Impact of Unemployment on Economic Growth in Nigeria from 1990 –2020

Abstract

This study investigated the impact of unemployment on economic growth in Nigeria from 1990 to 2020. Population rate, unemployment rate and labour force were used as independent variables while Gross domestic product (GDP) as dependent variable. Annual time series data on our targeted variables were obtained from secondary sources including the Central Bank of Nigeria annual statistical bulletin, World Bank development indicators (various years). The Eview9 Statistical Software was employed to analyze the data empirically. The Unit root test shows that Gross domestic product, unemployment rate and labour force variables to be evaluated are all stationary after first deference I(1) while population rate was stationary at level I(0). The data were analyzed using the Autoregressive distributed lag (ARDL) From the results of the ARDL estimates it was revealed that among others, unemployment rate impact negatively on gross domestic product but significant only in the long run. Population rate also impact on gross domestic product but only significant in the short run. Labour force impact positively on Gross domestic product and statistically significant in the short run. The study recommends amongst others that government should create jobs especially in the real sector, i.e. agriculture and manufacturing sector –The agriculture sector in Nigeria employs about 70% of the population, though mostly at subsistence level. If the government can support this sector by making loans accessible and affordable for those involved in agriculture, it will boost agricultural output, increase GDP and reduce unemployment rate in the country.

Keywords: Population Rate, Unemployment Rate, Labour Force, Gross Domestic Product.

1. INTRODUCTION

Unemployment is one of the macroeconomic problems facing Nigeria as a nation and one of the macroeconomic objectives of the government is the attainment and sustainability of high level output with a considerable low level of unemployment in Nigeria. According to the National Bureau of Statistics (2012), Nigeria rate of unemployment stand at 19.7%. In fact, Ndubisi, and Nwankwo (2013), identified unemployment as one of the major challenges confronting the Nigeria-economic development. The problem of unemployment in Nigeria at the moment and in the past has been an issue of uttermost concern to the economists, government, policy makers, as well as individualss (Bello, 2003). This earliest thinking on economic issues did not fail to give a central point of reflection on the undesirability of unemployment (Njoku, 2011). The issue of unemployment has become a world-wide phenomenon demanding for increased attention, though the impact is more devastating in underdeveloped countries of the world. There is no universal standard definition of unemployment as various countries adopt definitions to suit their

local priorities (NBS, 2012). Unemployment has been defined as a situation where people who are willing and capable of working are unable to find suitable paid employment (Fajana, 2000). The same writer went further to say that, the higher the rate of unemployment in an economy, the higher the level of poverty and associated welfare challenges. However, the number of people in any country is divided into two groups; the economically active and the economically inactive. According to Njoku and Ihugba (2011), the economically active group (Labour force) are the group that are willing and able to work, including those actively engaged in the production of goods and services (employed) and those who are not employed. On the other hand, the economically inactive group refers to neither people who are not looking for jobs nor those who are not capable enough as a result of health related issues. To further buttress this, International Labour Organisation (ILO) defined the unemployed as numbers of the economically active population who are without work but available and seeking for work, including people who have lost their job and those who have voluntarily left work.

Like most nations in the world, incorporate a variant of the International Labor Organization definition. According to International Labour Organization in National Bureau of Statistics 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. Consequently, one is said to be unemployed if he/she did absolutely nothing at all or did something but for less than 20 hours during the reference week. Nevertheless, Nigeria uses the International Labour Organization's definition, or a variant of it to compute unemployment. The International Labour Organization's 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 imperative therefore, to note that, the international acclaimed definition of unemployment or underemployment is not considered vis-à-vis the quantity of wages earned nor it is viewed in relation to job Satisfaction. Instead, unemployment, underemployment, and employment are taken 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). Unemployment has been the cause of high level of poverty and income inequality which in turn responsible for high crime rate in Nigeria.

The level of unemployment in Nigeria is so high that it could be regarded as one of the greatest macroeconomic problems of the nation. It has affected a great deal the youth and the overall economic growth and development of the nation. Apparently, the level of unemployment especially that of higher school graduates, hinders Nigeria's progress in several ways. Apart from the economic waste it brought to the nation, it also constitutes political unrest for the country. The level of unemployment situation in Nigeria is so alarming and disheartening that the country's economic condition cannot absorb an optimal proportion of its labour force. This is basically the reason why crime and other social vices are on the rise in the country. This paper is aimed at investigating the impact unemployment has on economic growth and profer way forward on how to address some of the its challenges.

