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# The crowding-out effects of corruption in Nigeria: An empirical study

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**This study examined the crowding out effects of corruption and its destabilizing implications on the economic growth of Nigeria, using parsimonious error correction mechanism. The study employed experimental research design approach for the data analysis, which combined theoretical consideration (a priori criteria) with empirical observations and extracted maximum information from the available data. The Nigerian secondary and time series data were tested for stationary and co integration variables before they were used. The results of the regression showed that there is a negative relationship between corruption and output growth in Nigeria. These findings have some policy implications. The government should introduce a national reorientation program to educate people on the crucial need to eradicate corruption in all sectors of Nigeria's economic and socio-political systems and strengthen the previous efforts in programs like Code of Conduct Bureau, WAI Brigade, ICPC, EFCC and NATPIP. The government must introduce an equitable wages and incentive system and improve other conditions of work so that the level of poverty could be reduced and the quality of life improved. This will inevitably reduce people's vulnerability and susceptibility to corruption. She must also introduce transparency devices that can detect and prevent corruption in all areas.**

**Key Words:** Corruption; Economic growth; Corruption perception index; Unemployment.

## INTRODUCTION

After more than four decades of developmental efforts and management, Nigeria is still being classified as an underdeveloped poor country of the Third World. Despite being one of the richest countries in the world, in terms of human and natural resources, with one of the seventh largest reserves of crude oil, the country is still living below the poverty line with a gross national product per capita of N1, 220. For instance, over the past twenty years, Nigeria has generated approximately \$360billion from oil revenue, yet, she remains poor. The indexes of development for Nigeria prove this. For instance, Nigeria's maternal mortality rate remains one of the highest in the Africa continent standing at 100 for every 100,000 births. Life expectancy remains 52 years as at 2008. Less than 67 percent of Nigerians have access to good health services. Only 19 medical doctors are available per 100,000 persons as against 16 nurses. Only 42 percent have access to safe water. The 2005 UNDP human development index ranks Nigeria 158<sup>th</sup> out of 159

countries of Third World Nations in terms of underdevelopment. The under-developmental situations of Nigeria, in spite of its enormous natural and human resources are worrisome. Among other variables, some researchers have identified corruption as one of the major factors responsible for underdevelopment of Nigeria's economy. For example Akindele (2005) undertook an econometric investigation of the relationship between a number of key variables in Nigeria. Estimating a modified production function, which includes labour, capital, Political instability, corruption and income inequality, he concluded that the co-efficient of the corruption index is negative implying that it is consistent with the hypothesis that corruption retards development efforts. It has been noted that where corruption exists, even a highly endowed nation in terms of natural and human resources may fail to develop in a beneficial way to a great majority of the citizens. It is a fact that this problem has been in Nigeria for some time

now, the magnitude and intensity of which increase from year to year. It is an open secret that an average Nigerian is corrupt. Although, it is difficult to compile comprehensive data on corruption manifested in bribery, frauds, embezzlement etc, notwithstanding official politics in Nigeria since 1975 and up till now validate the presence of corruption. The list below shows the efforts of some past Nigerian leaders at checking the spate of corruption in the country's body politics, Osunyikanmi (2007).

- i. The purging of corrupt officials in the civil service in 1975 by the Muritala's administration; the establishment of the Code of Conduct Bureau for public Officers;
- ii. The Ethical Revolution introduced by the Shehu A. Shagari's Administration in the second republic (1979-83);
- iii. The anti-corruption tribunals established by the Buhari-Idiagbon's administration to try the politicians who were overthrown in 1983 (1984-85);
- iv. The trial of a former Minister of petroleum Resources by the Babangida's Administration in 1991 for corruptly accepting a gold wristwatch and a luncheon from a contractor while serving as a Minister of petroleum resources;
- v. The numerous probe panels established by the Sani Abacha's administration in 1994/95 soon after assuming power; and
- vi. the enactment of the corrupt practices and other related offences, Act. 2000, by the Obasanjo administration.

The list above represents a pretension to checking or eradicating corruption.

