contrary to the ones in Akçay's model of inflation rate (a proxy for macroeconomic instability), pupil/teacher ratio (as a proxy for quality of human capital) and regional dummy. In-depth treatment of the model specification is in the methodology section of this study. The remaining part of the study is structured as follows. Section II summarizes selected related literature on corruption and economic growth. Section III, describes the methodology, data and model specification. Section IV discusses regression result. Section V discusses the granger causality result. Section VI recommends and concludes.

## **II. SELECTED RELATED LITERATURE REVIEW**

Basically, in the literature of corruption and economic development, two sides existed. On one side is the school of thought that holds the view that corruption reduces economic development, thus corruption

needs to be controlled. The advocates of this thought are McMullan (1961), Myrdal (1968), Krueger (1974), Sheifer & Vishny (1993), Mauro (1995), and Tanzl (1998) in Akçay (2006). They claimed that corruption hinders economic development by distorting markets, and allocation of resources.

On the opposite side, is the school of thought that holds sway that corruption enhances economic development as such corruption needs no control; these include Leff (1964), Nye (1967), Huntington (1968), and Friedrich (1972) in Akçay (2006). They claimed that corruption allows business actors to work around pervasive and inefficient bureaucratic procedures, reducing some of the adverse effects of red tape. Huntington (1968) in Akçay (2006) particularly stated that: "in terms of economic growth, the only thing worse than a society with a rigid, over-centralised, dishonest bureaucracy is corruption." In a situation like this, it is reasonable that corruption may enhance the efficiency of the system and as a result, help economic development.

Recently, there have been considerable empirical studies on the effect of corruption on economic growth/development. These studies have been made possible as a result of the emergence of indices on corruption.

Apart from the first empirical study by Mauro in 1995, the second in 1997 extended the first one by increasing the number of countries from 67 to 94 and the result his previous study that corruption significantly hinders economic growth and investment. There are most recent empirical studies that buttress this Mauro's studies.

Obilikwu (2018) using Autoregressive Distribution Lag (ARDL) technique, the study investigated the effects of corruption on economic growth in Nigeria. Data from 1996 to 2016 were used. The study revealed that corruption exerts a significant negative impact on economic growth in Nigeria.

Enofe, Oriaifoh, Akolo & Oriaifoh (2016) examined the impact of corruption on the economic growth of Nigeria. A sample of 100 members from the private and public sector utilizing non-parametric measurable technique demonstrates that corruption has plagued the Nigerian economy and eaten profoundly into the fabric of the country.

Olaniyi & Alenoghena (2015) utilizing Vector Autoregressive technique, they empirically examined the effect of corruption on some key areas of the Nigerian economy from 1996 to 2013. Their examination demonstrates that corruption influences fundamentally agriculture, services, wholesale and retail sectors in Nigeria.

Nwankwo (2014) utilizing the granger causality and regression technique, empirically studied the effect of corruption on the growth of the Nigerian economy. The investigation uncovers that the degree of corruption throughout the years has a significant negative effect on economic growth in Nigeria.

Lauritzen & Sondergaard (2012) in their investigation, the impact of corruption on the growth of 29 previous Soviet countries in the period 1995 to 2009 uncovers that under a presumption of a direct connection

among corruption and investment, a decreasing impact of investment on the growth rate, as corruption increases, rises. At an adequately abnormal state of corruption, extra investments could adversely influence the growth rate.

### III. METHODOLOGY, DATA AND MODEL

To measure the effect of corruption on economic development the basic theoretical framework outlined in Barro (1991) and Mauro (1995, 1997) is used for analysis. Barro's framework can be specified as follows:

$$Gy(i,t) = a - y(i,0) + \text{control variables} + \varepsilon$$

Where:

$Gy(i,t)$  = is the growth rate of per capita GDP of a country  $i$  from period  $0$  to period  $t$ .

$y(i,0)$  = is the log of the country is per capita GOP at time  $0$ .

In other words  $y(i,0)$  is the initial level of real GDP per capita. Coefficient of  $y(i,0)$  is expected to be negative ( $-a$ ) due to the theory of convergence. According to this theory, there is a negative relation between the initial level of income and income growth.

Mauro (1995) extended Barro's framework by adding corruption to the growth equation.

$$Gy(i,t) = -a y(i,0) + \beta \text{corruption} + \text{control variables} + \varepsilon$$

In estimating the relationship between corruption and growth, it is important to control for other determinants of growth

rate, to ensure that the estimated coefficient captures the effect of corruption on growth.

