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Analysis of the Effect of Unemployment on the Economic Growth of Nigeria

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Abstract:*This paper sought to estimate the impact of unemployment on the economic growth in Nigeria, using time series data from 1999 to 2017. The data used were sourced from the Central Bank of Nigeria database and World Bank' data Bank. Explanatory research design was employed using Augmented Dickey-Fuller, Philip-Perron Unit root tests, OLS and pair-wise Granger Causality. The major objective of this work is to analyse the impact as well as the direction of the causality among the GDP which proxies for economic growth and in line with Okun's law. The Granger causality test shows a unidirectional relationship between unemployment and Nigeria's economic growth. The Population growth result which is also included in model is contemporaneous to the economic growth. The linear relationship of the population growth signifies that government should encourage natality rate with robust quality education and human capital development. The study recommends provision of development in other economic sectors which will actually diversify the economy and create employment to the teeming unemployed youth in Nigeria.*

Keywords: *Economic Growth, Unemployment, OLS, Granger Causality.*
Jel Code*: E24, C09, C52*

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I. Introduction

One of the macroeconomic problems facing Nigeria is the issue of unemployment. Attaining high-level output and sustainability with a low level of unemployment is one of the macroeconomic objectives of government in Nigeria. According to the National Bureau of statistics, (NBS, 2017), there is no universal standard definition of unemployment as various countries adopt definitions to suit their local priorities.

The (NBS, 2017), like most nations in the world, incorporate a variant of the International Labor Organization definition. According to (ILO in NBS report) , unemployment is the proportion of those in the labor force (not in the entire economic active population, nor the entire Nigerian population) who were actively looking for work but could not find work for at least 20 hours during the reference period to the total currently active (labor force) population, (NBS, 2017). Accordingly, one is unemployed if s/he did absolutely nothing at all or did something but for less than 20 hours during the reference week.

However, Nigeria uses the ILO's definition, or a variant of it to compute unemployment. The ILO definition covers persons aged between 15-64 who during the reference period (which is usually the week preceding, the time the survey is conducted) were available for work, actively seeking work, but were unable to find work. It is worthy to know that, the international definition of unemployment, underemployment or employment is not a function of the quantity/suitability of wages earned nor it is a function of job Satisfaction. Rather, employment, underemployment, and unemployment are treated as a function of a person's involvement or otherwise in economic activity even if that activity is performed solely to make ends meet and not for satisfaction or enjoyment (ILO, 2018). The suitability of wages or job fulfillment is covered under economic welfare indices such as the living standard, poverty rate or happiness index, but not determining whether one is employed, unemployed or underemployed, which is a function of economic engagement.

Some of the social and economic implications of unemployment in Nigeria include: social exclusion, increase in the crime rate, social unrest, and the brain drain of the human capital(Adebayo, 2013). Income inequality and widespread poverty in Nigeria is as a result of high unemployment. Therefore, it is imperative to understand the impact between unemployment and economic growth and to determine the directions of the causality.

The political transition from military rule to democratic dispensations in Nigeria's third republic led to the era of economic transformation. In order to comprehend the inherited economic saga in the autocratic rulership of the military, characterized by unevaluated adopted economic policies which trigged structural unemployment, income inequalities, and widespread poverty among the population. Many years have gone since the inception of the new democratic era, there is still a high level of unemployment and it is a show of concern to the government.

Economic growth is seen as one of the indexes significant in measuring the unemployment rate, and poverty to help improve the living standard of the people (Makaringe&Khobai, 2018). An increase in the growth rate of the GDP is expected to reduce unemployment rate thereby increasing employment level. This theory is generally accepted in economics and documented through the theoretical proposition relating to output and unemployment known as Okun's law (Makaringe&Khobai, 2018).

Okun's law describes one of the famous empirical relationships of output (GDP) and unemployment in macroeconomics theory and thus, has been found to be valid for several developed nations (Banda, 2016). However, in the significant relationship between economic growth and unemployment, may not stand a taste of time hence economic growth alone cannot surmount all other unidentified important variables that cause unemployment and poverty.

