

Impact of Unemployment on Economic Growth in Nigeria: An Empirical Analysis

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ABSTRACT

This study examined the impact of unemployment on economic growth in Nigeria. The study adopted ex-post factor research design and time series data to investigate the impact of unemployment on economic growth in Nigeria during the 1986-2019. The autoregressive distributed lag analysis method was used to carry out the investigation. It was found that while unemployment as negative impact on gross domestic product, population growth, and public expenditure on education have positive impact on gross domestic product in Nigeria. The study recommends that government and relevant agencies should formulate policies to encourage self-employment and regulate the nation's population growth rate. There is also the need to formulate policies tailored towards developing the informal sector of the economy so as to ensure entrepreneurship development which may likely reduce unemployment and improve the welfare and living standards of Nigerians. Deregulation of the labour market should be paramount to destabilize and decongest the long queue of the unemployed cause by the high demand for formal employment.

KEY WORDS:

Economic growth; Error correction mechanism; Gross domestic product; Unemployment, population growth, and public expenditure.

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Introduction

Unemployment is one of the most serious problems facing Nigeria today. The mass unemployment of qualified and able-bodied men/women has generated much concern all over the world. Adeyemi and Ogunsola (2016) noted that despite the rapid recovery in the global economy that took place in 2013, following two years of severely adverse labour market conditions, global unemployment remained elevated in 2010. According to the National Bureau of Statistics (2020), the number of unemployed in Nigeria which stood at 20 million in 2013 rose to 32 million in 2020.

The above scenario propelled Nigerian government like other nations' governments around the world to take some practical steps towards alleviating unemployment. However, in spite of the frantic efforts towards the eradication of this phenomenon, it is sad to note that Nigeria economy continues to experience increase in unemployment rate. Lack of employment opportunities in Nigeria has resulted in poverty, in turn poverty leads to alienation of poor people from political-economic functioning of the society. For example, the data from National

bureau of statistics show the registered unemployed persons according to the six geo-political zones and by sex as of year 2007. Out of the six geo-political zones, the North West Zone (comprises of Sokoto, Kebbi, Zamara, Kano, Katsina, Jigawa and Kaduna) had the highest number of registered unemployed persons of 1,846, 872 (24.40%). South West (comprises of Ekiti, Lagos, Ogun, Ondo, Osun and Oyo states) had 1,718, 789 (21.56%). North East (comprises of Adamawa, Bauchi, Borno, Gombe, Taraba and Yobe states) had 1,547, 759 (16.49%), North Central Zone which is made up of (Benue, Kogi, Nasarawa, Niger, Plateau and Federal Capital Territory) had 1,594, 829 (16.62%), South East Zone which is made up of (Anambra, Imo, Akwalbom, Cross River, Abia, and Ebonyi) had 1,494, 829 (15.62%) and South South Zone (comprises of Rivers, Delta, Edo, Bayelsa had 1,478, 829 (14.22%) (National Bureau of Statistics, 2020).

Lack of employable skills is no doubt, one contributing factor to the problem of unemployment world over and especially in Nigeria. This is so because, the educational system operated at post-independence era in the country placed emphasis on liberal education rather than acquisition of vocational skills, which prepare the individual for better employment opportunities. In other words, the then system focused on and produced school leavers and graduates without vocational skills that could enable them to be self-reliant. The subsequent increase in population, as Olalekan (2014) observed, necessitates establishment of more schools and higher institutions of learning in Nigeria. This in turn produces school leavers and graduates, whose numbers are always on the rise year after year without commensurate provision of employment opportunities both in the public and private sectors. Olalekan (2014) corroborated this stance by saying that the primary and secondary schools in Nigeria had been rapidly expanded and student's enrolment in higher institutions had almost tripled in the last two decades.

Consequently, in its frantic efforts to seek a way out of the problem, the Federal Government constituted a committee known as the Chukwuma Committee on the 26th of March, 1986, to consider appropriate strategies for dealing with the mass unemployment problem in the country under the aegis of the Ministry of Employment Labour and Productivity. The report of the committee led to the institution of the National Directorate of Employment (NDE) in November 1986, and charged with the following mandates: (i) to design and implement programmes to combat mass unemployment; (ii) to articulate policies aimed at developing work programmes with labour intensive potentials; (iii) to obtain and maintain a data bank on vacancies and employment opportunities in the country with other government agencies; and (iv) to implement any other policies as may be laid down, from time to time, by the Directorate (Stephen, 1995).