### **The Problem and the Objectives**

Despite the crusades of anti-corruption in Nigeria, its magnitude appears to be on the high side. It has impaired hard work, diligence and efficiency. It has caused incalculable damages to the social and political development of Nigeria. It subverts honest selection processes and distorts prices. Furthermore, it weakens institutions, hampers investment and retards economic development. More importantly the resources that should be used for developmental purposes are being diverted from the society to private or personal use. This accumulation of the nation's economic resources for personal benefits had variously contributed to the leakage of capital from Nigeria for illegal deposits abroad. In other words, it has a crowding out effect on the growth

and development of the country. It's contributing effects on poverty and poor infrastructural development is the more worrying. Nevertheless the extents of these negative effects are yet to be measured and quantified. It is against this background that this study was inspired. The study intends to examine the extent and the magnitude of the impact of corruption on the growth and development of Nigerian economy and draw up policy recommendations for the eradication of Corruption in Nigeria. The paper will at the end provide answers to the following questions (i) what types of corrupt practices are noticeable in Nigeria? (ii) What is the economic basis for these corrupt practices? (iii) What are the extent and the magnitude of its impact on the growth and development of the Nigerian economy? (v) How can corruption be checked or eradicated in Nigeria?

The rest of this paper is organized as follows: Section 2 undertakes a conceptual, theoretical and methodological review of some relevant literature on corruption; section 3 presents a profile of corrupt practices in Nigeria; section 4 examines the relationship between corruption and growth and validates the hypothesis formulated through empirical analysis while section 5 summaries the findings, draws conclusions and makes policy recommendations.

### **REVIEW OF LITERATURE**

The corruption issues have scanty literature on concepts, determinants, severity and implications on economic development. The reason for the lack of interest in this area of research is because data are not readily available, particularly when we need to pin-point the size of corruption and the people that engage in it. Notwithstanding, certain authors such as Ngouo, Tanzi, Rose – Ackerman and Akindele have studied corruption, given some definitions, and examined the determinants and implications of corruption. According to Ngouo (2000) and the World Bank, corruption is the exploiting of public positions for private benefits. She also states that the lack of any civil spirit among all categories of civil servants leads to corruption and misappropriation of public funds. To Tanzi et al (2006), corruption is not only found in the public sector, it is equally prominent in the private sectors; Akindele (2005) sees corruption as behavior, which deviates from the formal rules of governing the actions of someone in a position of authority. According to Osunyinkanmi (2009), the term corruption is a synonym with the terms fraud, bribery, settlement etc. In his explanation, the settlement in corruption perception parlance became a euphemism for bribery in Nigeria during the Babangida administration in 1989. In support of Osunyinkanmi's view, Rose Ackerman (1992) opines that corruption can assume several forms such as

bribery, embezzlement, fraud etc, where bribery assumes the most predominant forms of corruption. Rose – Ackerman (1998) further submits that bribery could manifest in incentive payments, obtaining lower cost and buying influence or votes. While Dwivedi (1967), sees corruption as including “nepotism, favouritism, bribery, graft and other unfair means adopted by government employees and the public alike to extract some socially and legally prohibited favours”. To Scott (1972), corruption “involves a deviation from certain acceptable standards of behaviour”.

Several schools of thought have discerned the factors that determine corrupt practices in the society. For instance in 1995, USA secretary of state viewed corruption from the cultural perspective. According to this school of thought, it is in the Nigerian culture to be corrupt. While this argument might appear reasonable, it is however not a universal phenomenon. For instance, former socialist states of the defunct USSR such as Kazakhstan, Uzbekistan, Russia, Ukraine and Azerbaijan, held contrary views. According to them, corruption is not a cultural phenomenon but rather a practice that supersedes culture and custom. It is universal. This view was corroborated by Akindele (1990) who stated that corruption exists everywhere, a statement that repudiates a racial and regional bans of corruption. The most plausible arguments in this area would seem to be that corruption is intractably determined by the stage of development and the type of government that exists in a society or nation. In most of the high corrupt countries like Nigeria, government bureaucracy creates the atmosphere conducive for corruptions. Authors like Rose Ackerman (1998), Tanzi et al (2006) and Obadan (2001), have noted that governments of certain countries for political or other reasons create incentives for bribery and corruption and are sometimes directly involve in the corrupt practices. In some extreme cases, the government itself practices corruption in order to have their way through the legislative arms. This practice is quite common in Nigeria.

Other determinants of corruption include the level of salary and the level of wealth. The lower the salaries and wages of public officers, the greater the tendency for them to be corrupt.

Several authors who studied corruption have concluded that corruption has negative impacts on the growth and development of any nation. According to Ekpo and Egenedo (1985) and Obadan (2001), corrupt practices inherently introduce distortions in the economic system and it has the capacity to impair hard work, diligence and efficiency. It is capable of diverting resources from the societal to private or personal use. They maintain that it subverts honest selection processes and distort prices; whereas Tanzi (1995), and Rose Ackerman (1998) re-

affirm that corruption weakens institution, hampers investment and retards economic development; Nyerere (1999) observes that corruption is an enemy of progress and development which could be treated as serious crime equivalent to treason. He saw it as a great enemy to the welfare of the people. Akindele (2005) in his research discovered a strong significant negative relationship between corruption and development. He undertook an empirical investigation) of the relationship between a number of key variables in Nigeria. Estimating a modified production function which included labour, capital and political instability, corruption index is negative implying that it is consistent with the hypothesis that corruption retards growth. He argued that, corruption in whatever form is inimical to the development of any society. This strengthens the view of Rose Ackerman (1999) who asserted that corruption manifests its direct effect in the form of roads not constructed, electrification projects frustrated, pipe borne water not available and half-baked graduates and professionals.