Therefore, a need to adopt vibrant economic policies such as investment in quality education, entrepreneur skill, and human capital development to reduce the unemployment rate and create more jobs for sustainable economic growth should be followed. This study aims at investigating the relationship between economic growth and unemployment in Nigeria using ordinary least squire (OLS) model. Nigeria is currently facing a high unemployment rate and needs robust economic policies to curb unemployment and maintain sustainable growth. This paper is organized thus: a review of the literature is discussed in section two, data and methodology in section three, empirical results presented in section four. Section five is the conclusion and policy recommendation.

II. Objectives of the Study

- To test for Hypothesis
- To estimate the impact of unemployment on economic growth
- To determine the direction of causality

2.1. Review of Empirical Literature and Theoretical Framework

In an attempt to analyze the relationship between unemployment and economic growth, a lot of studies have been made to find out the nature of the relationship. (Mosikari, 2013) investigated the effect of unemployment on GDP in South Africa. The annual time series data used for the study covers the period 1980 to 2011, using the Augmented Dickey-Fuller Stationary test, and the variables prove to be integrated of order one. Also, the Granger causality test was applied. It was found that there is no causality found between unemployment and economic growth.

The study encourages all policies of economic growth with the idea that growth will reduce unemployment in the South African economy.(Revoredo-giha, 2012) studied the relationship between output and unemployment in Scotland. Their study was influenced by a decline in Scottish labor market conditions. The finding of their study shows that the differences in the composition of the economy of rural and urban areas lead to a strong relationship between growth and employment in urban areas. In another study conducted by (Jesus, 2012), find out the relationship between unemployment and economic growth in Peru and Lima for the period of 1992 to 2012 using Ordinary Least Square (OLS) techniques. The results confirmed a negative relationship between unemployment and economic growth in both cases. (Hafiz, Nazir, Abbas, & Sana, 2014) also got the negative relationship between unemployment and economic growth on Pakistan. The result confirmed with Okun's law. Okun's law, says that ''if unemployment moves above from normal point by one percent, GDP growth falls by two percent''. This means that unemployment and economic growth are inversely related.

(Meidani, 2015) studied the dynamic effect of the unemployment rate on GDP in Iran. Their study covered the period 1971 to 2006, using Auto-regressive Distribution Lag (ARDL). The results of ARDL long-run coefficients revealed that the unemployment rate is statistically significant in determining GDP in long run. Based on the results of short run and long run, unemployment is positively related with GDP.

(Rigas, Theodosiou, &Rigas, 2011) examined whether the Okun's law continues to be valid in today's economic environment. Their study uses data with regard to the unemployment and GDP of three countries, Greece, France, and Spain. From the findings, the study concludes that the reaction of GDP to changes in unemployment and, more generally to Okun's coefficient differ substantially among three counties. Furthermore, based on the causality findings, a two-way causal relationship between GDP and the rate of unemployment does not exist for any of the three countries.

(Kreishan, 2017) used annual data covering the period 1970 to 2008, to ascertain the relationship between unemployment and economic growth of Jordan. The empirical results revealed that Okun's law has not been confirmed for Jordan, Thus, it can be suggested that the lack of economic growth does not explain the unemployment problem of Jordan. Therefore, economic policies related to demand management would not have an important effect in reducing the unemployment rate. Accordingly, the implementation of economic policies

oriented to structural change and reform in the labor market would be more appropriate by policymakers in Jordan. The result of this study is in line with other studies in Arab countries.

(Abdul, 2007) engaged in a study to examine the relationship between output and unemployment in Malaysia from 1970 to 2004. Their study applied the basic econometric analysis of testing stationery using ADF and Phillip-Perron test. The result confirmed that there is a negative relationship between unemployment and economic growth. The coefficient of the regression result is -1.75 and it is significant at 1% level. It means that a 1% decline in unemployment will increase GDP by 1.75%. Furthermore, they confirmed that there is a two-way causality between unemployment and GDP in the Malaysian economy.