The philosophy of NDE is self-enterprise, which emphasizes self-employment and self-reliance in preference to wage employment. This philosophy is pursued through policy planning and well-articulated programmes of Rural Employment Promotion (REP), Vocational Skills Development Programme

(VSD), Special Public Work Programme (SPW) and Small Scale Enterprise (SSCE) Programme. These programmes are set up across the nation in an effort to alleviate unemployment crises in the nation. Besides, the federal government of Nigeria introduced technical, vocational and entrepreneurship education to enable graduates from various institutions of learning to acquire skills and knowledge for employment and sustainable livelihood (Romer, 1990).

Despite the contributions of vocational and technical education to national development the leaders of Nigeria have not given due attention to the Technical, Vocational and Entrepreneurship sector, resulting in the neglect of vocational and technical educational institutions and the youths shying away from technical and vocational studies. Because of the neglect of this important sector, most of the secondary school graduate (and some of those who managed to pass through the university) lack the skills and knowledge to compete effectively in the rather tight labor market and thus loiter around in the urban areas from dawn to dusk looking for jobs that are not available.

The bad situation has been exacerbated by mass production of graduates and school leavers from primary schools, secondary schools, colleges of education, polytechnics and universities without commensurate creation of employment opportunities. Nigeria's current preoccupation with university education reduces economic opportunities for those who oriented towards work than skills acquisition, thus leading to rising youth unemployment. More often than not the public perceives student who take to vocational and technical education as those who lack the ability to continue formal academic studies in higher institutions. But not everyone needs a university education. Sadly, in Nigeria social recognition and advancement on work place depend to a large extent on the stock of academic degrees one has acquired. Because of poor public perceptions about blue – collar jobs the youth are not enthusiastic about technical and vocational functional workshops and equipment for hands-on application.

Another major cause of unemployment is inadequate job opportunities due to inadequate public and private expenditure in Nigeria. Unemployment has been skyrocketing in Nigeria because the unemployed lack skills employers need as well as for self-employment. The federal government recently acknowledged that about 80 per cent of Nigeria's youth is unemployed and 10 per cent underemployed. Others have urged the youth to become “entrepreneurs” and reject “social vices”. At some point the former Minister of Education, Dr. Sam Egwu, has expressed concern about the poor quality of graduates from the nations educational institutions. The political leaders are good at cataloguing the reasons for Nigeria's problems and predicting the future without implementing reasoned policies to create a better future. However, as the management guru, Peter Ducker, has observed that if you want to predict the future, create it (Wilson & Briscoe, 2004). It is not good enough to implore the youths to become productive citizens and “entrepreneurs” or to reject “social vices” without providing them with skills and

resources. Although the Nigerian Federal Government in 1986 established the national directorate of employment (NDE) and recently subsidy reinvestment and empowerment programme (SURE-P) with a view to alleviating unemployment but, the rate of unemployed Nigerians keeps increasing daily.

Available statistics from NBS (2020) showed that unemployment rate which was 3.78% in 2000 fall marginally to 3.77% in 2010. It however increased from 10.6 % in 2012 to 22.6 % in 2018 growing at an average annual rate of 16.02%. It further rose sharply to 29.01% in 2020. CBN (2020) reported that although gross domestic product (GDP) which stood at #140.28 billion in 1980 rose consistently to #189.45 billion in 2000, #1,361.46 billion in 2010, and #1,625,326 billion in 2020, greater proportion (85%) of it was contributed by crude oil export.

In sum, the import of the trend analysis above is that unemployment rate movement is related to economic growth in Nigeria. But, an empirical analysis is required to determine the exact relationship between these variables. The background information above provides the motivation to carry out this study.