### **Summary of literature review and the gap to fill**

Our literature review shows that few empirical studies exist for corruption. This is because corruption is willfully hidden, hence it has been difficult to generate data and carry out empirical studies on them. Since, it is difficult to measure directly; proxies for corruption are being used. Also studies on the extent to which corruption negatively impacts on citizens' lives in many dimensions including quality life, health, economic well-being and liberty are scanty. This study fills these gaps. The study generated data and carries out empirical studies on corruption and examines the extent to which corruption negatively impacts on the economic well-being of Nigeria.

### **The Profile of Corruption in Nigeria**

The issue of corruption which became obvious since 1992 is arguably the bane of Nigeria's economic progress and development. Since it has entered the system, Nigeria's administrative and social lexicon regressed unto an era of ethical breakdown. Although corruption is a universal phenomenon, its magnitude and effects are more severe and deep-seated in Nigeria. Thus, international agencies such as the World Bank and international perception agency have begun to show great concern over the level of corruption in Nigeria and its destabilizing effects. Table 1 below shows Nigeria's corruption perception index, between 1996 and 2010 published by the transparency international agency. Looking at table 1; in 1996, 54 countries were evaluated

**Table 1.** Nigerian Corruption Perception Index 1996-2010

YEAR	PERCEPTION INDEX	NO OF COUNTRY EVALUATED	RATING
1996	1.20	54	54
1997	1.30	52	52
1998	1.90	85	81
1999	1.90	99	98
2000	1.90	90	90
2001	1.60	102	100
2002	1.70	91	90
2003	1.40	133	132
2004	1.60	145	144
2005	1.90	158	154
2006	2.20	163	142
2007	2.20	183	127
2008	2.20	183	127
2009	2.70	180	130
2010	2.40	178	134

SOURCE: Transparency International Agency.

and Nigeria was found to be the most corrupt. Nigeria was equally ranked 52<sup>nd</sup> among the 52 countries that were examined in 1997 and dropped in 1998 to 81<sup>st</sup> among 85 Countries that were evaluated. Notwithstanding, Nigeria regressed to the 98<sup>th</sup> position out of 99 countries examined in 1999. Despite the crusades of anti-corruption of Obasanjo, the magnitude of corruption remains on the high side. Nigeria ranked 90<sup>th</sup> out of 90 countries in year 2000, dropped marginally to 90<sup>th</sup> position out of 91 countries evaluated in 2001. It remained stable at 100<sup>th</sup> position out of 102 countries evaluated in 2002; by 2003, Nigeria was 132<sup>nd</sup> out of 133 countries Nations that were examined and 144<sup>th</sup> in 2004 out of 145 countries evaluated. Nigeria ranked 142<sup>nd</sup> out of 163 countries in year 2006, and stood at 134<sup>th</sup> position out of 178 countries in year 2010 . It is in this connection that doubts have been expressed about the authenticity of the recent crusade and campaign against corruption. Such campaigns are recently tainted as political instruments to fight the political opponents. Some commentators have observed that the problem appeared to have increased in intensity and so to uproot it will require more concerted efforts than sanctimonious statements from politicians, clergies and other venders. As observed by Osunyinkanmi (2007), a number of institutions established to fight against corruption, such as WAI Brigade ICPC, EFCC and NATPIP, have failed to achieve their set goals. The problem has not been abated. One wonders if this is not the kind of situation that Mazmi (1984) describes in respect of Tanzania as a cause of heroic failure.

## Forms of Corruption in Nigeria

Some studies have taken a historic look into the discussion of corruption by dividing it into many forms such as bureaucratic corruption, electoral corruption, educational corruption, political corruption etc.