(Cycles, 2006) uses regression analysis in order to derive Okun's coefficient for the period 1970-2004. The result shows that there is a consistency with regards to employment and unemployment cyclical behavior irrespective of the frequency. The study further indicates that the Korean labor market is of the heaviest regulated among the developed countries. The author suggested that the rationale for a labor market reform, in terms of making hiring and firing to be much more flexible. (Reads, 2016) extends the previous approaches by considering some of the factors that were neglected in the previous estimates of Okun's coefficient. When he runs a regression between the output gap and the unemployment gap, he finds much smaller values for the impact of a 1% unemployment reduction upon the output growth than in the case of Okun's law.

In Nigeria, there have been lots of studies that examined unemployment and economic growth relationship. For instance, (Babalola SikiruJimoh, Jimoh Saka, 2013) found a positive relationship between unemployment and economic growth of Nigeria. The study covers the period 1980 to 2008. Using; Engel - Granger and Cointegration test and Ordinary Least Square (OLS) techniques. (Obadan, 1999)discovered that unemployment rate and growth rate are inversely related. They also discovered that growth response to unemployment varied among sectors of the economy. For example, the employer in the industrial sector uses less labor to accomplish a high volume of production thereby leading to unemployment. From the study reviewed above, it appears that there seems to be more empirical evidence of a negative relationship between unemployment and GDP in both developed and emerging economies.

2.2. Theoretical Framework

An increase in economic growth caused by more efficient use of inputs (such as labor productivity, physical capital, energy or materials) is referred to as intensive growth. GDP growth caused only by increases in the number of inputs available for use (increased population, new territory) is called extensive growth.

The "rate of economic growth" refers to the geometric annual rate of growth in GDP between the first and the last year over a period of time. Implicitly, this growth rate is the trend in the average level of GDP over the period, which implicitly ignores the fluctuations in the GDP around this trend.

There are several contributions by various economists and schools of thought as regards to the subject matter of unemployment rate and economic growth. These theoretical frameworks are relevant to this study as they serve as bases upon which this study is built and as such the study discussed the positive and negative growth effect of unemployment on the economic growth of Nigeria. Some of these theories that acknowledge the effect of unemployment on economic growth are as follows:

The Solow-Swan Model

(Solow, 1956) developed a growth model known as the Solow-Swan model. The model became the most used in growth economics. This model assumes that there are diminishing returns to capital and labor. Capital accumulates through investment, but its level or stock continually decreases due to depreciation. Due to the diminishing returns to capital, with increases in capital/worker and absent technological progress, economic output/worker eventually reaches a point where capital per worker and economic output/worker remains constant because annual investment in capital equals annual depreciation. This condition is called the 'steady state'.

In the Solow–Swan model, if productivity increases through technological progress, then output/worker increases even when the economy is in the steady state. If productivity increases at a constant rate, output/worker also increases at a related steady-state rate. The Solow–Swan model is considered an "exogenous" growth model because it does not explain why countries invest different shares of GDP in capital or why technology improves over time.

Total capital stock grows when saving is greater than depreciation, and capital per worker grows when saving is greater than what is needed to equip new workers. with the same amount of capital as the existing workers and as we increase the capital accumulation by raising the rate of savings, there exists a temporary increase in the rate of output growth, although at a higher level of output per worker. we return to the original steady-state growth rate in each consecutive year. Based on this model total capital accumulation depends on the change in capital per worker which is a function of investment per worker, depreciation per worker and population growth (Manual, 2016).

The value of the model is that it predicts the pattern of economic growth once these two rates are specified. Its failure to explain the determinants of these rates is one of its limitations. Although the rate of investment in the model is exogenous, under certain conditions the model implicitly predicts convergence in the rates of investment across countries. In a global economy with a global financial capital market, financial capital flows to the countries with the highest return on investment.

