

**CORRUPTION AND POPULATION INCREASE IN NIGERIA: ANALYSIS OF THEIR
IMPACT ON SELECTED MACROECONOMIC VARIABLES**

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ABSTRACT

This study analysed the impact of corruption and population growth on two selected macroeconomic variables in Nigeria. The results from the Multiple Regression Estimations show that population growth has significant impact on both unemployment and economic growth. Corruption control (CC) variable on the other hand, was found to decrease unemployment and increase economic growth. Furthermore, the findings revealed a long-run relationship among the variables of interest in the models. Therefore, based on these findings, the study recommended amongst others, that government should enact appropriate policies that will reduce unemployment and sustain steady economic growth. Furthermore, state institutions and mechanisms for corruption control should be strengthened in order to reduce the negative impact of corruption on the economy. Finally there is need to enact and implement good investment policies aimed at attracting more domestic and foreign investments in the country since investment and manpower development are major ingredients for rapid and sustainable productivity and growth in the economy.

Keywords: Population Growth; Corruption; Unemployment; Economic Growth

JEL Classification: D73, E24, F43, O47, Q56

1. INTRODUCTION

For many decades now, Nigeria has been faced with diverse issues which have left the economy in an unfortunate state. These issues have been on the increase over the years and can be seen as potent deterrents to economic advancement in Nigeria. Sadly, despite the fact that Nigeria is large and popularly known as the 'Giant of Africa' and gifted with enormous resources both human and material, yet, the resources available are mostly under used, not used at all or grossly mismanaged (Orji, et al.2020, Nurudeen & Marcin, 2021). This reflects greatly on the economy as her citizens continue to live in poverty, inequality and general underdevelopment. A vast majority of Nigeria's problems can be traced back to one root cause known as corruption (Nwankwo, 2014, and Bushi, 2019). Corruption has greatly enervated the economy, penetrating through all economic, social and political institutions and numbing the advancement of the nation (Rotimi, et al, 2021).

In addition to corruption, one of the more malignant maladies plaguing the Nigeria economy today is the problem of unemployment. Current unemployment statistics as released by the National Bureau of Statistics (NBS) in 2020 pegs the rate at about 27%. This is an increase from 13.9% in year 2016. Apparently, this problem not only exists, but is getting worse.

The high rate of unemployment is perceived to be connected to Nigeria's continuously expanding population and other socio-economic issues. Currently, Nigeria's population is over 200 million people, and at a yearly growth rate of over 2%, There is a tendency of the population clocking 250 million people in a couple of years (NBS, 2017). With an unemployment rate of 14.2% (and rising), it is safe to say that the number of unemployed Nigerians is set to double in the coming years. The twin impact of corruption and population growth is assumed to fuel the unemployment line, and this exacerbates the terrible economic situation of Nigeria even further.. Furthermore, as Okun's law of 1962 states, unemployment and economic growth have a relationship but vary in different countries. The need to reduce the rate of unemployment and increase economic growth in Nigeria is of great significance.

The causes of a growing population in Nigeria can be attributed to poverty, lack of education and awareness creation especially in the rural areas, lack of improved medical care, cultural beliefs, religion, etc. With an annual population growth rate of over 2%, it is quite obvious that most population control policy measures have been poorly implemented and this has led to the increasing rate of population in Nigeria. Both present and past governments have few evidences of population control policies enacted and implemented. Many times, governments make policy statements with

no actual or monitored implementation. The implication of this is that, over the years population has continued to increase with attendant poverty, high unemployment rate, over utilization of few available public amenities and environmental degradation. Table 1.1 below shows the rate of growth of population and unemployment.

Table 1.1 POPULATION GROWTH RATE AND UNEMPLOYMENT RATE IN NIGERIA FROM 2010-2020

YEAR	TOTAL POPULATION	POPULATION GROWTH RATE (%)	UNEMPLOYMENT RATE (%)
2010	158,503,197	2.71%	5.092%
2011	162,805,077	2.71%	5.95%
2012	167,228,794	2.71%	10.56%
2013	171,765,816	2.71%	9.95%
2014	176,404,934	2.70%	7.84%
2015	181,137,448	2.68%	9%
2016	185,960,241	2.66%	13.37%
2017	190,873,244	2.64%	17.46%
2018	195,874,683	2.62%	23.1%
2019	200,963,599	2.60%	25.8%
2020	206,139,589	2.58%	27%

SOURCE: Authors' computation based on National Bureau of Statistics data (2020).