Aim and Objectives of the Study

The aim of the this study is to empirically investigate the impact of unemployment on economic growth and development in Nigeria from 1990 to 2020. While the specific objectives is to

(i) find out how unemployment impact on economic growth and development in Nigeria
(ii) examine the effect of population on economic growth and development in Nigeria
(iii) evaluate the impact of labour force on economic growth and development in Nigeria

2. LITERATURE REVIEW

The Concept of Economic Growth

In defining Economic growth, Fajingbesi and Odusola (1999) associated it with an increase in capital per head. Since per capital is not the only requirement for growth, this is because if capital is made available without at the same time providing a framework for its use, it will be wasted. Hemming (1991) therefore buttress the fact that growth is influenced by the composition of expenditure, since certain types of spending have more effects on growth. Essential among these types of spending are provision of socioeconomic infrastructure, operations and maintenance, and general administrative and legal frameworks. According to Balami (2006) Economic growth which is always proxied by GDP often conceptualized as increase in output of an economy's capacity to produce goods and services needed to improve the welfare of the country's citizens. Growth is seen as a steady process which involves raising the level of output of goods and services in the economy. Growth is meaningful when the rate of growth is much higher than population growth because it has to lead to improvement in human welfare. Therefore, growth is seen as a steady process of increasing the productive capacity of the economy and hence, of increasing national income, being characterized by higher rates of increase of per capita output and total factor productivity, especially labour productivity.

The Concept of Population

Population growth is an increase in the number of people that reside in a country, state, county, or city. On the aggregate it is usually reffered to the increase that occurs in the population of a particular country at a given time usually one year. population growth is the increase in the number of individuals in a population. In this study, this variable shall be proxied with population growth rate. The population growth rate as used in this work encapsulates the change in the population size of a country on the average annually at a specified period. It measures the speed at which the population is changing. The population growth rate is captured by factors such as birth rate, death rate and net migration. The following terms are further conceptualized below; Birth rate: It is the number of individuals born into a population in a given time period usually one year. ii)death rate: The ratio of total deaths to total population in a specified community or area over a specified period of time. iii)Immigration: this refers to the total number of individuals that moved into a country or geographical region at a particular period of time, usually considered over a one-year interval. iv) Emigration: This refers to the total number of individuals that moved out a country or geographical region at a particular period of time, usually considered over a one-year interval. v) Net Migration: This refers to the difference between immigration and emigration in a particular country at a given period of time. The rate at which population grows is quantitative. The primary causes of population growth are high birth rate, low death rate and net migration. Mathematically, population growth is the subtraction of the sum of death rate and emigration from the sum of birth rate and immigration. Population Growth= (Birth Rate + Immigration) – (Death Rate + Emigration). The population of a

nation may increase as a result of natural increase, which is the excess of birth rate over death rate. Birth rate in developing countries is on the average much higher than in developed nations. An observation of the demographic trends in developing countries has it that mortality rate is also higher than in developed countries. Moreso, the mortality rate in both developing and developed countries has reduced as a result of modern vaccination against cholera, smallpox, malaria and other related diseases (Osinubi, 2006). The third world countries especially in Asia and Africa accounted for about 93% of the increase in world population (Nwosu, et al., 2014). However, rapid population growth has serious socioeconomic consequences particularly if the population growth does not ensure sufficient standard of living.

The Concept of Labour Force

The Nigerian Labour Force is made up of all persons aged 15– 64 years excluding students, home keepers, retired persons and stay-at-home parents, and persons unable to work or not interested in work. Those who are neither employed nor unemployed are considered not in the labor force, e.g. persons who are not working and are not available for work during the reference week and persons who are not available and are not looking for work because of various reasons. Examples are housewives, students, disabled or retired persons and seasonal workers (NBS, 2011).

Unemployment is a phenomenon that occurs when a person who is actively searching for employment is unable to find work. The unemployment rate is the number of an economically active population who are without work but available for and seeking for work, including people who have lost their jobs and not those who have voluntarily left work (World Bank 2016). In the context of this study, unemployment refers to the state where a person is without work or income due to lack of opportunities, although he/she is capable and willing to work Though many people care about the number of unemployed individuals, economists typically focus on the unemployment rate (Jelilov, et al. 2015). This corresponds to the normal increase in the number of people unemployed in relation to the labour force of the population. The unemployment rate is expressed as a percentage, and is calculated as follows: Unemployment rate = unemployed workers/total work force * 100

The Concept of Unemployment

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 no work for them. 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 cause 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 (2018) 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 (2001) 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.