Akçay (2006) extended Mauro's framework by adding more control variables of, secondary school enrollment rate as proxy for quantity of human capital, pupil/teacher ratio as proxy for quality of human capital, the share of the government consumption in GDP, annual population growth, gross domestic investment-GDP ratio and macroeconomic stability as annual inflation rate.

$$G=f(Y, C, LC, SSER, PTRSC, GDI, GC, POP, INF, D)$$

Where: G = is the growth rate of per capita GDP, Y = Per capita GDP, initial value (1960), C = Corruption index, SSER= Secondary school enrollment rate, PTRSC = Pupil /teacher ratio in secondary school, GDI = Gross domestic investment - GDP ratio, GC = Government consumption as % of GDP, POP = Average annual population growth, INF = Inflation rate, period average, D<sub>afr</sub> = Dummy for Africa.

In this study, the dependent variable of the human development index as a proxy for economic development is introduced and control of corruption, the dependent variables. New control variables of rule of law, regulatory quality, government effectiveness, and political stability no violence indices are introduced because control of corruption cannot act alone in the situation of the Nigerian economy. The data for this study are obtained from the World Bank worldwide governance indicator for the period 1997 to 2018.

The model for this study is therefore specified as:

$$HDI=f(CC, RL, RQ, GE, PS)..... Model 1$$

Where:

- HDI = Human Development Index
- CC = Control of Corruption
- RL = Rule of Law
- RQ = Regulatory Quality
- GE = Government Effectiveness
- PS = Political Stability No Violence

The mathematical expression of the model is thus:

$$HDI = \beta_0 + \beta_1 CC + \beta_2 RL + \beta_3 RQ + \beta_4 GE + \beta_5 PS + \epsilon ..... Eq. 1$$

The dependent variables and their expected signs (apriori expectation) are shown in Table 1 below.

**Table 1 Apriori Expectation**

Dependent Variables	Expected Sign
CC	+
RL	+
RQ	+
GE	+
PS	+

Source: Author's Composition

Equation 1 above is estimated using ordinary least square method using panel data for Nigeria on the variables included in the model. Result of the model is presented in Table 2 below, showing the effect of corruption control on economic development of Nigeria.

**IV. REGRESSION RESULT**

*Augmented Dickey-Fuller (ADF) Unit Root Test*

Table 2 Augmented Dickey-Fuller (ADF) Statistics

Variables	ADF Statistics	1% Critical Value	5% Critical Value	10% Critical Value	Order of Integration	Remarks
HDI	-1.316149	-3.769597	-3.004861	-2.642242	1(1)	Stationary
CC	-1.316149	-3.769597	-3.004861	-2.642242	1(1)	Stationary
RL	-1.316149	-3.769597	-3.004861	-2.642242	1(1)	Stationary
RQ	-1.316149	-3.769597	-3.004861	-2.642242	1(1)	Stationary
GE	-1.316149	-3.769597	-3.004861	-2.642242	1(1)	Stationary
PS	-1.316149	-3.769597	-3.004861	-2.642242	1(1)	Stationary

Source: Researcher’s Computation from E-views 7.

Table 2 above shows the Augmented Dickey-Fuller unit root test for stationary of the variables. The result shows that HDI proxy for economic development, CC and other variables in the model are integrated at the first-order [i.e. 1(1)]. The result reveals

that the variables are stationary in order. Since, ADF statistics are greater than the 1%, 5%, and 10% critical values. Thus, the ordinary least square of data estimation can be applied in the analysis of data.

*Co-integration Test*

**Table 3: Johansen Cointegration Test**

Hypothesized No of CE(s)	Eigenvalue	Unrestricted Cointegration Rank Test (Trace)			Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		
		Trace Statistics	5% Critical Value	Log likelihood Ratio	Maximum Eigenvalue Statistics	5% Critical Value	Log likelihood Ratio
None*	0.994645	219.1545	95.75366	195.8291	109.8252	40.07757	195.8291
At most 1*	0.903808	109.3292	69.81889	220.4139	49.16952	33.87687	220.4139
At most 2*	0.696138	60.15973	47.85613	232.9213	25.01478	27.58434	232.9213
At most 3*	0.615701	35.14495	29.79707	242.9628	20.08304	21.13162	242.9628
At most 4	0.458663	15.06191	15.49471	249.4068	12.88798	14.26460	249.4068
At most 5	0.098342	2.173927	3.841466	252.9321	2.173927	3.841466	252.9321

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level  
 Max-eigenvalue test indicates 2 co-integrating eqn(s) at the 0.05 level  
 \* denotes rejection of the hypothesis at the 0.05 level  
 \*\*MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher’s Computation from E-Views.