Table 1.1 indicates that both the rate of growth of population and unemployment have been increasing from 2010 to 2020. These increases together with the increase in corruption are the major challenges facing the economy, and they have a great link with the level of productivity in Nigeria which further impedes growth. To this end, there is an urgent need to boost the productivity level of the economy because both population growth and unemployment rate are increasing at an alarming rate. Despite the current state of the economy, population growth is intensely increasing every second. As at 2018, 2019 and 2020 it was 195,874,683, 200,963,599, and 206,139,589 respectively (NBS; 2020). With such an increase, Nigeria's population is set to reach 245 million in

the next ten years if no control is put in place (United Nations; 2020). If Nigeria follows this trend of growth, with no improvement in the economy, there is no doubt that the state of the economy in the next ten years will be the same as the current state of the economy if not worse. The high population growth is a major cause of unemployment, with an increasing labour force and few available job opportunities to match the growing population. Therefore, it is no surprise that unemployment is rapidly increasing annually with population also increasing at an alarming rate (World Bank; 2020). If both situations are not controlled soon they could lead to a serious economic decline in the future.

With the employment crisis plaguing the country, unemployment has been of great concern to the government, economists and citizens especially the youths of the country, knowing that tertiary education institutions produce about 2 million graduates on a yearly basis and 47% of them are unemployed (Omolayo, 2016). This crisis has resulted in the neglect of education by youths with the belief that there is no hope for employment since nepotism is the order of the day. Furthermore, the insecurity plagues in Nigeria, increase in crime rate, low tax revenue, loss of potential national output, oil bunkering, reduction in the standard of living, etc can be seen as results of unemployment in an expanding population.

In 2014, Nigeria assumed the position of the largest growing economy in Africa, according to the statistical rebasing exercise, with an estimated GDP of 502 billion USD (World Bank 2017). The increment in the value of GDP and its effect on the living standard of the people remains a puzzle. It is expected of any economy with such huge estimates to have an increment in the number of industries, reduce its dependency on oil, reduce income inequality and draw in foreign investors to the country, by that means also have an increment on the employment rate in the country. Sadly, even with its large resources, the effort to increase the rate of employment is impeded by the mien of corrupt practices in Nigeria. This makes Nigeria as 'the giant of Africa' questionable. That is, if it she is truly serious to maximize the human and material resources needed for development? This question is as a result of the high level of misappropriation of funds and resources by corrupt leaders which has been widely accepted as the major reason Nigeria's economy has not grown in a positive direction.

As of 2015 and 2016, Transparency International Corruption Perception Index graded Nigeria poorly. It scored 26 and 28 respectively, on a scale of 0 to 100; 0 being the most corrupt and 100 being the least corrupt. Hence, Nigeria was ranked 148th and 146th out of 180 countries in the

world in 2017 and 2019 respectively (Transparency International; 2020). With such a position, there is no doubt that corruption plays a pivotal role in the underdevelopment of Nigeria and some other developing countries. Moreover, in 2017, World Bank estimated that business transactions in less developed countries involved payment of bribes of over \$1 trillion, Nigeria not being an exception which places a burden on those living in extreme poverty. Hence, corrupt practices subvert growth and development by weakening the institutional foundation and falsifying the role of law which economic growth depends on. In terms of unemployment, it reduces the number of labour force and results to lower productivity and thus, economic decline in the country.

In order to curb the surge of corruption in Nigeria, the government has made several efforts through the years, to establish transparent standards such as the Code of Conduct Bureau in 1979, War Against Indiscipline (WAI) during President Buhari's regime in 1984, Economic and Financial Crime Commission (EFCC) in 2003, and to monitor corrupt practices and to assure chaste and ethical values in the economy. These policy measures towards combating corruption have failed as the policies are being altered by corrupt authorities. Also, the Federal government enacted some policies to reduce the high rate of population growth such as the national population policy which was enacted in 1988 to control the number of children born in each house hold, through health services: family planning and provision of affordable contraceptives. Apparently, these policies were short-lived and did not come with adequate implementation. Against this background, this paper focuses on estimating the impact of population growth and corruption on unemployment and economic growth in Nigeria. The rest of the paper is structured as follows: section two reviews the literature, while section three provides the methodology. The results are presented and discussed in section four and section five concludes the paper.