Types of Unemployment

Frictional Unemployment: This type of unemployment is caused by industrial friction. There are jobs but people cannot fill them because they do not have the skills or are unaware of the existence of the jobs. It occurs due to ignorance, lack of mobility of labour, shortage of raw materials, breakdown in machinery, etc.

Residual Unemployment: This type of unemployment is caused by old age, physical or mental disability, irresponsible attitude towards the job, and inadequate training.

Structural Unemployment: This type of unemployment is caused by the shift in the country's economy, causing a mismatch between the skills required by the employers and the skills proposed by employees.

Cyclical Unemployment: It is as a result of a decrease in the demand for goods and services. It is often caused by the economic recession or situation that forces companies to lay off workers in order to reduce costs.

Technological Unemployment: It is caused by the constant technological changes that have increased mechanisation of production. This results in reduced demand for man-power and displacement of human labour.

Causes of Unemployment

Corruption among government officials: Some senior government officials that are occupying major offices in Nigeria are corrupt. This is a general problem from the federal to the local government levels. They embezzle funds meant for workers under them including salaries and arrears that have been denied for years. Most of these workers don't get to get their complete salaries in a year because delayed salaries overlap so some months go unpaid. Because of this corruption, there is barely enough funds to maintain current staff let alone employ new ones and so the current staff are overworked because things that should have been done by newly employed people are assigned to them instead. In some cases new workers are actually employed but someone else takes their salaries and the employed person is not even aware of his name being on the payroll.

Poor educational planning : The high rate of unemployment among our the youth is traceable to the poor educational system in Nigeria. This is one of the reasons why none of our Nigerian universities were ranked among the first one thousand best universities in the world. The Nigerian educational system does not equip students with the much needed tools necessary to meet the expected needs of the society. Moreover, the government is also faulted for the wrong orientation of students and poor salary structure in the public sector that has no special incentives

for those who possess such skills. Furthermore, Gbosi (2005) opined that proliferation of higher educational institutions and those seeking higher education for the purpose of white-collar jobs is the main factor responsible for this problem.

Religious/tribal sentiments: A major problem in Nigeria is the issue of religious and ethnic sentiments. In Nigeria, jobs hard to come by or get but when government job openings do show up, influential government officials decide who should be employed and sometimes end up employing all the people in their villages, tribe or from their religious groups as against people with even better qualifications. No wonder there is so much incompetence in all government offices in the country. The main interest is not to offer jobs to those who will make a difference but to families and friends of "big men" whether or not they have what it takes.

Neglect of the agricultural sector : In the past, the agricultural sector had been the leading employer of labour. It provides employment for more than 60% of the Nigerian population. Nonetheless, as a result of the discovering of crude oil, attention was to a larger extent diverted from agriculture. Even with the growth and expansion of the oil industry, the level of unemployment kept on increasing at a geometric rate because employment capacity is very low to job seekers who have no place in the industry.

Unfavourable environment for entrepreneurship: There are so many young graduates with lofty dreams about businesses who are not even thinking about working for the government. Nevertheless, their dreams are shattered by factors such as lack of electricity, lack of capital to mention but two. Ideas without capital cannot work and since there is no functional plan in place for the government to support young people who are potential entrepreneurs, their ambitions eventually die and they therefore join the long queue of unemployed youths waiting for their turn to be employed. Foreign and indigenous investors who may build industries and create jobs for the massive unemployed youth cannot do so because of lack of regular power supply which is the number one requirement for running any industry.

Population explosion: Nigeria has the reputation of being the most populated nation in Africa and may soon be competing with the United States of America. The United States of America is more populated but they have a higher standard of living because they have a system that caters for the population. In Nigeria however, corruption has taken over all government functions so there isn't much left to cater for the growing population which is why unemployment is so rampant. The population of Nigeria must be controlled if the problem of unemployment will be taken care of. The only thing Nigeria can boast of is its unproductive population and that is not is good enough.

Ghost workers: the problem of ghost workers has been the bane of many sectors of the Nigerian economy. There is the case of ghost workers in which individuals mostly children and relatives of civil servants are placed on government payrolls from childhood and the parents or relatives in the service keep taking the salaries.