Literature Review

On conceptual issues, Aminu and Anono (2012) conceptualized the term unemployment as the total number of people who are willing and able to work, and make themselves available for job at the prevailing wage but are not gainfully employed. This therefore, implies that unemployment is a state of joblessness in the country. According to Balami (2006) unemployment is conceptualized as a situation where by a worker is or workers are involuntarily out of work. This means that workers are willing and able to work but cannot find any work. Similarly, unemployment has been defined by the classical economists as the excess supply of labour over the demand for labour which is caused by adjustment in real wage. The Classical or real wage unemployment occurs when real wages for job are set above the market-clearing level, causing number of job-seekers to exceed the number of vacancies.

In the same vein, unemployment was defined by International Labour Organization (ILO, 2009) as a state of joblessness which occurs when people are without jobs and they have actively sought work within the past four weeks. The unemployment is a measure of the prevalence of unemployment and it is calculated as a percentage by dividing the number of unemployed individuals by individuals currently in the labour force. In a 2011, Business Week Reported, "More than two hundred million people globally are out of work, a record high, as almost two-third of advanced economies and half of developing economies are experiencing a slowdown in employment growth. Jhingan (2006) posited that unemployment can be conceived as the number of people who are unemployed in an economy, often given as a percentage of the labour force.

Economic growth has been defined as the growth of the potential output of an economy as a result of expansion in stock of capital and in labour force as well as

improvements in the productivity of both labour and capital (Dernburg & McDougall, 1980). According to Jhingan (2009), economic growth is defined as quantitative and sustained increase in the country's per-capital output or income accompanied by expansion in its labour force, consumption, capital and volume of trade. Therefore, in light of the above, economic growth can be seen as the increase over a period of time in an economy's total production possibilities for generating goods and services. Economic growth is also defined by Amadeo (2019) as increase in the production of goods and services over a specific period. To be most accurate, the measurement must remove the effects of inflation. Gross domestic product (GDP) is the best way to measure economic growth. Increase in capital stock, advances in technology and improvement in the quality and level of literacy are considered to be the principal causes of economic growth.

On theoretical front, this study is rooted on the neoclassical growth model developed by Solow (1956) and empirically tested in 1957. The model states that output in an economy is produced by a combination of Labour (L) and Capital (K), under constant returns to scale, so that doubling input results in doubling output. Contemporary versions distinguish between physical and human capital. Thus, the quantity of output (Y) is also determined by labour and capital. The Solow neoclassical growth model uses a standard aggregate production function in the form:

$$Y_t = f(K_t, L_t) \dots \dots \dots (2.1)$$

Where Y_t = Gross Domestic Product (determinant of economic growth) at time t , L_t = Labour at time t , and K_t = Capital at time t . We introduce technical progress (A) into the equation (2.1) and restate it as:

$$Y = f(A, L, K) \dots \dots \dots (2.2)$$

Where A = Technical progress Coefficient.

The Solow growth model assumes that the marginal product of capital decreases with the amount of capital in the economy. In the long run, as the economy accumulates more and more capital, approaches zero and the growth rate is determined by technical progress and growth in the Labour force which are determined by the level of population growth. However, in the short run, an economy that accumulates capital faster will enjoy a higher level of output. The above argument relates to the entire economy, but can also be extended to sub-sectors of the economy such as education. According to the traditional neoclassical growth theory, output growth results from one or three (3) factors: increases in Labour quality and quantity (through population growth and education), increases in capital (through saving and investment), and improvement in technology (Todaro & Smith, 2012).

Equation (2.2) is stated as Solow (1956) residual equation and this is defined as:

$$Y = f(AL^\alpha K^\beta) \dots \dots \dots (2.3)$$

Where: α = Contribution of each worker to GDP, β = Contribution of each unit of capital to GDP, and $\alpha + \beta = 1$, implying constant return to scale.

To promote economic growth, government need to promote both physical capital and human resource through education, employment, training and retraining. Therefore, unemployment which eventually reduces labour input is significant to developing countries, including Nigeria.

A number of studies have empirically investigated the relationship between unemployment and economic growth in Nigeria using different analytical technique. For example, amid the rising growth rate and increase in output in Nigeria, Sodipe (2008) studied the extant and the possibilities of having joblessness in Nigeria. A simple model of employment and economic growth was formulated and estimated using the Ordinary Least Squares technique, before and after correcting for stationarity of the time series data using the Hodrick-Prescott filter. The study found that a positive and significant relationship existed between employment and economic growth as well as public expenditure. On the other hand a negative and significant relationship was observed between employment growth rate and growth rate of GDP in the economy. The study advocate for increased labour promoting foreign direct investment and an employment-focused public expenditure programme.