Based on Table 3 above, it is agreed that there is a long run connection between the HDI and CC as the informative variable. In the Johansen Cointegration Test, there are three cointegrated vectors. In Johansen's Method, the eigenvalue measurement is used to decide if cointegrated factors exist.

Cointegration is said to exist if the estimations of figured measurements are essentially not quite the same as zero. The Likelihood Ratio is higher than 5% critical value and the eigenvalues are found as (0.994646, 0.903808, 0.696138, 0.615701, 0.458663 and 0.098342). The Likelihood Ratio of

HDI and CC are greater than the critical values at both 5% and 1% level of

significance. Also, their Eigenvalues are significantly greater than zero. Likewise, their Eigenvalues are essentially more noteworthy than zero. As it were, the null hypothesis of no cointegration among the factors is dismissed in at least five conditions. The test outcome shows the presence of a long-run equilibrium relationship in five cointegrating equations at a 5% significance level.

Regardless, the presence of a long-run cointegrating equilibrium likewise provision is made for short-term fluctuations. All together to rectify or clear these fluctuations, an endeavor was made to apply the ordinary least square technique.

*Correlation Test*

**Table 4 Correlation Matrix**

	HDI	CC	RL	RQ	GE	PS
HDI	1					
CC	0.31905656	1				
RL	0.48918331	0.60380215	1			
RQ	0.37501559	0.49177115	0.63810631	1		
GE	-0.1754363	-0.2638112	-0.2076810	-0.3278547	1	
PS	-0.8277118	-0.2540667	-0.4256457	-0.3677061	0.21915201	1

Source: Researcher's Computation from E-Views.

The correlation matrix in Table 4 shows the coefficient that exists between the dependent and the independent variables in the second column. CC, RL, and RQ have coefficients of  $r = 0.31905656 > 0.05$ ,  $0.48918331 > 0.05$ ,  $0.37501559 > 0.05$  respectively that reveals they have a strong positive correlation with HDI; this implies that a unit increase in CC, RL, and RQ

would have the same proportionate effect on HDI in Nigeria. The coefficient of ( $r = -0.1754363 < 0.05$ , and  $-0.8277118 < 0.05$ ) was recorded for GE, and PS respectively which shows a weak negative correlation on HDI in Nigeria, by implication a unit increase in GE, and PS would have equal ratio effect on HDI in Nigeria.

## Ordinary Least Square (OLS)

Table 5 Ordinary Least Square (OLS) Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.171731	0.377679	0.454700	0.6551
CC	0.067843	0.226512	0.299512	0.7682
RL	0.139751	0.181004	0.772085	0.4507
RQ	-0.012581	0.135505	-0.092848	0.9271
GE	0.051479	0.232861	0.221072	0.8277
PS	-0.298905	0.057473	-5.200784	0.0001
R-squared	0.710233	Mean dependent var	0.416957	
Adjusted R-squared	0.625007	S.D. dependent var	0.145147	
S.E. of regression	0.088883	Akaike info criterion	-1.783533	
Sum squared resid	0.134303	Schwarz criterion	-1.487317	
Log-likelihood	26.51063	Hannan-Quinn criter.	-1.709035	
F-statistic	8.333561	Durbin-Watson stat	1.910809	
Prob(F-statistic)	0.000391			

Source: Computation from Eviews7

Table 5 is the result of the estimated model 1 based on Ordinary Least Squares (OLS) technique analysed to show the effect of each of the variables on the economic development of Nigeria. The result shows that CC has an insignificant positive effect on economic development (probability = 0.7682 and coefficient = 0.067843). RL has an insignificant positive effect on economic development (probability = 0.4507 and coefficient = 0.139751). RQ has an insignificant negative effect on economic development (probability = 0.9271 and coefficient = -0.012581). GE has an insignificant positive effect on economic development (probability = 0.8277 and coefficient = 0.051479). PS has a significant negative effect on economic development (probability = 0.0001 and coefficient = -0.298905).

The coefficient of determination, R-squared ( $R^2$ ) is 0.710233 and indicates that about 71% of the changes in economic development are explained by the independent variables in model 1. The F-statistic explains the overall significance of the dependent variables of the model 1 on economic development. The F-statistic is 8.333561 with a probability value of 0.000391 less than 5% level of significance. Based on the F-probability, the study concludes that the independent variables have an overall significant effect on economic development in Nigeria. The coefficient of Durbin-Watson is 1.910809 and is approximately 2. This shows that the model is free of autocorrelation.