Theoretical Review
The Harrod-Domar Growth Model

In economic literature, this model is called capital only model. Harrod took over from Rostow, because Rostow had some unanswered questions. The model stated that saving is a certain proportion of national income and net investment is defined as the change in capital stock (K). The model further assumes that there is some direct relationship between the size of the capital stock, (K), and total GNP, (Y). This follows that any addition to the
capital stock in the form of new investment will bring about corresponding increase in the flow of national output, GNP. This relationship is known in economics as the capital output ratio. If the capital-output ratio is defined as k and assumes further that the national savings ratio, s, is a fixed proportion of national output (e.g. 6%) and that total
new investment is determined by the level of total savings.

The Solow Growth Model

This is an economic growth model in which the growth of total GDP is explained by population increase, technical progress, and investment. In this model there is full employment, with an aggregate production showing constant returns to scale. In analyzing the process of economic growth Brian and Howard (2005) combined the supply and demand sides of the economy together to generate economic growth. He argued that
economic growth can best be understood from neo-classical point of view (supply side). Hence, the Solow model can also be referred to as the neoclassical growth model. He assumed that savings is a linear function of income, that capital does not depreciate so that investment is simply the rate of increase of capital stock, that savings is equal to investment, and that labour grows at an exogenous constant proportion, the rate of growth or level of technology is
exogenously given. Hence, the Solow model can also be referred to as the neo-classical growth model.

The Modified Phillips Curve (MPC)

The Philips curve enjoyed some success as it became a popular element of macroeconomic theories soon after and had great influence on the government policy of the 1960s. Because it was regarded as an instrument for economic policy, the government thought they could achieve low unemployment as long as they were willing to tolerate higher inflation and attain price stability through tolerating a higher Unemployment (Blanchard, 2009). However, during the 1970s the inverse relation between inflation and unemployment however broke apart
and most of the OECD member states observed stagflation which means high inflation as well as high unemployment. Although, the Phillips curve could not explain stagflation, a new relation between unemployment and inflation was discovered, namely the inverse relation of unemployment and changes in inflation. This relationship was the foundation for the modified Phillips curve and is still valid and applicable for many developed countries. It has evolved under the pressure of events and the progress of economic theorizing, incorporating at each stage such new elements as the natural rate hypothesis or the NAIRU (Non-Accelerating Inflation Rate of
Unemployment), the adaptive expectations mechanism, and most recently, the rational expectations hypothesis.

Empirical Review

Numerous researches have been devoted to explaining the causes of unemployment and its impact across countries and regions.

Blanchard (2009) examined the joint impact of macroeconomic shocks and protective labour market in European nations and discovered that in the existence of adverse shocks, protective labour market institutions added to higher unemployment rate; the result was consistent with that of Fitoussi et al.(2000). Freeman (2001) uses new developments in trend cycle decomposition to test Okun's Law for a panel of ten industrial countries, that Okun's original estimate for the U.S. of three points for each one percent reduction in the unemployment rate now averages at just under two points of real GDP growth for sample countries Pooled estimates for Europe are smaller than estimates for the rest of the sample. Freeman concluded that the law is still capable of proving estimates of the effects of unemployment on GDP. In a research which investigated the impact of institutions and regulations on unemployment in OECD Botero et al (2003) in an inclusive cross country study examined the economic impact of employment, collective bargaining, social security and industrial laws for 85 countries. They discovered that wealthy nations regulate labour less often that the poor ones, in its place they offer more social securities. In addition, they opined that severe regulation of labour is harmful to labour force participation and creates higher unemployment. Though, in a different study by Chong (2003) for 76 countries, they opined that economic growth is affected badly by broader labour codes. Therefore, they argued that economic growth could be encouraged by less labour regulations, particularly in less developed countries. Griffith et al. (2006) in their own research examined the effect of product market competition on wages and unemployment, and how this relies on labour market institutions. They utilized differential alterations in regulations

across OECD countries over 1980s and 1990s to discover the effects of competition. They opined that increased product market competition decreases unemployment, and that it does so more in nations with labour market institutions that raise worker bargaining power. Furthermore, they opined that increased competition on real wages could be helpful to

workers, but reduced when they have high bargaining power. Petrin and Sivadasan (2006) examined the impact of employment protection legislation (EPL) on manufacturing firms in Chile from 1979-1996 using plant-level production data. Their result showed little evidence of a negative effect of EPL on demand for labour; nonetheless, they discovered that EPL brought statistically significant costs to the economy. They opined that firing costs enforced a wedge between the marginal revenue product and its marginal cost. In addition, their result showed a huge and important increase in both the mean and the variance of the within-firm gap between wages and the marginal product of labour, both for white and blue collar workers. Micco and Pages (2006) employing difference-in -difference methodology opined that employment protection legislation (EPL) decreased job flows, mostly in more volatile sectors. Though, they concluded that labour regulations do not strongly affect productivity of labour –this result was in opposition to results from a research by Cingano et al. (2010), which discovered harmful effects of EPL on productivity of labour especially in sector with high rates of labour reallocation. In a panel data analysis for the period 1980-2001.