With evidence that the size of the workforce directly impacts on a country's GDP (growth), Njoku and Ihugba (2011) looked at the relationship between unemployment and growth in Nigeria during the 1985-2009. One major findings of the study was that the economy grew by 55.5 percent between 1991 and 2006; and the population increased by 36.4 percent. All things been equal, this should have resulted to a decrease in the rate of unemployment but rather, unemployment increased by 74.8 percent. The study also found out that the average contribution of the oil sector to the GDP between 1991 and 2006 is 30.5 percent while agriculture that is the main source of gainful employment in the country contributed 36.7 percent just a difference of 6.1 percent from that of oil that employs less than 10 percent of the labour force. The study recommends that the agricultural sector as a medium of reducing unemployment in Nigeria. In testing the validity of Okun's law in Nigeria, Akeju and Olanipeun (2014) examined the relationship between unemployment rate and economic growth, Error Correction Model (ECM) and Johansen co-integration test were employed to determine both the short run and long run relationships among the variables employed in the study. Empirical findings showed that there is both the short and the long run relationship between unemployment rate and output growth in Nigeria and both unemployment and economic growth are positive related, hence, the need to incorporate fiscal measures and increase the attraction of foreign direct investment (FDI) to reduce the high rate of unemployment in the country.

Fuad (2011) investigated the relationship between unemployment and

economic growth in Jordan through the implementation of Okun's law. Approach: Using annual data covering the period 1970-2008, time series techniques are used to test the relation between unemployment and economic growth and to obtain estimates for Okun's coefficient. Namely, the study used Augmented Dickey-Fuller (ADF) for unit root, co-integration test and a simple regression between unemployment rate and economic growth. The empirical results reveal that Okun's law cannot be confirmed for Jordan. Thus, it can be suggested that the lack of economic growth does not explain the unemployment problem in Jordan.

Arewa and Nwakanma (2012) conducted an empirical evaluation of the relationship between output and unemployment. The study found no evidence to support the validity of Okun's law in Nigeria. Alhdiy et al. (2015) examined the relationship between growth and unemployment in Egypt between 2006 Q1 -2013 Q2. The results indicated there was no co-integration relationship between the variables of unemployment and GDP specifically implying there is no long-term relationship between the variables. However, in the short term, there is a direct causal relationship have been observed between unemployment rate and economic growth.

Onwachuwu (2015) examined the impact of unemployment on the economic growth of Nigeria from 1985 to 2010. The Ordinary Least Squares (OLS) and Augmented Dickey-Fuller methods were used to estimate the model of one dependent variable (Real GDP growth rate) and two explanatory variables (inflation and unemployment). It was found that unemployment does not have a significant impact on the economic growth of Nigeria. Similarly, Airi et al. (2016) investigate the impact on unemployment on Nigeria economy (1980-2010). By adopting the Ordinary Least Square Regression (OLS), the findings showed that unemployment has a negative effect on the gross domestic product (GDP) of the Nigerian economy.

Ademola and Badiru (2016) in a study investigated and determined the effects of unemployment and inflation on economic performance in Nigeria between the periods 1981 to 2014. Ordinary Least Square (OLS) technique was adopted with various diagnostic tests to determine how fit are the data for the analysis. The result indicated that unemployment and inflation are positively related to economic growth. The positive relationship between unemployment, inflation and RGDP indicates that Nigeria RGDP is driven by oil revenue that employs very limited highly skilled labour and the price of output of crude oil is determined externally which may not response as expected to growth of output in the country.

Gyang, Anzaku and Iyakwari (2018) used Augmented Dickey-Fuller Test (ADF) to examine the stationary properties of unemployment, inflation and economic growth (real gross domestic product) in Nigeria of the periods 1986 to 2015 and also used Johansen co-integration Test as well as Granger Causality Tests to check for cointegration in the long-term and short-term and also test for the

causality between the rate of unemployment, inflation rate and economic progress respectively. However, the findings showed that there is a short-term and long-term relationship between the rate of unemployment, inflation rate and economic progress rate and also the findings of the Granger Causality Test also revealed that unemployment and Inflation were not statistically significant in explaining progress in the nation for the periods under review.