In the Solow-Swan model countries with the less capital/worker (poor countries) have a higher return on investment due to the diminishing returns to capital. As a consequence, capital/worker and output/worker in a global financial capital market should converge to the same level in all countries. Since historically financial capital has not flowed to the countries with the less capital/worker, the basic Solow–Swan model has a conceptual flaw. Beginning in the 1990s, this flaw has been addressed by adding additional variables to the model that can explain why some countries are less productive than others and, therefore, do not attract flows of global financial capital even though they have less (physical) capital/worker(Buera et al, 2011).

The natural rate of growth Model

Roy F. Harrod (1948) in his publication, ''Towards a Dynamic Economics'' built on Keynes's theory of income determination, the Harrod-Domar model as developed independently introduced the concepts of warranted growth rate, natural growth, and actual growth. According to (Harrod, 1939), the warranted growth is the growth rate at which the entire saving is absorbed into investment. Harrod further explained that if people save 10% of their income, and the economy's ratio of capital to output is four, the economy's warranted growth ratio is 2.5 percent (ten divided by four). This is the growth rate at which the ratio of capital to output would affirm constantly at four.

The natural growth rate is the maximum rate of growth attainment allowed by the increase of variables like population growth, technological improvement, and growth in natural resources. In fact, the natural growth rate is the highest attainable growth rate which would bring about the fullest possible employment of the resources existing in the economy. Two problems were found in Harrod's models which arise from growth rats. First, that actual growth was determined by the rate of saving and that natural growth was determined by the growth of the labor force. There was no necessary reason for actual growth to equal natural growth, and therefore the economy had no inherent tendency to reach full employment (Harrod, 1939. ''Essay in Dynamic Theory." *Economic Journal 49* (March): 14–33). This problem implies that Harrod's propositions for the wage rate are fixed and that the economy should apply labor and capital in the same proportions.

The second problem implied by Harrod's model was unstable growth. If companies adjusted investment according to what they expected about future demand, and the anticipated demand was forthcoming, warranted growth would equal actual growth. But if actual demand exceeded anticipated demand, they would have underinvested and would respond by investing further. This investment, however, would itself cause growth to rise, requiring even further investment. Result: explosive growth (Becker, 1975).

Interestingly, though, if a firm is in a position whereby it can increase a price substantially and reduce sales only a little, and if its owners want to maximize profits, the firm is well advised to raise the price until it reaches a portion of the demand curve where demand is elastic. Otherwise, the firm is forsaking an increase in revenue that it could have had with no increase in costs. One important implication of this fact is that the elasticity of demand in a market is a negative test for whether the firms are acting together as a monopoly (Stigler et al., n.d.)

III. Research Hypothesis

In order to achieve the stated objectives outlined earlier, the following hypotheses will be tested.
Ho: Unemployment has a negative relationship with economic growth.
HI: Unemployment has a positive relationship with economic growth.

3.1. Research Design

The study adopted the quantitative and ex- post facto research design in obtaining, analyzing and interpreting data relating to the objectives of the study. The ex- post facto design is most suitable in studies in which the investigation starts after the fact has occurred without interference from the researcher. The choice of this type of design allowed the researcher the privilege of observing variables over a long period of time.

3.2. Methodology and Sources of Data

Given the nature of the research design, the study employed secondary data. The data were obtained from the Central Bank Statistical Bulletin, National Bureau of Statistics (NBS), World bank database (WB), internet findings, etc. Based on the perceived causal relationship of the variables of research interest, a multiple regression model will be used to foster the link between unemployment and economic growth in Nigeria. Estimation of the model is via the Ordinary Least Square (OLS) techniques facilitated by the application of (E-

views 10) econometric software. The regression output includes other relevant statistics that enhance further analysis and evaluation. Unit root test using Philips-Perron and Augmented Dickey-Fuller and Pairwise Granger casualty tests' will be used for directions of causality'. In view of economic theory, the a priori expectation is that an increase in the level of GDP will greatly be influenced by the level of population and employment in the economy.

3.3. Formulation and Model Specification

The model comprises one equation which is given below.