2. LITERATURE REVIEW

Different studies such as Meneu and Climent (2003); Ngoc and Hieu (2011); Eli, Dauda and Made (2015); Shuaibi, Ekeria and Ogedengbe (2016); Bushi, (2019); Orji, et al.2020), among others, have been conducted using different methodologies across different economies on the relationship between population and economic growth or between corruption and economic growth. However, to the best of our knowledge, no study have been conducted to unravel the nexus between population, corruption and the selected macroeconomic variables under investigation in this study. For

example; Also, Xiujian (2002) studied the connectivity between the productivity of the growing population and the labour division. The paper discovered that growth in population does not influence productivity and thus, the rise in population aids the advancement of a country by enhancing proper division of labour which in turn helps to boost the economy. In another study, Meneu and Climent (2003) studied the connection between economic and demographic variables from the period of 1960-2000 in Spain. The paper applied Bivariate Granger causality and multivariate analysis. The impulse response function revealed that the nature of GDP in the economy affects the level of fertility and total fertility is not attributed to child mortality. A similar study was carried out by Klasen and Lawson (2007). The study investigated the relationship between poverty, population and per capita economic growth in Uganda which combined both macro and micro econometric approach utilizing panel data. The study found that population growth has a negative impact on economic growth, which implies that both factual evidence and theoretical reasoning propose that high population puts a break on per capita growth in Uganda. However, the study concluded that the more the population the lesser the symmetrical impact on economic growth. Similarly, Thuku, Gachanja and Obere (2013) reviewed the connection between population and economic growth in Kenya, using annual time series data from 1963-2009. The study utilized Vector auto regression estimation technique and thus, found that they have a significant positive relationship implying that as population increases, economic growth will be impacted positively. The study argued that population growth promotes economic growth in Kenya. Furthermore, Abdullah, Tariq, Ghulam, Asad, and Waseem (2015) investigated the impact of population growth on economic growth in Bangladesh. Using time series data, covering the period of 1980-2005, the study adopted multiple linear regression model. The study discovered that economic growth and population growth are negatively correlated. Thus, an increase in population in the economy will have a negative impact on Bangladesh's economic growth. The study therefore recommends that the government should adopt family planning programs in order to reduce the rapid increase in population and its effects.

Domestically, Osinubi (2005) analyzed the relationship between unemployment, poverty and growth in Nigeria from 1970 to 2000. Using variables such as unemployment, index of petroleum production, inflation, money supply, exchange rate and changes in real GDP, the study applied the three stage least squares using variables. The findings stated that poverty and growth have a negative relationship while unemployment and growth have a positive relationship. Hence,

the study suggests that income inequality should be reduced in order to overpower low growth rate and poverty. Based on past studies, Ogunjiuba (2005) went a step further to assess how household expenditure varieties (such as non-cash spending, cost of consuming food, monetary transactions, etc) is affected by population dynamics in Nigeria. The paper argued that other researches carried out have disregarded the expenditure of the household. Thus, the research focused on adding value by obtaining authentic data and information and regarding household expense choices. Upon the Adoption of the Vector Error Correlation methodology, the study revealed a connection between household expenditures and demographic variables components. The results also concluded that in Nigeria, population growth has a positive relationship with means of household expenditures. In their own study, Obadan and Odunsola (2010) analyzed the relationship between unemployment and economic growth in Nigeria. The paper found that they both had an inverse relationship based on the research they carried out on various sectors of the economy. However, the study was restrained to casual links between unemployment and productivity in different sectors of the economy except the service sectors. Eli, Dauda and Made (2015) conducted an investigation on the role of population growth on economic growth in Nigeria, using annual time series data from 1980 to 2010. Using regression analysis, the result concluded that a positive relationship exists between population, fertility, export and economic growth while life expectancy, crude death rate and economic growth rate has a negative relationship. The study recommended that Nigeria's average population growth should be stabilized in order to maintain a positive relationship with economic growth as seen within the period studied and the crude death rate should be checked since it has a negative relationship with economic growth. In another study, Orumie (2016) examined the influence of unemployment rate and population growth rate on GDP in Nigeria. The study made use of time series data from 1970-2010, forty-one years to be precise. Multiple regression model was adopted and the paper also estimated the co-integration between unemployment, population growth and GDP. The empirical result revealed that unemployment and population growth has been rising since 1970 despite the declining rate of GDP. Thus, the rate of GDP is also influenced by the unemployment and population growth. However, unemployment had a higher influence on the decline of GDP during the time period researched on.