The different forms of corruption highlighted in the above paragraph can be viewed vividly in table 2 as follows: The table 2 displays the corrupt organizations in Nigeria. The level of corruption is measured by percentage scores. The table shows that the police force is the most corrupt organization with a score of 96 percent; followed by the Power Holding Company with 83 percent. The Ministry of Education is next to the Power Holding Company with a score of 65 percent, followed by customs and excise duties department having 63 percent. Federal Road Safety, Immigration and Passport; Jamb; and Local Government Authorities have 42, 56, 41, 47 percent respectively. Others which are also included in the list such as tax offices, ministry of health; ministry of Justice and the presidency were next with percentage scores of 36, 30, 22, and 24 respectively. The table depicts that almost all sectors in Nigeria are corrupt. This can be traced historically by looking at the activities of some of the regimes that ruled Nigeria since independence in 1960. Corruption in Nigeria is as old as the country itself, though its nature, scope, and consequences have varied considerably over the years. Indeed, from the late colonial period to date, commentators have expressed concern about the level of venality in the country. A considerable level of bribery, nepotism and the use of political offices for personal enrichment existed in the late colonial Nigeria. Although, the level of political corruption in the country during this period is difficult to determine, its actual presence cannot be contested. In fact, there was a report that almost all the regional governments plundered financial surpluses obtained through statutory control of export crop marketing. The corrupt behavior of most Nigerian political elites during this period clearly set the stage for a more resilient generation of corrupt public officials that have, since independence, plundered Nigeria's wealth and resources, with almost absolute impunity.

Furthermore, the Obasanjo government recovered more funds and had some of Abacha's private account frozen. It should be noted that Abacha's family also agreed in principle to surrender about \$1.2 billion of their wealth under a new compromise with the government. This was considered a full and final settlement of what the government believed the late Gen. Abacha looted from the treasury, although the government reported in November 2003 that it had reached an agreement with the Swiss authorities for the return of close to \$660 million traceable to Abacha.

**Table 2.** Top Corrupt Organizations in Nigeria

Organization	Year 2005 %	Year 2007 %
The police	96	99
Power holding company nig. (PHCN)	83	87
Ministry of education (university/ poly/ college of education)	63	74
Custom & excise dept.	65	61
Federal road safety corp.(FRSC)	42	51
Immigration/ passport office	56	48
Jamb	41	47
Local Govt. Authorities	47	46
Independent National Electorate commission (INEC)	-	38
Tax official/ Federal inland Revenue service (FIRES)	36	36
Health Ministry/ primary Health / Teaching Hospital	30	32
Ministry of Justice	27	31
The Presidency	24	29
Nigeria National petroleum commission (NNPC)	27	28
Federal Housing Authority	26	28
Nigeria Ports Authority/ Nigeria Marin time Authority	33	24

Source: Nigeria corruption Index (2007)

Even though the Abdulsalami Abubakar's regime was in power for only 11 months, the looting of the treasury recorded during the period was scandalous. The \$9.3 billion left in the foreign reserves by the Abacha junta was reduced to \$3 billion even though, no feasible project was executed. Oil blocks and questionable multi-billion naira contracts were hurriedly awarded on the eve of the exit of the government. The Obasanjo administration appointed panels to investigate appointments and contracts made during the period leading to the transition to civilian rule. The panel reported the billions of dollars that were plundered and purloined and the fraudulent land transaction. Based on the report of the panels, the contracts were cancelled, while general Abubakar was secretly asked to refund some of his ill-gotten wealth to the coffers of the government.

The return of democracy in 1999 was seen as a major landmark and opportunity for the restoration of justice, accountability, transparency and enjoyment of human rights, especially basic economic and social rights of the Nigerian people. In his inaugural speech in May 1999, President Obasanjo captured this expectation. He acknowledged the devastation and decay wrought on Nigerian society by decades of grand corruption. He pledged to take immediate actions to set a new standard of governance based on integrity, transparency and conduct of public trust. According to the President, corruption is the single bane of Nigerian society. No society can achieve anything near its full potential, if it allows corruption to become full blown cancer that it has become in Nigeria.

## MATERIALS AND METHODS

### Research Design and Strategy

The research design adopted for this work is the experimental research design. The reason is that the experimental research design combines the theoretical consideration with empirical observation.

### Population of the Study

The study will cover the impact of corruption on the growth of the Nigerian economy from 1986 – 2009 which is a period of twenty-three (23) years. The choice of 1986 as the base year was based on the fact that Nigeria had a turning point in 1986 when it adopted its Structural Adjusted Program (SAP) and the limitation year 2009 was because data to be assessed are available up to this year.