Baccaro and Rei (2007) fell short to discover any robust proof of either direct or indirect impact of labour market institution on unemployment. Though, they discovered proof of a strong positive impact of union density on unemployment. Boeri and Macis (2008), they examined if unemployment insurance has made allowances for more and better structural changes to happen. They used job turnover, job creation, job destruction, and sector reallocation to measure structural change. Their findings showed that the launch of unemployment insurance was

connected with higher rates of turnover and labour reallocation across sector. In addition, it was noticed that amongst developing nations, trade unions and minimum wages were the main outlets through which higher labour regulations adversely affect growth.

Schindler (2009) argued that both labour market eforms structure and sequence are vital for labour market outcomes and the related costs of reforms. . Aminu (2010) investigated the effect of institutions and regulatory structure on Nigeria's labour outcome, employing static and dynamic analytical techniques involving co-integration and Error Correction Model (ECM) techniques with time series data covering 1970 to 2012. The research illustrates that minimum wage index has important positive effect on unemployment. Furthermore it illustrated that union ensity has insignificant impact on unemployment and employment across public and industrial sectors. Also, union density is discovered to have positive but insignificant impact on wage both in industrial and public sectors, whereas minimum wage has insignificant negative impact on both ggregate and public sector employment. Conversely, union density has non-ignificant positive impact on employment across sectors. The effect of minimum wage on industrial sector wage is positive and highly significant, but the impact on public sector wage is minimal.

Akeju and Olanipeun (2014) examined the relationship between unemployment rate and economic growth, Error Correction Model (ECM) and Johasen cointegration test were employed to determine both the short run and long run relationships among the variables employed in the study. Empirical findings show 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. Using the first difference and output- gap models of Okun's law. Tvrdon (2015) in his research of EU countries discovered two major institutional factors that significantly affect labour market performance and they are: tax wedge on labour activities and active labour market polices. It illustrates that higher tax has direct correlation with unemployment, but effective labour market polices have the propensity to counterbalance the negative impact of high taxation.

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 recent study investigate and determine the effects of unemployment and inflation on economic performance in Nigeria between the period 1981 to 2014. Ordinary Least Square (OLS) technique was adopted with various diagnostic test 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. Amid the rising growth rate and increase in output in Nigeria.

3. METHODOLOGY

Model Design

The method adopted in this study is both descriptive and analytical on time series. The researcher adopted the quasi-experimental design called correlational research design which aims at establishing relationships between variables and to know if the relationship that exist is

significant. Another justification for the use of quasi-experiment research design is that the study is descriptive and analytical on the basis of stochastic statistics and the variables are not under the control of the researcher.

Model Specification

The functional form on which the econometric model is built on is expressed as:

LNGDP = F(UNEMR, POPR, LABF)…….. 1

Where;

GDP = Gross Domestic Product

UNEMR = Unemployment Rate
POPR= Population Rate
LABF = Labour Force
F = Functional notation
GDP is the dependent or criterion variable while
UNEMR, POPR and LABF are the independent or explanatory variables.
The linear regression models based on the above functional relation is expressed as:

$LNGDP = \beta_0 + \beta_1 UEMPR + \beta_2 POPR + \beta_3 LABF + U$…….2

$\Delta LNGDP_t = \alpha_{0i} + \beta_{1i} GDP_{t-1} + \beta_{2i} UNEMR_{t-1} + \beta_{3i} POPR_{t-1} + \beta_{4i} LABF_{t-1} + \sum^{q}_{i=1} \alpha_1 \Delta LNGDP_{t-1} + \sum^{p1}_{i=1} \alpha_2 \Delta UNEMR_{t-1} + \sum^{p2}_{i=1} \alpha_3 \Delta POPR_{t-1} + \sum^{p3}_{i=1} \alpha_4 \Delta LABF_{t-1} + \lambda ECT_{t-1} + et$……3

Where β_0 is the regression constant or intercept,β_1,$\beta_2\beta_3$ and β_4 are the regression coefficients or parameters and et is the random variable. All other terms are as earlier defined.