In another study, Moe and Freedoun (2006) examined the relationship between corruption and economic growth in Lebanon. The study employed a neoclassical model and found that corruption reduces the standard of living of people as measured by real per capita GDP. Also, in a

Cobb Douglas function as estimated in their work they proved that corruption indeed deters growth. Providing empirical evidence that states that corruption leads to rise in inefficiencies in government expenditure which leads to a fall in investment and human capital productivity which has a negative impact on output. Furthermore, Dirdi (2013) in his work discovered that through various channels corruption hampers economic growth. He discovered this by carrying out a research on a cross-section of 82 countries from the period of 1980-2002, employing the three-stage least square method (3SLS). He also found out that human capital and political instability are the predominant factors which gives rise to corruption and causes corruption to decrease economic growth. While investments are less important as transmission variables to corruption.

Furthermore, Shuaibi, Ekeria and Ogedengbe (2016) conducted a similar analysis as Akanni and Shehu (2008) which investigated the effect of corruption on the economic growth of Nigeria from 1960-2012, using time series data. The paper used secondary data and adopted unit root test, co-integration test and error correction mechanism. The results reported that corruption has a negative relationship with economic growth.

Summarily, from the empirical studies reviewed above, it is obvious that there are some research works done on the impact of corruption and population growth on economic growth, However, it is evident from the studies reviewed that none has critically looked at the nexus among population growth, corruption, unemployment and economic growth in Nigeria and other countries especially among developing countries. Thus, it is on this ground that this research work seeks to fill this gap and add value in the body of knowledge.

3. METHODOLOGY

3.1 MODEL SPECIFICATION

For the purpose of this study, the models are specified as multiple linear regression models to capture other variables that affect the dependent variables. In order to achieve the two objectives, we develop multiple linear regression models that represent the impact of population growth and corruption on unemployment and growth in Nigeria. The models are specified below:

Model 1:

$$UNE_t = \beta_0 + \beta_1 LOGPOP_t + \beta_2 CC_t + \beta_3 GCF_t + \beta_4 INF_t + \beta_5 FDI_t + \mu_t \dots\dots\dots(1)$$

Model 2:

$$RGDP_t = \beta_0 + \beta_1 LOGPOP_t + \beta_2 CC_t + \beta_3 EXCH_t + \beta_4 GCF + \beta_5 INF_t + \beta_6 FDI_t + \mu_t \dots\dots\dots(2)$$

Where:

UNE is Unemployment Rate. This is an economic indicator that arrays the proportion of people in an economy that are willing and able to work but are not granted or unable to get a job. It is measured by dividing the number of the labour force that is unemployed by the total number of the labour force. The larger the portion of the labour force without work, the fewer the total outputs or productivity of a nation needed for growth and development. RGDP is Real Gross Domestic Product. This is used as a proxy for economic growth. It is inflation adjusted gross domestic product. It is used proxy because of its general consensus as a measure for economic growth.

POP is Population growth. Population is the total number of people living in a specific area, city, town or country at a particular time. Hence, population growth is the increase in the number of people that inhabit in a specific area, city, town or country over time. Population growth is one major factor that affects unemployment rate (Arslan and Zaman, 2014).

CC is Corruption control (a proxy for corruption). Corruption control captures perceptions of the extent to which public power is exercised for private gain, including both petty bribes and grand ones. This is because corruption can be seen as an act of acquiring resources, money or power through a means that is against the law for personal acquisition or at exoteric expense. The existence of corruption control as a proxy for corruption helps us to know the extent to which corruption exists in an economy. It also measures the strength and effectiveness of a country's policy and institutional framework to prevent and combat corruption. Control of Corruption Index ranges from -2.5 to 2.5, with higher values depicting higher corruption control.