### The Model

Many economists used the Baroll model to analyse the crowding out effect of corruption. In the model, corruption is shown as a proportional tax on national income.

$$Y = AK^{(1-a)} Pgi_a \quad (1)$$

Where Y = National Income, A = Technological Parameter, K = The private capital per worker, Pgi = the flow of public goods by corrupt practices of type i per worker

The model is useful in calculating the percentage of National output siphoned by corrupt practices as compared to the percentage spent usefully on improving the personal income and infrastructural development in the economy. This symbolizes that corrupt bureaucrats consume the budget surplus that should

improve personal income and infrastructures thus making equation 1 to become.

$$Y = AK^{(1-\omega)} P_{gia} f_{aii} \quad (2)$$

Where  $f_{aii}$  = proportional tax on national income. This study adopted the modified version of the Baroll model to explain the crowding out effect of corruption on GDP. The modified of Baroll model is stated in a functional form as:

$$NGDP = f(CP_1 + MS + UNE + PINV + CAPF + EXTD) \quad (3)$$

Where CPI = Corruption Perception Index; GDP = Gross Domestic Product; CAPF = Capital formation; MS = Money Supply; UNEMP = Unemployment rate; PINV = Public Domestic Investment; EXTD = External Debt

The model could be expressed in a linear form as:

$$NGDP = \beta_0 + \beta_1 CP_1 + \beta_2 MS + \beta_3 UNE + \beta_4 CAPF + \beta_5 PINV + \beta_6 EXTD \quad (4)$$

Econometrically, to include other random term, the model is expressed as:

$$NGDP_t = \beta_0 + \beta_1 CP_{1t} + \beta_2 MS_t + \beta_3 UNE_t + \beta_4 CAPF_t + \beta_5 PINV_t + \beta_6 EXTD_t + \mu_t \quad (5)$$

Where T is the time trend and  $\mu$  = Error Term

The parameters for estimation from equation 4 are  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  and  $\beta_6$

### The a Priori Expectations

In line with economic theory, it is expected that the level of corruption proxied by Corruption Perception Index (CPI), Gross Capital Formation (CAPF), and Money Supply (MS), Unemployment rate (UNF), External Debt (EXTD) and Public Domestic Investment (PINV) to a large extent determined the level of economic growth in Nigeria. Money supply, Gross Capital Formation and Private Domestic Investment are expected to be positively related to growth, while corruption perception index, External Debt and unemployment are expected to be negatively related. It may be mathematically denoted as:

$$\frac{\delta GDP}{\delta CPI} < 0, \frac{\delta GDP}{\delta MS} > 0, \frac{\delta GDP}{\delta UNE} < 0, \frac{\delta GDP}{\delta CAPF} > 0, \frac{\delta GDP}{\delta EXTD} > 0, \frac{\delta GDP}{\delta PINV} < 0$$

Hence,  $\beta_1 < 0, \beta_2 > 0, \beta_3 < 0, \beta_4 > 0, \text{ and } \beta_5 > 0, \beta_6 < 0$

### Type and Sources of Data

Data were obtained from the publications of the Central Bank of Nigeria, African Development Indicators, websites, Journals and Newspapers. The data collected are GDP, MS, CPI, PINV, CAPF and UNMPL

### Data Processing Technique

The secondary data used for the study were processed using E-view for windows econometric packages. The empirical study used a simulation approach to investigate the economic implications of

corruption in Nigeria. The E-view is preferred to the Ordinary Least Square (OLS) because it enables one to correct, the serial correlation in the data. The study employs Error Correction Mechanism (ECM) to overcome the problem of spurious regression. The ECM reveals that the change on a variable, at times, is not only dependent on the variable, but also on its own lagged changes. This enables us to induce flexibility by explaining the short run and long run dynamics in a unified manner.

## Data Analysis, Results and Discussions

In the literature, it is well posited that a prior, many economic time series data are non-stationary and non-co integrated. To ascertain the degree of stationarity of variables employed in this study and the co-integrating properties of the data; the Augmented Dickey-Fuller (ADF) test will be employed.

### The Stationary and Co integration Test

The variables tested for Stationary and Co integration properties include: Gross Domestic Product (GDP) as the dependent variable and Gross Capital Formation (CAPL), Money Supply (MS), Public Domestic Investment (PINV), Corruption Perception Index (CPI) External Debt (EXTD) and Unemployment Rate (UNEMPL) as the explanatory variables (Table 3). The test showed that all the variables were not stationary (NS) at level (i.e. 1(0), since t-statistics are less than the critical value at 5% level of significance in absolute term. We therefore conclude that all the parameters are characterized by unit root problem. So, we therefore move to first differences. At the first differences, CAPL, MS, UNEMPL and CPI are stationary, that is, 1(1), since their t-statistics are greater than the critical values at 5% level of significance in absolute term. Then, it means that the variables are not characterized by the unit root problem, while GDP, EXTD and PINV are still characterized by the unit root problem. So, we therefore move to second difference. At the second difference, GDP, EXTD and PINV were found to be stationary, since their t-statistics are greater than the critical values at 5% level of significance in absolute term.