GDP t = $\beta 0 + \beta 1tPOP + \beta 2tUNE +$ ------$\acute{\varepsilon}_t$

With a priori expectation of $\beta 1>0$, $\beta 2<0$

Where: GDP = Gross Domestic Product (Dependent Variables)

POP = Population Growth Rate

UNE =Unemployment Rate

(POP, UNE are the independent variables of the model)

$\acute{\varepsilon}$ = Stochastic error or disturbance term and t= time trend

Gross Domestic Product measures the value of goods and services produced in a given year. It is proxy to economic growth in this study.

Population Growth Rate: It measures how fast the size of the population is changing. The a priori expectation is a positive relationship between Gross Domestic Product and Population Growth Rate, that is, the higher the population growth rate, the higher the economic growth.

Unemployment Rate: the Unemployment rate is a commonly used indicator for understanding conditions in the labor market. The term labor market is used when talking about the supply of labor (from households) and the demand for labor (by businesses and other organizations). Unemployment occurs when someone is willing to work but does not have a paid job. The unemployment rate is the percentage of people in the labor force. The a priori expectation is a negative relationship between Gross Domestic Product and Unemployment Rate, meaning that a decrease in the unemployment rate will increase economic growth.

IV. Empirical Results and Discussion

4.1. Testing for Stationary Property of the Variables (Unit Root Test)

One of the econometric problems in empirical analysis is non-stationary of time series data. It is important to perform unit root testing to ensuring that variables in a regression model are stationary while using time series data (Uwakaeme, 2015). It is worthy to know that spurious regression and inconsistent results are likely to be obtained if we run a regression while the variables in the model are non-stationary and therefore, inferences based on such data are likely to make no sense. Due to the different powers of unit root tests, different tests give alternative results, especially for macroeconomic variables (Chiliba, Alagidede, &Schaling, 2016). We therefore, use a battery of unit root tests, namely the Augmented Dickey-Fuller or ADF (Gujarati and Porter,2005), Phillips and Perron (PP) (1988) to find out the order of integration of different series while hoping for mutually reinforcing results in order to improve efficiency and consistency of the data (Marketa, A. and Darina, 2016). A summary of the unit root test results conducted based on a model with trend only is presented in table1.

The Unit root test in Table 1 below shows that none of the variables is stationary at the level, I (0). They became stationary after taken at first difference I (1).

Table 1: Unit Root Test Results

Variables	Augmented Dickey-Fuller		Philip-Perron		
	Test Statistics	P-Value/1(d)	T-Statistics	P-value/1(d)	
LOGGDP	-4.384468	0.0037 I(1)	-4.381144	0.0038 I(1)	
POP	-3.951233	0.0088 I(1)	-3.951233	0.0088 I(1)	
	1% level	5% level	10% level	Prob.	Remark
UNE	-3.959148	-3.081002 I(1)	-2.681330	0.0164 I(1)	Significant

Source: Author's calculation using E-Views software

From the table above, it can be deduced that all the variables (LOGGDP, POP are stationary at 1% level of significances except Unemployment rate which is stationary I (1) but at 5% level of significance.

4.2.Presentation of Model and Test of Parameter Estimates

Here, an attempt is made to estimate the parameters in the equation as obtained after running a multiple regression analysis. The equation is assumed to be linear, with the value estimated using the data for the years under review (1999- 2017), applying the ordinary least square (OLS) techniques' we obtained the result below.

Table 2: OLS regression Result, real GDP as the dependent variable
Source: Author's Calculation using E-views Econometrics software

Variables		Coefficient	Std.Error	T-staistics	Probability
C		-11.37638	3.152779	-.608367	0.0024
POP		9.322582	1.192370	7.818532	0.0000
UNE		-0.133385	0.033703	-3.957640	0.0011
R-squire		0.850075	Mean Dep Var	12.06666	
Adj R-squire		0.831335	S.D. Dep Var	0.945212	
DW		1.421317			
Sum-squired resid		2.411042	F-stat	45.36007	
S.E. of Reg.		0.388188			
Log Likelihood			Prob.(F-stat)	0.000000	