GCF is Gross capital formation. Simply put, capital formation is a concept used in national accounts to portray the total stock of capital or net capital accumulation of a particular country, at a given time. It also refers to increasing capital stock. Though a given amount of capital is needed in an economy, continuous increase in capital stock may be undesirable. This can be attributed to the increase in physical capital in particular, which reduces the need for human capital in an economy. According to Okorie (2017), the level of physical, financial and human capital in the Least Developed Countries (LDCs) are seemingly low and a general consensus has not yet been reached

on the effects of capital formation on labour. This is because they have not come to a conclusion as to whether they are substitutes or compliments (Dikko, 2016). That is, if they are substitutes then the more you have one the less you desire the other or if they are compliments then more of capital will imply more of labour, vice versa. However, similar works of Karanassou, Sala, and Salvador (2008), Gonzalez and Sala (2011), Bande and Karanassou (2013) provide evidence on the effect of capital formation on unemployment, each study concluding that capital formation is one of the major cause of the rise in unemployment rates.

INF is Inflation rate. This is the rate at which general price level of commodities rises over time which leads to a fall in purchasing value of money. Though a given percentage of inflation is desirable in an economy, however, continuous increase in the inflation rate is undesirable. This is because inflation has a negative impact on GDP (that is, on the whole economy) which spreads to other spheres of the economy and unemployment rate not being an exception, is sensitive to both big and small inflation variations. This finding is consistent with the works of Furuoka and Munir (2014) and Alicia (2015) who used Philips curve in examining the relationship between unemployment and inflation and discovered that a negative relationship existed between them.

EXCH is Exchange rate. This shows the value or price of a country's currency relative to another. When the value of a nation's currency depreciates, it causes the exports of such a nation to become cheaper while its imports becomes expensive, thus, boosting the growth of the economy, and vice versa. Different scholars have conducted researches on exchange rate with various findings and conclusions. Some of the studies conducted revealed that exchange rate has a low influence on GDP (Bhalla, 2007) while Rodrick (2008) concluded that exchange rate influences GDP. On the other hand, Gala (2007) and Levy-Yeyati (2002) concluded in their studies that exchange rate and GDP have a relationship but there is no certainty as to if it is a positive or negative relationship.

FDI is foreign direct investment. This refers to the act of building or establishing new business enterprises in a country by individuals or investors who are not from that country. According to Dunn and Mutti (2004) foreign direct investment is an investment controlled by multinational corporations, in this case, the use of assets is determined by these multinational corporations.

As seen in the works of Mathew and Johnson (2014) and Trimurti et al (2015) where they conducted a research on the impact of FDI on unemployment and found that a negative and positive

relationship exists between them, respectively. Thus, the relationship between FDI and unemployment varies in countries. β_0 is Intercept term, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are model parameters, μ_t is Stochastic error term, and Log is the natural log operators.

4. RESULTS AND DISCUSSION OF FINDINGS

4.1. UNIT ROOT TEST AND COINTEGRATION RESULT

To avoid running a spurious regression, a unit root test is conducted. The purpose of the unit root test is to determine whether the series is consistent with I(1) process, with a stochastic trend, or it is consistent with I(0) process. That is, it is stationary, with a deterministic trend.

TABLE 4.1: UNIT ROOT TEST RESULT

VARIABLES	ADF STAT AT LEVELS	5% CRITICAL VALUE		ADF STAT AT FIRST DIFFERENCE	5% CRITICAL VALUE		ORDER OF INTEGRATION
UNE	-0.086777	-3.544284	NS	-6.24836	-3.548490	S	I(1)
LOGRGDP	-4.513669	-2.954021	S				I(0)
GCF	-3.734765	-3.544284	S				I(0)
EXCH	-2.422898	-3.544284	NS	-5.97494	-3.548490	S	I(0)
INF	-3.836192	-3.548490	S				I(0)
LOGPOP	-6.210905	-3.587527	S				I(0)
LOGFDI	-0.749382	-3.544284	NS	-8.685379	-3.548490	S	I(1)
CC	-1.736717	-3.544284	NS	-5.625772	-3.548490	S	I(1)

SOURCE: AUTHORS' COMPUTATION USING E-VIEWS

TABLE 4.2: JOHANSEN COINTEGRATION TEST RESULTS FOR MODEL ONE

NUMBER OF COINTEGRATING EQUATIONS	TRACE STATISTICS	5% CRITICAL VALUE
None*	206.8908	117.7082

At most 1*	133.0286	88.80380
At most 2*	90.75510	63.87610
At most 3*	53.10596	42.91525
At most 4*	28.07195	25.87211
At most 5	8.548778	12.51798

SOURCE: AUTHORS' COMPUTATION USING E-VIEWS

Asterisk indicates that the trace statistic is greater than the critical value. Since we have at least one situation where the trace statistic is greater than the critical value we can say that there is at least one co-integrating equation. This indicates the possibility of rejecting the null hypothesis that says there are no co-integrating vectors at 5 percent level of significance. This confirms the existence of long run equilibrium relationship between the variables as the trace statistics indicates one co-integrating relationship which means that they do not diverge away from each other in the long run.