4. EMPIRICAL RESULTS AND DISCUSSIONS

This section presents data, analysis, as well as interpretation of results in light of the statistical method which has been employed for the investigation so as to evaluate the interrelationship between Gross domestic product (GDP), Unemployment rate (UNEMR) Population rate (POPR) and Labour force (LABF) in Nigeria..

Data Analysis

4.1 Descriptive Statistics

The results of the descriptive statistics of the variables in the RGDP model are shown in table 1 below.

Table 1: Descriptive Statistics Results

	GDP	LABF	POPR	UNEMR
Mean	228.8765	46629483	1.44E+08	4.526129
Median	176.1300	46768185	1.39E+08	3.820000
Maximum	546.6800	63226720	2.06E+08	9.010000
Minimum	27.75000	32063706	97667632	3.300000
Std. Dev.	178.6337	9163293.	33270830	1.709927
Skewness	0.306141	0.053783	0.334283	1.874766
Kurtosis	1.485017	1.881053	1.879326	4.724543
Jarque-Bera	3.448834	1.632166	2.199567	22.00101
Probability	0.178277	0.442160	0.332943	0.054017
Sum	7095.170	1.45E+09	4.45E+09	140.3100
Sum Sq. Dev.	957299.6	2.52E+15	3.32E+16	87.71554
Observations	31	31	31	31

Source: Authors Computation

The result of the descriptive statistics in table 1 above shows that the average of distribution which is the means value of the distribution for GDP, LABF, POPR and UNEMR are 288.8765, 46629483, 1.44E+08 and 4.526129 respectively, while the median which is the center of distribution less sensitive to outliers relative to mean are 176.1300, 46768185, 1.39E+08 and 3.820000 respectively. The maximum and minimum values for the distribution includes; 546.6800, 63226720, 2.06E+08, 9.010000 and 27.75000, 32063706, 97667632, 3.300000 respectively.

Skewness of the distribution above indicates that all variables in the model have long right tails as shown by their positive nature of elasticity. The kurtosis which measure the peakness of the distribution above indicates that only UNEMR is peaked (Leptokurtic) while other variables such as GDP, LABF and POPR are flat. Jarque-Bera statistics and its associate probability values indicate that the following variables; GDP, LABF, POPR and UNEMR are all normally distributed given that their probability values are more than 0.05.

Table 2 Augmented Dickey Fuller Unit Root Test for RGDP Model

Variable	**ADF**				
	Level		**1st Diff**		**I(.)**
	Coeff.	**5% CV**	**Coeff.**	**5% CV**	
LNPOPR	**-5.755**	**-2.981**	**___**	**___**	**I(0)**
LNLABF	**-2.278**	**-3.574**	**-4.421**	**-3.603**	**I(1)**
UNEMR	**-0.294**	**-3.568**	**-4.947**	**-3.574**	**I(1)**

LNGDP	**-1.521**	**-3.568**	**-4.139**	**-3.574**	**I(1)**

Table 2, shows the unit root test results of Augmented Dicky Fuller Test (ADF). In line with the prepositions of Jenkins and Box (1970).Variable that are not stationary at levels would be made stationary after first difference. All the variables in the model were made stationary after first difference except POPR which was stationary at level I(0).

4.2 The ARDL Bound Test, Short-run and Long-run Results for GDP Model

The ARDL Bound Test, Short-run and Long-run Results for GDP Model is presented in tables 3, 4 and5

Table 3 Bound Test for GDP Model

ARDL Bounds Test
Date: 09/27/21 Time: 21:08
Sample: 1991 2020
Included observations: 30
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	6.282186	3

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: Computed from E-view

The result presented in table 3 shows that the calculated F-statistics of 6.282186 is higher than the upper bound critical value of 4.35 at 5% significant level. Based on this result, it is concluded that a long run relationship exists among the variables of GDP model. So, there is a long run co-integration amongst the variables in the Gross Domestic Product model.