After the stationary test, we tested the variables for co-integration by employing the Johansen co-integration test. We made use of the trace statistics/ likelihood ratio for the model respectively by comparing their values with the critical values at 5% level. It was found that the trace statistic/ likelihood ratio are greater than the critical values, then we concluded that there is a long-run equilibrium relationship among the dependent and explanatory variables.

## THE REGRESSION RESULTS And DISCUSSION

The results of the data analysis and estimation were

**Table 3.** The Nigerian Macroeconomic Indicators

YEAR	GDP(%GR)	UNMPL (Rate)	CAPF(%GR)	CPI (Rate)	MS (Nb)	PINV(%GR)	EXTD/GDP %
1986	4.86	5.30	21.3	NA	-4.10	11.4	50.3
1987	5.03	7.00	23.4	NA	15.70	13.4	125.39
1988	5.15	5.39	18.9	NA	14.90	10.7	107.06
1989	5.34	4.40	12.4	NA	21.50	3.6	107.06
1990	5.43	3.50	14.7	NA	44.90	5.3	130.7
1991	5.50	3.10	23.3	NA	32.60	5.2	134.9
1992	5.73	3.40	19.9	NA	52.80	7.1	108.9
1993	5.84	2.70	20.3	NA	59.70	11.3	143.9
1994	5.96	2.00	18.9	NA	45.90	10.4	140.6
1995	6.29	1.80	22.9	NA	16.30	9.6	148.8
1996	6.29	3.20	14.2	1.20	26.30	6.6	95.0
1997	6.45	3.20	17.4	1.30	18.2	4.9	83.7
1998	6.43	3.20	21.7	1.90	20.50	5.6	103.4
1999	6.52	3.00	23.4	1.90	18.00	8.6	93.4
2000	6.67	4.70	20.3	1.80	62.20	10.1	92.3
2001	6.73	3.60	24.1	1.70	28.10	11.4	91.2
2002	6.79	2.50	26.2	1.60	15.90	13.4	87.3
2003	6.78	2.90	23.9	1.40	29.50	10.7	72.6
2004	7.06	2.80	22.3	1.60	8.69	3.6	65.4
2005	6.56	3.30	21.3	1.90	15.50	5.3	43.2
2006	6.65	3.50	16.5	2.20	15.40	5.2	7.6
2007	6.32	4.10	19.8	2.20	5.30	7.1	6.4
2008	6.00	4.10	23.0	2.20	NA	11.3	6.2
2009	5.6	5.10		2.70	NA	10.4	6.9

Source: CBN Statistical Bulletin, 2010; NGDP=Nominal Gross Domestic Product, GR=Growth Rate, %=Percentage changes, Nb=Naira in billions

obtained using the parsimonious error correction mechanism. This is presented in table 4 below:

### The Statistical Significance of the Parameter Estimate

The statistical significance of the parameter estimate can be verified by the lagged error correction term ECM (t-1); the standard error test; the F-statistics; the adjusted R squared and the Durbin-Watson statistics.

The Lagged error correction term ECM (t-1) included in the model to capture the long run dynamics between the co-integrating series are correctly signed (negative) and statistically significant. The coefficient indicated adjustment of 9% for the model. These adjustments imply that errors are corrected within one year. The ECM also reveals a long run relationship between explanatory and dependent variables in the model For the model, the standard errors are 9.303228, 2.526172, 0.951665, 0.072565, 8.66E-05, 0.000211, and 0.017836 for  $S(\beta_0)$ ,  $S(\beta_1)$ ,  $S(\beta_2)$ ,  $S(\beta_3)$ ,  $S(\beta_4)$   $S(\beta_5)$  and  $S(\beta_6)$  respectively.

When compared half of each coefficient with its standard error, it was found that each standard error is less than half of each its coefficient. This shows that the estimated values for  $\beta_0$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$  and  $\beta_6$  are all statistically significant.

T-test was carried out in order to ascertain the statistical significance of the parameter estimate. The normal convention is that if the computed 't' value is greater than the critical value, we reject the null hypothesis and accept the alternative hypothesis and vice versa. The computed 't' value for the parameters  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$  and  $\beta_6$  are 9.527347, 19.84188, 1.273070, 1.779215, -13.76369 and 8.740080 respectively. Testing at 5% levels, the variables do not fall in the rejection region (that is,  $t^* > t_{0.05}$ ). Thus, we reject the null hypothesis ( $H_0$ ) which states that: corruption has no significant economic implication on the Nigerian economy and accept the alternative hypothesis which states that: corruption has a significant economic implication on the Nigerian economy.