The parameter estimates of the equation are as follows:-
GDPt = -11.37638 +9.322582-0.133385+ ε
S.E.= (3.152779) (1.192370) (0.033703)
T*= (-608367) (7.818532) (-3.957640)
$R^2 = 0.850075$
Adj $R^2 = 0.831335$
DW=1.421317
F*=45.36007
Recalled our equation
GDPt= = $\beta 0 = \beta 1tPOP + \beta 2tUNE + \acute{\varepsilon}_t$
From the estimated regression line, it can be deduced that the slopes of the coefficients are in line with our a priori expectations. It is seen that a unit increase in unemployment decreases GDP by 0.133385%. Also, a unit increase in population increases the GDP by 9.3222582 %.
This shows that change in the dependent variable i.e. GDP depends on the changes in the explanatory variables (POP and UNE).
We further made an attempt to test either or not, these parameter estimates are statistically significant, both standard error test and t-statistics test were employed. Firstly, the standard error test enables us to determine the degree of confidence in the validity of the estimates. This is to say that either the estimate is significantly different from zero. Here, we begin by stating the null hypothesis (H0:b0 = 0) against the alternative hypothesis (Hi: bi ≠ 0). For us to accept or reject the null hypothesis, the following condition must be fulfilled:
If SE b1<b1/2, we reject the null hypothesis and accept the alternative hypothesis, concluding that bi is statistically significant.
If on the other hand, SE b1>b1/2, we accept the null hypothesis that true population parameters are equal to zero (i.e. bi = 0) hence we conclude that the estimate is not statistically significant, therefore, we are rejecting the alternative hypothesis.
In line with our regression equation above, we can test for β1 and β2 as follows:
For β1SET =b1/2 = 9.322582/2 = 4.661291. In our regression result, the SE of $\beta 1$ = 1.192370. This indicates that the SE estimate is less than half of b1 (i.e.1.192370<4.661291). We, therefore, reject the null hypothesis and accept its alternative, concluding that β1 is statistically significant.
For β2 SET = b2/2 = -0.133385/2=-0.0666925.Here the β2 SET shows that the SE of $\beta 2$ (0.033703) as indicated in our regression results is less than half of b2(i.e. 0.0667>0.0337). We reject the null hypothesis and accept its alternative, concluding that β2 is statistically significant. Further, using t-statistics the empirical t* value (t calculated) is compared with t-tabulated with an n-k degree of freedom at a specified level of significance. Where;
n = sample size
k = number of explanatory variables in the model

4.3. Decision Rule

If t-calculated (t*) is less than the t-tabulated (i.e. t-cal< t-tab) with an n-k degree of freedom, after choosing the level of significance, we accept the null hypothesis and conclude that our estimate bi is not statistically significant at a level of significance.

In on the other hand, if t-cal is greater than t-tab, we reject the null hypothesis and accept the alternative, concluding that the estimate b1 is statistical significance. In the regression result above, the parameter estimates in the model can be tested at 5%level of significance as
Follows:
N =18

K=2
In view of this, therefore, the n-k degree of freedom
18-2 =16. The t-tab at 5% level of significance with 16 degrees of freedom is found to be 1.75. Given our null and alternative hypothesis as:
Ho: $\beta 1 = 0$
H1: $\beta 1 \neq 0$
The t-calculated value of β1 is given as -3.957640 from our regression result. This is greater than the tabulated value (i.e. 3.957640 > 1.75) when the negative sign is ignored. This makes us accept the alternative hypothesis (H1: $\beta 1 \neq 0$). Thus, we conclude that β1 is statistically significant. This means that there is a negative relationship between unemployment and economic growth.
Durbin-Watson stat (DW) tests the serial correlation ship among the variables. The DW is equal to 1.421317. This means there is no existence of author correlation. This is because the DW is not above two (2).
For the F – statistics, we formulate our hypothesis as: -
Ho: $\beta 1 = 0$
H1: $\beta 1 \neq 0$

In our calculation, the F-value is 45.36007 and F-tab value at 5% level of significance with v1=(k-1=2-1=1) and v2=N-K=18-2=16 degree of freedom as 6.23. Therefore, since F*=45.36007, F-tab=6.23, we reject the null hypothesis and accept the alternative that:-not all the slopes coefficients are simultaneously zero. This implies that the difference between the mean is significant.