Table 4 ARDL-ECM Short-run Results for GDP model

Dependent Variable: LOG(GDP)
Selected Model: ARDL(1, 0, 1, 0)
Date: 09/27/21 Time: 21:10
Sample: 1990 2020
Included observations: 30

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(LABF)	1.614186	0.731752	2.205919	0.0372
DLOG(POPR)	21.264358	4.198499	5.064753	0.0000
D(UNEMR)	-0.049968	0.024444	-2.044199	0.0521
CointEq(-1)	-0.262973	0.090223	-2.914701	0.0076

Cointeq = LOG(GDP) - (6.1382*LOG(LABF) -0.6427*LOG(POPR) -0.1900 *UNEMR -92.1933)

Source: Computed from E-view

Discussion of estimated short run for GDP model

The result of the short – run dynamic regression for Gross domestic product is presented in table 4. The regression result indicates that in the short run, the variables of labour force and population rate have positive relationship with Gross domestic product but negative relationship for unemployment rate. What these mean are, increase in labour force and population rate would lead to increase in GDP (Economic growth) in Nigeria ceteris paribus. Also increase in unemployment would lead to a decrease in GDP (Economic growth) in Nigeria ceteris paribus.

The ECM turned up with a negative value of -0.262973 as the ECM coefficient which suggests 26% speed of adjustment. This means that approximately 26% of discrepancy in the previous year is adjusted for the current year

Table 5 ARDL Long Run Regression for Gross Domestic Product Model

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(LABF)	6.138208	4.142912	1.481617	0.1515
LOG(POPR)	-0.642736	3.843944	-0.167207	0.8686
UNEMR	-0.190010	0.060041	-3.164685	0.0042
C	-92.193269	8.499106	-10.847407	0.0000

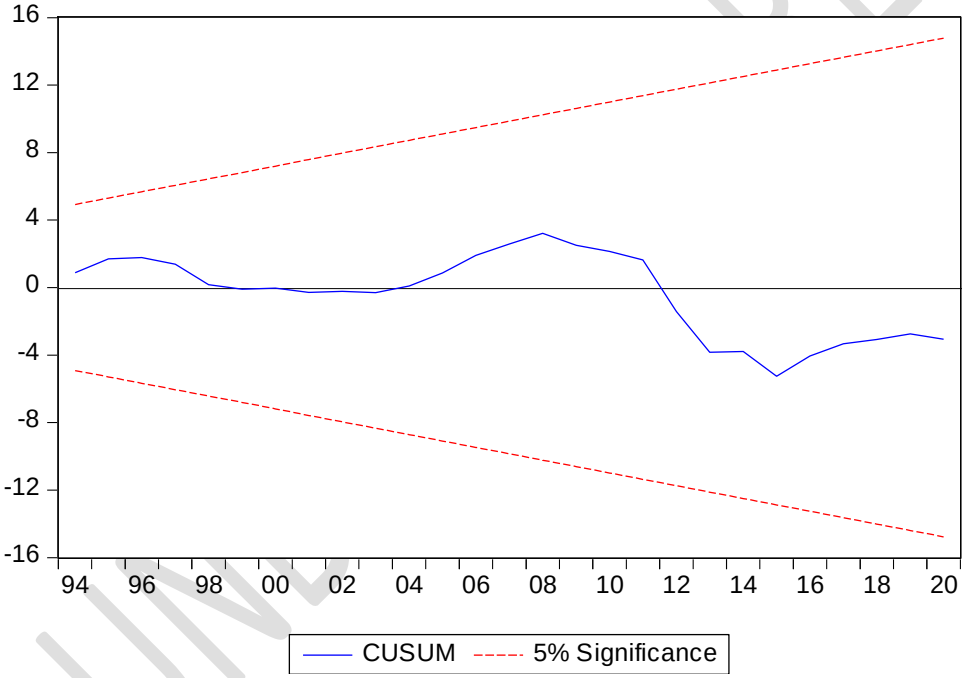
Source: Computed from E-view

Discussion of the Estimated Long-run for GDP Model

The result of the long run regression estimates for Gross domestic product model is presented in table 5. The regression estimates indicate that labour force coefficient is positively signed while population rate and unemployment rate coefficients are negatively signed. These indicate that in the long run, increase in labour force would increase GDP while increase in both population rate and unemployment rate would reduce GDP (Economic growth).

Stability Tests for LOG (GDP)

The test is meant to test the appropriateness and stability of the estimated ECM model. This is to check if the coefficient of the model is stable and can be used for prediction. The stability test was conducted using the cumulative sum (CUSUM) and cumulative sum of square (CUSUMSQ) tests. If the plot of the CUSUM and CUSUMSQ for the model lies within the 5 percent critical bound it is suggestive that the model is stable. From our results, the model is stable.