4.3 PRESENTATION AND INTERPRETATION OF ORDINARY LEAST SQUARE (OLS) REGRESSION RESULT FOR MODEL ONE

TABLE 4.3: REGRESSION RESULT

DEPENDENT VARIABLE: UNE

VARIABLES	COEFFICIENTS	STD. ERRORS	T-STATISTIC	PROB.
CONSTANT	-1065.107	74.49913	-14.29691	0.0000
LOGPOP	12.56472	2.569436	4.890071	0.0000
CC	-5.867658	8.744482	-0.671913	0.5073
GCF	0.373754	0.073767	5.066694	0.0000
INF	0.035602	0.025430	1.400018	0.1718
LOGFDI	-6.851001	0.960667	-7.131507	0.0000
R ² =0.948151	F-STAT =109.7205	PROB>F= 0.000000		

ADJUSTED R ² =0.939509	DURBIN-WATSON STAT=1.989801	
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SOURCE: AUTHORS' COMPUTATION USING E-VIEWS.

4.3.1. MODEL 1 INTEPRETATION

The sign of the co-efficient of the LOGPOP is positive. This implies a positive relationship between population growth and unemployment. The coefficient of population growth is (12.56472). Thus, holding other variables constant, a percentage increase in population on the average increases unemployment by 12.5%. This conforms to *a priori* expectation which states that, the higher the population growth, the higher the rate of unemployment in a given country. The result also shows that the variable is statistically significant in the model. This implies that the variable, population growth is a very important and indispensable variable that affects unemployment in Nigeria. This is in accordance with the work of Aurangzeb and Asif (2013) where the results of their cross country analysis on factors affecting unemployment revealed that population growth and unemployment have a positive relationship a various countries. From the regression result, the coefficient of corruption control is (-5.867658). This implies that on the average, a unit increase in corruption control will decrease unemployment by 5.86% holding all other variables constant. The variable CC is negatively related with UNE, which implies that a negative relationship exists between CC and UNE. This conforms to *a priori expectation*. That is, increase in corruption control reduces Unemployment. However, the results show that the variable is statistically insignificant in the model. This may be as result of the fact that efforts to reduce corruption practices in the economy may not have reflected well on the welfare of individuals in the economy. This result was found to be consistent with the results of Enofe et al (2016). Furthermore, the coefficient of GCF is 0.373754 which implies that a unit change in GCF will lead to 0.373754 % increase in unemployment. That is, a positive relationship exists between GCF and UNE in the economy. This conforms to *the prior expectation* which states that, the higher the capital formulated, the higher the rate of unemployment in a given country. The result also shows that the observed effect of GCF is statistically significant in the model at 5% level of significance and thus, it is an important factor that affects unemployment. In Nigeria, capital formation affects the rate of unemployment because when the stock of capital increases the need for human labour reduces, which further affects economic growth. This conforms to the work of Shuaib (2015) who asserted

in his work that capital formation could not only result on the investment in capital equipment that leads to increase in production but again leads to unemployment.

The coefficient of INF is 0.035602, which has a positive sign. This implies that a unit change in inflation will lead to a 0.035602 percentage increase in unemployment. This conforms to a *a priori* expectation which states that, the higher the rate of inflation in an economy, the higher the level of unemployment. This simply means that a persistent increase in the prices of goods and services leads to an increase in the rate of unemployment since the purchasing power of money has decreased, spending reduces and production of different sector decreases and this affects the economy as a whole. Therefore, inflation and unemployment have a positive relationship. However, the result also shows that the variable, INF is statistically insignificant in the model. That is, INF is not an important determinant of unemployment. This is because even without the increase in prices of goods and services unemployment can still rise.