The empirical studies reviewed above showed that none of them was conducted in the 2019-2020. These observed shortcomings have created a knowledge gap in the literature, thus necessitating a more systematic examination of the phenomena of interest, that is, the analysis of long run relationship between unemployment and economic growth. Second, none of the empirical studies reviewed above included public expenditure on education as explanatory variable in their model. This variable has been included in this study. This is the gap this study intends to fill using Nigeria as a study.

Data and Method

The study adopted ex-post factor research design and time series data investigate the impact of unemployment on economic growth in Nigeria during the 1986-2019. This period was chosen because it coincided with the structural adjustment programme when many workers were retrenched as a result of privatization and commercialization of public enterprises on one hand and upsurge in educational institutions and enrolments which led to massive graduates. The choice of the time series data is premised on the fact that the data used was gathered over a period of time and aimed at investigating the effect of unemployment on economic growth in Nigeria. The autoregressive distributed lag analysis (ARDL) was used to carry out the investigation. To this end, the method of cointegration was used to carry out diagnostic test on the long-run relationship between the variables. The error correction mechanism (ECM) test will be employed to determine the relationship between the variables.

The majority of the literature on economic growth indicates that there are a large number of variables that can affect the TFP (黠) in equation (2.2). Following studies by Fosu and Aryeetey (2008) and Adeyemi and Ogunsola (2016), we augment equation (2.3) as follows:

$$A = h(UNEt, POPt, PEEt) \dots \dots \dots (3.1)$$

Where:

A = Technical Efficiency

UNEt = Unemployment at time t;

POPt = Population growth rate at time t; and

PEEt = Public Expenditure on Education at time t;

Then by substituting Equation (3.1) into Equation (2.2), we arrive at the following extended form:

$$Y_t = f(UNEt, POP_t, PEE_t, K_t, L_t) \dots \dots \dots 3.2$$

Since Solow (1956) model adopted in this study is an optimization model, it is suitable for application in Nigeria. The regression form of the model is stated in a linear form as:

$$Y = b_0 + b_1 UNEt + b_2 POP_t + b_3 PEE_t + b_4 K_t + b_5 L_t + U_t \dots \dots \dots 3.3$$

We modify equation (3.3) by dropping capital (K_t) and labour force (L_t) and replace output (Y_t) by a proxy of economic growth, that is gross domestic production (GDP_t). Thus the linear model stated in the log form becomes:

$$\ln GDP_t = b_0 + b_1 \ln UNEt + b_2 \ln POP_t + b_3 \ln PEE_t + b_4 \ln GDP_{t-1} + U_t \dots \dots \dots 3.4$$

Where:

$\ln$ = Logarithm;

b_0 = Intercept;

$b_1 - b_4$ = Slopes of the regression model to be estimated;

GDP_{t-1} = Lagged Gross Domestic Product at time $t-1$; and

U_t = Error term.

The use of double log linear functional form is to convert the data to the same unit to avoid any econometric problem(s). The addition of the lagged value of gross domestic product (GDP_{t-1}) to equation (3.4) makes the model to be autoregressive distributed lag. In the model, the a priori expectations are that: $b_2 - b_4 > 0$, and $b_1 < 0$.

Results and Discussion

The results of tests conducted are summarized, presented in tabular form and analyzed below. The tests conducted are: unit root, co-integration, and error correction mechanism (ECM).

Augmented Dickey-Fuller (ADF) Test for Unit Root

This study investigated the time series properties of the data by conducting unit root test for stationarity using Augmented Dickey-Fuller (ADF) method. The results are presented on table 1 below.