The F-Statistics was used to test the overall significance of the estimated regression models. Thus,

**Table 4.** Regression Results and Discussions

Variable	Coefficient	Std. Error	t-Statistic	Prob.
POH	0.1884273	0.02839443	6.63606701	0.0009
UNEMPL	-0.289924	0.11226689	-2.5824507	0.0204
ECM(-1)	-0.764536	0.07713906	-9.9111521	0.0001
CPI(-1)	0.2527922	0.09858861	2.56411202	0.0373
INF(-1)	-0.0043425	0.00575546	-0.7545006	0.4751
MS(-1)	-0.9356167	0.09968789	-9.3854652	0.0000
PCI(-1)	0.0008773	0.00049359	1.77743345	0.1187
POH(-1)	0.1027188	0.29471357	0.34853421	0.7376
UNEMPL(-1)	-0.0456109	0.10181969	-0.4479984	0.6677
C	6.6063080	0.66919154	9.8720734	2.3287
CPI	-0.1860618	0.06011195	-3.0952551	0.0084
INF	-0.010195	0.00238842	-4.2688779	0.0017
MS	-0.2256299	0.04579825	-4.9266065	0.0006
PCI	0.0009889	0.00041195	2.4005237	0.0711

R-squared	0.9442390	Mean dependent var	6.167619
Adjusted R-squared	0.8406828	S.D. dependent var	0.235994
S.E. of regression	0.2392606	Akaike info criterion	0.021219
Sum squared resid	0.4007197	Schwarz criterion	0.111908
Log likelihood	11.7719524	F-statistic	9.118136
Durbin-Watson stat	2.2917895	Prob (F-statistic)	0.000348

Dependent Variable: GDP; Method: Least Squares; Date: 07/01/11, Time: 15:05; Sample (adjusted): 1986- 2009; Included observations: 23 after adjusting endpoints

we compare the calculated  $F^*$ , with the critical value at 5% level. If  $F^* > F_{0.05}$ , we reject the null hypothesis, and vice versa. From the statistical table,  $F_{0.05}$  at (6, 10) degree of freedom is 2.27413, while estimated  $F^*$  is 148.4206. The estimated  $F^* > F_{0.05}$  in the model, that is (148.4206 > 2.7413). Thus, we reject the null hypothesis ( $H_0$ ) which states that: corruption has no significant economic implication on the Nigerian economy and accept the alternative hypothesis which states that: corruption has a significant economic implication on the economy.

The value of the adjusted R-squared  $R^2$  for the model is high, pegged at 0.9926 or 99%. It implies that gross capital formation, private investment, money supply, external debt, corruption and unemployment rate explained about 99% systematic variations on Gross Domestic Product (GDP) over the observed years in the Nigeria economy while the remaining 1% variation is explained by other determining variables outside the model.

The value of Durbin Watson is 2.8 for the model. This falls within the determinate region and implies that there is a negative first order serial autocorrelation among the explanatory variables in the model.

In summary, since all the econometric test applied in this study show statistically significant relationship between the dependent and independent variables from the model, thus, we reject the null hypothesis ( $H_0$ ) which states that: corruptions do not retard economic growth in Nigeria and accept the alternative hypothesis which states that: corruption retards economic growth in Nigeria. In order words it has a crowding-out effect on growth.

### The Theoretical Significance of the Study

For the theoretical significance of the overall estimates, we evaluated the signs and the magnitude of the coefficients of the variables.

According to the results, the coefficient of corruption perception index manifested a negative sign at both the short and long run periods and is highly significant at the 1% level. The negative sign of corruption agrees with the a priori expectation. This indicates that corruption depresses economic growth in Nigeria. The outcome of this result however, is not surprising as many capital projects are abandoned everywhere due to corruption. The results demonstrated the crowding-out effect of corruption. This is to say that the resources that should be used for developmental purposes are being diverted from the society to private or personal use. Thus the accumulation of the nation's economic resources for personal benefits had variously contributed to capital flight manifested in illegal deposits abroad which crowded public domestic investment and retarded output Growth. This result is in agreement with the result of Akindele (2005) which found that the co-efficient of the corruption index is negative implying that it is consistent with the hypothesis that corruption retards development efforts.

The coefficient of the public investment has a negative sign in the short run and a positive sign in the long run and is significant at the 1% level. The negative sign strengthened the crowding-out effects of corruption on economic growth vis-à-vis public investment. Ordinarily one expects an overall positive relationship between public investment and economic growth. But as a result of corruption, it is negative. This result suggests that corruption first reduces public investment and then gross domestic output in Nigeria. This result is inconsistent with the one obtained in the case of Cote d'Ivoire (Kouassy and Bohoun, 1992) and in the case of Ghana (Yaw Asante 2000) which found positive relationship between public investment and economic growth.