The sign of the co-efficient of the Log of foreign direct investment is negative. Thus, the coefficient of the LOGFDI (-6.851001) implies that a percentage change in foreign direct investment will lead to a percentage decrease in unemployment by 6.851001% holding all other variables constant. This conforms to a *a priori* expectation which states that, increase in foreign direct investment will bring about a decrease in unemployment. Foreign Direct Investment affects unemployment in the sense that when foreign investor invests in Nigeria, it is expected that more institutions, industries and other areas that encourage productivity are developed. Thus, creating employment opportunities and increases economic growth. However, the returns on these investments are not reinvested in the domestic country, so employment may be short-termed. The result further shows that the variable is statistically significant in the model. Thus, it is a very important and indispensable variable that affects unemployment in Nigeria. This supports the findings of Kurtovic et al (2015) and Mason (2015) which states that a negative relationship exists between unemployment and foreign direct investment.

R^2 shows how the variations in the dependent variable are explained by the independent variables. That is, how the variations in unemployment are explained by the independent variables which are population growth, corruption control, gross capital formation, inflation and foreign direct investment. The value of the R-squared of the study (0.948151) meaning that the independent variables which are population growth, corruption control, gross capital formation, inflation and foreign

direct investment explains about 94.8151% of the total variations in the dependent variable, unemployment. It also shows that the model is a good fit.

4.4. MODEL 2

TABLE 4.11: REGRESSION RESULT

DEPENDENT VARIABLE: LOGRGDP

VARIABLES	COEFFICIENTS	STANDARD ERRORS	T-STATIS-TIC	PROB
CONSTANT	-9.514374	1.143847	-8.317877	0.0000
LOGPOP	1.693529	0.147554	11.47734	0.0000
CC	0.541022	0.105946	5.106605	0.0000
EXCH	0.000798	0.000234	3.402115	0.0020
GCF	0.005009	0.000861	5.820944	0.0000
INF	-0.000447	0.000234	-1.668490	0.1060
LOGFDI	0.004604	0.010030	0.458975	0.6497
R ² =0.992381 ADJUSTED R ² =0.990805	F-STAT =629.5845 DURBIN-WATSON STAT=1.524416	PROB>F= 0.000000		

SOURCE: AUTHORS' COMPUTATION USING E-VIEWS

4.4.1. MODEL 2 INTEPRETATION

The coefficient of LOGPOP is 1.693529 which implies that holding all other variables constant, a percentage increase in population will on the average increase economic growth by 1.693529%. The regression result shows that population growth and economic growth have a positive relationship and this conforms to *a priori* expectation. This is simply because as population increases, there could be more people engaged in the process of production and thus, economic growth will be impacted positively. This is in line with the results of Ali et al. (2013) who found a positive relationship between population growth and economic growth in Pakistan. Also, Thuku

et al. (2013) also discovered a positive relationship exists between population growth and economic growth in Kenya. However, Klasen and Lawson (2007) found a negative relationship between population growth and economic growth in Uganda. The result also revealed that the variable, LOGPOP is statistically significant in the model and it is an important determinant of economic growth. The coefficient of corruption control is (0.541022) which implies that holding all other variables constant, a percentage change in CC will lead to a percentage increase economic growth by 0.54022%. That is, a positive relationship exists between CC and RGDP. This is simply because an increase in the control of corruption, will improve the performance of the economy. This also conforms to *a priori* expectation.

The coefficient of exchange rate (0.000798) implies that holding all other variables constant, a percentage increase in EXCH will on the average increase RGDP by 0.000798%. The regression result also shows that EXCH has a positive relationship with RGDP. This conforms to *a priori* expectation which states that, the higher the exchange rate in favour of the local currency (Naira), the higher the growth of the economy, and vice versa. That is rising exchange rate values imply that the value of a nation's currency is depreciating consequently causing the exports of such a nation to become cheaper while its imports becomes expensive, therefore boosting the growth of an economy. The coefficient of GCF is 0.005009 which implies that a unit change in GCF will lead to a percentage increase in economic growth by 0.005009%. That is, a positive relationship exists between GCF and economic growth. This conforms to *the prior expectation* which states that, the higher the capital formulated, the higher the rate of economic growth in a given country. This conforms to the work of Shuaib (2015) who asserted in his work that capital formation only results in investment in capital equipment which leads to increase in production in the long run. From the regression result, the coefficient of the variable, INF is (-0.000447). This implies that on the average, a unit increase in INF will decrease RGDP by 0.0447% holding other variables constant. This conforms to *a priori* expectation which states that, the higher the inflation rate, the lower the RGDP. This simply means that a persistent increase in the prices of goods and service leads to a decrease in the growth of the economy, since the purchasing power of money has decreased, spending reduces and production of goods by different sector decreases and this affects the economy as a whole. Therefore, inflation and RGDP have a negative relationship. The result also shows that the variable is statistically insignificant in the model. This is consistent with the work of Faria and Carneiro (2001) in Brazil. The coefficient of foreign direct investment