Table 1: Augmented Dickey-Fuller (ADF) Test Results

Series	ADF Test Statistics	1% Critical Value	5% Critical Value	10% Critical Value	Order of Cointegration
GDP ^P	-4.796938	-3.621023	-2.943427	-2.610263	I(1)
UNE	-3.894109	-3.621023	-2.943427	-2.610263	I(1)
POP	-6.921891	-3.621023	-2.943427	-2.610263	I(1)
PEE	-5.341983	-3.621023	-2.943427	-2.610263	I(1)

Source: Author's Computation 2021, using E-view 10.0 version

The results of unit root test shown on table 1 above revealed that all the value

of ADF test statistics for variable is negative. They are respectively greater than their critical values at 1%, 5% and 10%, implying that the variables are stationary at 1%, 5%, and 10%. They are also integrated (at first difference) of order 1, that is, $I(1)$.

Johansen Co-integration Test

Since all the variables were found to be integrated of order 1, that is, $I(1)$ and stationary at 1%, 5% and 10%, the study can now perform co-integration test. The results of co-integration test are presented in table 2 below.

Table 2: Johansen Co-integration Test Results

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None*	0.805880	197.9842	159.5297	0.0001
At most 1*	0.733805	138.9701	125.6154	0.0059
At most 2	0.547225	91.32326	95.75366	0.0971
At most 3	0.510614	62.79829	69.81889	0.1597

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Author's Computation 2021, using E-view 10.0 version

Unrestricted Co-integration Rank Test (Trace)

The results on table 2 above show that the Trace Statistic is greater than 5% critical value at the first two levels (compare column 3 and column 4). It can also be observed that there are two unique co-integration equations between gross domestic product (GDP), Unemployment (UNE), Population growth (POP) and Public expenditure on education (PEE) in Nigeria. Since there is at least one co-integrating equation found in the model, the study concludes that significant long-run relationship exists among the variables. Also, since all the variables were found to be stationary and co-integrated, the study can now perform error correction mechanism (ECM) test.

Table 3: Regression Results of Autoregressive Distributed Lag Model

Variable	Coefficient	Std Errors	t-Statistics	5% Critical Value	Prob
C	0.038337	0.036630	1.046598	2.07	0.3049
GDP (-1)	0.479788	0.053840	0.4202347	2.07	0.0093
UNE (-1)	-0.023520	6.14244	-0.436847	2.07	0.6658
POP (-1)	0.229893	0.061925	3.712456	2.07	0.0010
PEE (-1)	0.096236	0.046347	2.076423	2.07	0.0479
GDPt-1 (-1)	0.131724	0.132936	0.990885	2.07	0.3309
ECM(-1)	-0.640832	0.239250	-3.546480	2.07	0.0015
R-square	= 0.690803		Mean dependent Var. = 0.191475		
R-square (adjusted)	= 0.583773		S.D dependent Var. = 0.117875		
S.E of equation	= 0.076048		Akaike Info. Criterion = -2.084773		
Sum square residual	= 0.150365		Scharz Criterion = -1.644906		
Log likelihood	= 47.52591		F-statistics = 6.454298		
Durbin-Watson stat	= 2.209920				

Dependent Variable: GDP

Method: Least Squares

Sample: 2002-2018

Source: Author's computation, 2021 using E-views 10.0 version

The ECM estimates on table 3 above indicated that there is correlation between GDP and the three independent variables. The implication is that there is an existence of a long-run economic relationship between the dependent variable (GDP) and the explanatory variables (UNE, POP and PEE). ECM p-value of 0.0015 is less than 5% critical value (2.07). This means that the stability condition required to conduct this type of investigation is satisfied. Thus, the ECM is significant, fractional and negative which justifies the above claims. The estimated coefficient value of ECM (-0.640832) has a priori (negative) sign. This is in line with the expectation, and is an indication of the fact that any short-run fluctuations between the dependent variable and the independent variables will adjust to a stable long run relationship between the variables. The coefficient also means that the speed of adjustment is 64%. This is a fast speed of adjustment. The R-square of 0.690803 (69.1%) indicates that 69.1 percent of the result is accounted for by the included explanatory variables meaning that the regression has good fit.