## V. GRANGER CAUSALITY

Granger causality test is carried out to show the direction of the variables in the models. The direction here could be bi-directional, unidirectional or no-direction. The decision

rule is to accept the null hypothesis when the F-probability is greater than the 5% level of significance. Otherwise, reject the null hypothesis.

**Table 6 Pair-wise Granger Causality Tests**

Null Hypothesis:	Obs.	F-Statistic	Prob.	Decision
CC does not Granger Cause HDI	21	0.96522	0.4020	No Causality
HDI does not Granger Cause CC		1.78626	0.1994	-Do-
RL does not Granger Cause HDI	21	0.87204	0.4371	No Causality
HDI does not Granger Cause RL		1.59000	0.2345	-Do-
RQ does not Granger Cause HDI	21	0.09927	0.9061	No Causality
HDI does not Granger Cause RQ		2.21539	0.1415	-Do-
GE does not Granger Cause HDI	21	0.31754	0.7324	No Causality
HDI does not Granger Cause GE		2.12934	0.1514	-Do-
PS does not Granger Cause HDI	21	1.50326	0.2522	No Causality
HDI does not Granger Cause PS		11.7731	0.0007	Unidirectional HDI→PS
RL does not Granger Cause CC	21	1.92502	0.1782	No Causality
CC does not Granger Cause RL		0.17866	0.8380	-Do-
RQ does not Granger Cause CC	21	0.51879	0.6049	No Causality
CC does not Granger Cause RQ		0.20501	0.8167	-Do-
GE does not Granger Cause CC	21	0.32084	0.7301	No Causality
CC does not Granger Cause GE		4.65895	0.0254	Unidirectional CC→GE
PS does not Granger Cause CC	21	1.68548	0.2166	No Causality
CC does not Granger Cause PS		0.29428	0.7490	-Do-
RQ does not Granger Cause RL	21	0.25635	0.7770	No Causality
RL does not Granger Cause RQ		0.06313	0.9391	-Do-
GE does not Granger Cause RL	21	0.00926	0.9908	No Causality
RL does not Granger Cause GE		2.35032	0.1274	-Do-
PS does not Granger Cause RL	21	1.68993	0.2159	No Causality
RL does not Granger Cause PS		0.42255	0.6625	-Do-
GE does not Granger Cause RQ	21	0.49031	0.6213	No Causality
RQ does not Granger Cause GE		3.39698	0.0589	-Do-
PS does not Granger Cause RQ	21	2.74932	0.0941	No Causality
RQ does not Granger Cause PS		0.68066	0.5204	-Do-
PS does not Granger Cause GE	21	0.60112	0.5601	No Causality
GE does not Granger Cause PS		0.07412	0.9289	-Do-

Source: Computation from Eviews7

Table 6 shows the Pair-wise Granger causality test for the model. Based on the decision rule, two of the F-probability is

significant at the 5 % level of significance. Thus, the study indicates that there are two

unidirectional causalities in this model. This implies that:

- i. There is a unidirectional causal flow from human development index proxy for economic development to political stability, and corruption control to government effectiveness.

In conclusion, there is a causal relationship between human development index proxy for economic development and political stability on one hand, and corruption control and government effectiveness on the other in Nigeria.

## **VI. CONCLUSION AND RECOMMENDATIONS**

The objective of this study is to investigate the effect of corruption control on the Nigerian economy. For this objective to be achieved, other variables like rule of law, regulatory quality, government effectiveness, and political stability that were not included in previous studies and have been adjudged to influence economic development were included in the model for this study. To substantiate the effect of corruption control on economic development of Nigeria, the OLS test was conducted. The outcome of the OLS test revealed that corruption control and other independent variables have an insignificant positive/negative effect on economic development in Nigeria except for political stability that has a significant negative effect on economic development in Nigeria.

From the Granger causality test it shows that if corruption is appropriately controlled, it will bring about government effectiveness. Also, if economic development is improved there will be

political stability (i.e. the following will be reduced; insurgency, agitation for resource control, disintegration, hate speech, revolution, etc.).

The result of the OLS corroborates the studies of Leff (1964), Huntington (1968), Friedrich (1972), and Nye (1967). The study, therefore, recommends that the government should legalise some form of settlement in the name of public relation and or social responsibility. Again, the government should be able to define clearly between corruptions and looting of the country's treasuries and strengthen the anti-graft organizations in this line. Also, the government should evolve strategies that will improve economic development (i.e. human development index component of per capita income, level of education, and health) to reduce politic instability.

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