(0.004604) implies that holding other variables constant, a percentage change in FDI will lead to a percentage increase in the growth of the economy by 0.004604%. This implies that an increase in inflow of FDI will increase domestic investment and output. It is expected that when more institutions, industries and other areas that encourage productivity are developed, employment opportunities will be created and economic growth will be enhanced. However, the results show that FDI is not statistically significant. This is because most times the returns on these investments are not reinvested in the domestic country to create the needed growth. Adjusted R-squared helps to check whether the R-squared over-estimated the success of the model. Since its value (0.939509) is not so different from the R-squared then we can conclude that the model is not over-estimated. This also signifies that the model is a good fit.

5. POLICY RECOMMENDATIONS AND CONCLUSIONS

The following policies are hereby recommended to the Nigerian government: First, the results in the two models specified revealed that population growth has a positive relationship with unemployment and economic growth. That is, the higher the growth of the population, the higher the rate of unemployment as well as economic growth. The results are quite conflicting owing to the fact that increase in unemployment does not boost economic growth. However, the government should address this by adopting population policies that will encourage the lowering of fertility levels, that is, provide free education (including sex education) so that educated women will reduce fertility. Further, the government must play an active role in family planning programs, especially educating families in the rural areas. The government should also use social media to promote small family size but should not dictate family size. By doing these, population grows at a rate that will reduce the unemployment and boost economic growth as well. Second, the results show that corruption control positively impacts unemployment and positively impacts economic growth. Thus, this implies that the higher the control of corruption, the lower the rate of unemployment and the higher the growth of the economy, respectively. That is, more jobs will be created for the unemployed, which will further boost the growth of the economy. Hence, Government should strive to put a check on corrupt and fraudulent practices and foster transparency such as ensure that proper monitoring is carried out when projects are being executed. This will ensure that funds allocated by the government to different ministries and sectors will be effectively used for the initial desired purposes, and not diverted for personal interests at the expense of the overall growth

of the economy. Third, although exchange rate is majorly exogenously determined, the government should ensure that the exchange rate developments should be monitored at a close watch through the Central Bank of Nigeria (CBN). That is, the relative stability and economic favorability. This is because the role of CBN in the foreign exchange market is to enhance exchange rate stability and thus, should continue to be a core objective under monetary targeting framework and should be kept in line with growth objectives and targets of the economy. Fourth, the results in both models show that FDI has a negative relationship with unemployment and a positive relationship with economic growth. That is, foreign direct investment impacts negatively on unemployment and positively on economic growth. Hence, the government should implement policies that will increase the rate of foreign direct investment in the economy. The government should enable a favorable environment with stable rates and effective competitive policies for domestic business to thrive in the economy, given that this is one of its basic fundamental role. They can do this by developing adequate infrastructures such as constant electricity, good road networks etc as well as implementation of stabilization policies to avoid fluctuations in interest rates and prices. This is because a developing country that is thriving gives room for foreigners to invest in the country. Fifth, the government should also enact policies that ensure greater labour force participation. These policies should be consistent in order to ensure that those who are willing and able to work are employed, as well as ensuring that those who are employed are productive which would indeed have a good impact on the growth of the Nigerian economy. Finally, the activities or programmes of the already existing anti-corruption agencies in Nigeria such as the Economic and Financial Crime Commission (EFCC) and the Independent Corrupt Practices and related Offenses Commission (ICPC) should be strengthened and its officials consistently scrutinized.

5.1 CONCLUSION

The broad objective of this study is to determine the impact of population growth and corruption on unemployment and economic growth in Nigeria. To achieve this objectives an econometric methodology was adopted as a tool for testing the stated hypotheses. The ordinary least square was chosen as the estimation tool because of the merits it has over other estimation techniques with respect to the phenomenon under study. The empirical findings from this research points out that both population growth and corruption impact unemployment and economic growth. Thus, the

government can reduce their impacts on unemployment and economic growth through calculated economic decisions and policies.

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