The results on table 3 above reveal the following. It was found that coefficient of Unemployment (UNE) is negative (-0.023520), indicating negative relationship between unemployment and gross domestic product in Nigeria, and this is in line with a priori expectation. The coefficient of Unemployment is statistically insignificant since its t-stat (0.436847) is less than its critical value (2.07) at 5% level of significance. The finding of this study is in line that of Onwachuwwu (2015) who found that unemployment does not have a significant impact on the economic growth of Nigeria. The finding implies that gross domestic product increases as unemployment falls. The result implies that a unit increase in

unemployment would cause a 0.023520 unit fall in gross domestic product. Besides, the probability value (0.6658) is greater than 0.05. This means that unemployment is not significant in determining gross domestic product (economic growth) in Nigeria.

The coefficient of Population growth (POP) is positive, indicating positive relationship between it and gross domestic product (GDP) in Nigeria and this is in line with a priori expectation. The t-stat value of the coefficient (3.712456) is also greater than its tabular value (2.07), meaning it is significant at the 5% level. Besides, the value of F-stat (15.4339) is greater than t-stat (0.436847). Also, the probability value (0.0010) is less than 0.05. The finding implies that a unit increase in population would cause a 0.229893 unit rise in gross domestic product. This finding agrees with Gyang, Anzaku and Iyakwari (2018) who revealed that there is a short-term and long-term relationship between the rate of population and economic growth rate. This means that population growth is significant in determining gross domestic product (economic growth) in Nigeria.

The coefficient of public expenditure on education (PEE) is positive, indicating positive relationship between public expenditure on education (PEE) and gross domestic product (GDP) in Nigeria and this is in line with a priori expectation. However, the probability value (0.0479) is less than 0.05. Thus, it can be concluded that public expenditure on education has positive impact on gross domestic product in Nigeria.

The value of coefficient of multiple determination (R-square = 0.997109) shows that the variability in the explanatory variables (UNE, POP and PEE) account for 69.08 percent of the variability in GDP. This suggests that the model is of good fit. The high value of F-statistic (6.454298) also underscores the good fit of the model. The value of Durbin-Watson stat (2.209920) indicates absence of autocorrelation in time series data.

Conclusion and Recommendations

From the data analysis and the discussion of results so far, the findings are summarised viz: The finding revealed a negative relationship between unemployment and gross domestic product in Nigeria. This implies that unemployment has contributed negatively to economic growth in Nigeria. The finding demonstrates a positive relationship between population growth and gross domestic product in Nigeria. This means that population growth is a source of economic growth in Nigeria. The finding revealed a positive relationship between public expenditure on education and gross domestic product in Nigeria. This means that public expenditure on education has positively influenced economic growth in Nigeria.

From the analysis of the results, it can be stated that while unemployment (UNE) has negative impact on gross domestic product, population growth (POP) and public expenditure on education (PEE) have positive impact on gross domestic

product in Nigeria. Therefore, unemployment generally has negative impact on economic growth in Nigeria. Thus, concerted efforts should be made by all stakeholders to generate employment for our teeming unemployed youth in Nigeria. Based on the findings of this study, the following recommendations are made:

1. Government should take the leading role in the task of employment generation by providing the necessary enabling environment for economic activities. It is however to be noted that the battle against unemployment in Nigeria is like war that should not be left for the government alone. Therefore, all stakeholders and hands must therefore be on deck in the fight against unemployment so that Nigeria can join her members in enjoying the dividend of development experienced through gainful expertise.
2. The federal government should hasten the power sector reforms and re-stabilize the power sector to end the looming energy crisis in Nigeria. In order to encourage entrepreneurial activities which is believed to be the remote solution to unemployment problem in the country as power is a major factor in the economy.. Government should also endeavour to provide other infrastructural amenities, such as good road network, safe and uninterrupted water supply, and efficient telecommunications to every part of the country as this will boost the level of employment generation and will engage citizens productively in Nigeria.
3. Government and relevant agencies to formulate policies to encourage population growth in the country so as to achieve a high, rapid and sustained economic growth while coming up with a strategy to regulate the nation's population growth rate.
4. There is also the need to formulate policies tailored towards developing the informal sector of the economy so as to ensure entrepreneurship development which may likely reduce unemployment and improve the welfare and living standards of Nigerians.
5. Government should increase capital expenditure on manufacturing sector by giving more subsidies and/or tax holidays to producers of commodities especially food items to boost their output for consumption.
6. Government of Nigeria should adopt policies that will lead to rise in commercial bank credit to private sector.

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