R2 measures the total variation of the explanatory variables on the explaining dependent. (i.e. changes in GDP). Our result shows that the R2 is equal to 0.850075 that is 85.0075% of the dependent variable (GDP) is explained by the change in unemployment and population growth rate in Nigeria 's economy within the period under review. While the remaining 14.9925% account for the error term (Ɛ). This shows a robust "goodness of fit".

Adjusted R2 is the adjusted coefficient of the multiple determinations and from our result above, it shows that adj.R. is 0.831335. That is 83.1335% of the variation in the GDP is explained by variation in the independent variables while the remaining 16.8665% accounts for the stochastic error term (Ɛ). The implication is that they help to explain the fact that explanatory variables included in the model account to a large extent for exchanges in the model.

Table3 Granger Causality Test

Lag 4			
Null Hypothesis	OBS	F-statistics	Probability
UNE does not Granger cause LOGGDP	15	4.07862	0.0621
LOGGDP does not Granger Cause UNE		0.99668	0.4766

Source: Author's computation from E-Views econometrics software

The Granger causality test from table 3 above shows the direction of causality between variables used. The result shows the absence of causality between UNEMP and GDP. This is in tandem with Okun's law (1962) which stated that each additional 1% of unemployment translated into a loss of 3% in real output.

4.3. Discussions and Findings

The Granger causality test from table 3 above shows the direction of causality between variables used. The result shows the absence of causality between UNEMP and GDP. This is in tandem with Okun's law (1962) which stated that each additional 1% of unemployment translated into a loss of 3% in real output. The main objective of the study was to investigate the impact of unemployment on economic growth, using data for the period 1999-2017, in Nigeria. The study discussed the Okun's law theories and it considered the Okun's difference type model as the relevant theory in explaining the impact of unemployment on economic growth. In view of that, the study applied the ordinary least squire (OLS), Granger causality test to determine the directions among the variables. The results from the OLS test approach reveal that there is a relationship between economic growth and unemployment in Nigeria.

The findings have shown that there is a negative and insignificant relationship between unemployment and economic growth. In light of this, economic interpretation can be made. The negative relationship that exists between unemployment and GDP implies that for any increase in the rate of unemployment there is an economic loss in terms of total output that unemployed could have produced if employed. It, therefore, follows that unemployment is a phenomenon that affects the overall performance of the economy. In this case, policy prescription for increasing GDP should definitely include in curtailing unemployment level. Based on our findings, any 1% increase in unemployment will result in a decrease in GDP by 0.133385% with regard to the negative relationship, the result conforms to the Okun's theory.

Also, the coefficient of the population growth rate depicts a positive value, indicating a kind of pos direct relationship does exist between population growth rate and economic growth. The result shows that a percentage increase in population growth increases GDP by 9.322582%. This confirms with the theory with high statistical significance. The positive relationship that exists in the population will necessitate the employment of the productive factor which we consider the labor force.

The finding of this research is in line with the findings of Ejigayehu, (2013), Todaro et al(2012) and Stigler,(1966), that there is a negative relationship between unemployment and economic growth.

4.4. Conclusion and Recommendations

The situation of unemployment in Nigeria has been an increasing rate which has resulted in an increase in social vices, brain drain increases in the level of poverty, terrorism, and weak purchasing power to mention but few consequences. Although, Nigerian government in previous time had put in place policies and programmes which are meant to cob this menace. There are a couple of things which contributed to not yielded up to expected results. This includes maladministration, corruption, lack of continuity, poor funding, etc. Based on the findings of the study, the following recommendations proffered that:

- Nigeria should do everything possible to diversify her economy
- The government should give adequate attention to small and medium businesses by providing loans to them
- Investment should be made in the agricultural sector to commercialize the sector to boost employment opportunities.
- The government should adopt an educational policy that would inculcate entrepreneurial and human capital development.

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