The results showed a positive relationship between money supply and economic growth in the short run. Though it manifested a correct sign (i.e. positive), but it is not statistically significant. This indicated that monetary policies are not effective in Nigeria. The coefficient of money supply is significant in the long run but manifested a wrong sign (i.e. negative). It shows that increase in money supply leads to a fall in output growth and vice versa. The overall measurement of the relationship between money supply and economic growth demonstrated that monetary policies do not impact positively on economic growth in Nigeria.

The regression result demonstrated that unemployment rates are highly significant and positively related to the gross domestic output in the short run but negatively related in the long run. The negative sign of unemployment rates in the long run is in consonance with a priori expectations. One explanation for the negative relationship between unemployment rates and gross

domestic output in Nigeria is the high degree of capacity underutilization. Both the human and material resources are not fully utilized. In theoretical terms the lower the degree of capacity utilization the lower the gross domestic output. In other words, efficient utilization of economic resources reduces unemployment, increase aggregate supply and generates economic growth and vice versa.

On the other hand, the relationship between gross domestic output and fixed capital formation is high and positively signed. The positive relationship between GDP and fixed capital formation is in agreement to the a priori expectation. Capital information refers to the proportion of present income saved and invested in order to augment future output and income. In simple terms gross fixed capital formation is equivalent to Gross domestic investment plus net changes in the level of inventories. It usually results from acquisition of new factories along with machinery, equipment and all productive capital goods. The results showed that capital formation is a significant variable that determines economic growth in Nigeria.

The negative sign of external debt in the short run with a positive sign in long run was expected. Both coefficients are highly statistically significant. These results confirm the negative impact of external debt on economic growth in Nigeria before debt forgiveness and positive impact after debt forgiveness. The result showed that external debt deters economic growth in Nigeria. It crowded out investment and reduces gross domestic output.

## **Summary, Conclusions and Recommendations**

### **Summary of Findings**

Specifically, this study examined the crowding-out effects of corruption on the Nigerian economy. From the previous arguments in this paper and from the empirical investigations, it is clear that corruption is a cankerworm that has eaten into the fabric of the Nigerian economy. Since it has entered the system, Nigeria's administrative and social lexicon regressed unto an era of ethical breakdown. It is found that although corruption is a universal phenomenon, its magnitude and effects are more severe and deep-seated in Nigeria. This paper equally found that all forms of corruption manifested in bribery, frauds, embezzlement, election rigging, examination malpractice etc are noticeable in Nigeria. It was discovered that corruption has caused decay and dereliction within the infrastructure of government and the society in physical, social and human terms. It is opined

that corruption has been responsible for the instability of successive governments, since the First Republic and it has contributed immensely to unbridle looting most especially in public offices. Again, this has virtually turned Nigeria into the land of starvation and a debtor nation in spite of the nation's enormous resources. It shows that corruption is literally the anti-thesis of development and progress.

## Conclusion

The central opinion of this paper is that corruption has been completely institutionalized into the contemporary Nigerian economic and socio-political systems and this is now reflecting in the growth and development of the nation. This paper discovered that all forms of corruption manifested in bribery, frauds, embezzlement, election rigging, examination malpractice etc are noticeable in Nigeria. The conclusion however, is that no matter the magnitude of natural resources present, the size of the foreign exchange earnings, technological know-how, the efficiency of labour and the availability of basic infrastructure, development cannot be sustained in Nigeria except corruption is eradicated.

## Recommendations

The following recommendations can be derived from our findings.

The government should introduce a national reorientation program to educate people on the crucial need to eradicate corruption in all sectors of Nigeria's economic and socio-political systems. The previous efforts in programs such as Code of Conduct Bureau, WAI Brigade, ICPC, EFCC and NATPIP, are steps in the right direction. Why these efforts have not been fruitful in the past is that the leaders have been using them as a political instrument to witch-hunt political opponents and distance themselves from its tenets and doctrines. Stiffer sanctions must be imposed on those found guilty of corrupt practices including death sentences. This will serve as deterrent to others. Since corruption is a relationship of 'give and take', both the giver and the receiver must be prosecuted as well. This should be enforced right from the top to the bottom. Perhaps, it is time to enact a decree for this purpose.

The government must introduce an equitable wages and incentive system and improve other conditions of work so that the level of poverty can be reduced and the quality of life improved. This will inevitably reduce people's vulnerability and susceptibility to corruption.

The government must introduce transparency devices, technological know-how and electronic strategies that can detect and prevent corruption in all areas. The use of cameras in public places and electronic voting system will work in this direction. Prevention is better than cure.

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