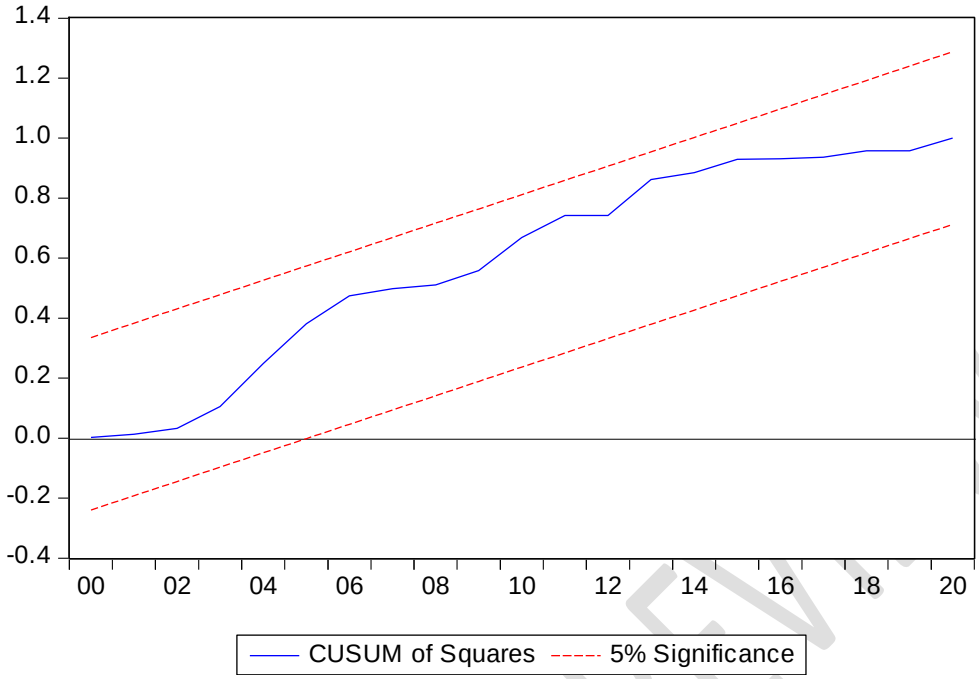


Fig.1. cumulative sum (CUSUM) and cumulative sum of square (CUSUMSQ) tests

5. CONCLUSION AND RECOMMENDATIONS

This study examined the impact of unemployment on economic growth in Nigeria from the period 1990 – 2020. The study investigated the long run and short run relationship between the variables by using Autoregressive distributed lag (ARDL). The empirical results show that Gross domestic product is influenced positively by Lsbour force in both the short run and long run. Labour force was also found to be statistically significant at a 5% level of significance only in the short run. It thus means that increase in labour force would lead to increase in economic growth in Nigeria. Population rate coefficient has a positive influence on GDP in the short run and it is statistically significant but it has a negative impact on GDP in the long run but it is not statistically significant. It thus means that increase in population would lead to economic growth in the short run but in the long run population growth might have adverse effect on economic growth. The coefficient of unemployment was negatively signed in both long run and short run. It was found to be statistically significant only in the long run. What this portends is, increase in unemployment in Nigeria leads to a decrease in GDP in other words, increase in unemployment rate would lead to a decrease in economic growth in Nigeria in both the long run and short run. Based on the findings, the study therefore recommends that**;**

(i) Since labour force has positive impact on economic growth in both the long run and short run, the private sector employers therefore, should be given Subsidies to encourage them to employ more people. Government should as well subsidize the taxes paid by private employers in order to encourage them to employ more workers.

(ii) It is also recommended that government should provide unemployment emoluments for those that are unemployed as it is done in developed countries of the world. The unemployed could use part of their unemployment emoluments to provide vouchers for firms that employs them as such generalized recruitment subsidies have the same impact as payroll tax reductions since payroll taxes are ventually borne largely by workers themselves although they may be paid by employers.

(iii) The government should deregulate the labour market; the essence of this is to encourage the minimum wage policy. Economic theories envisage that the establishment of an effective minimum wage policy will likely reduce employment; on the contrary, the rejection of a minimum wage policy, likely increases it. Although the demerit of the establishment of a minimum wage policy is that it pushes up wages only for the lowly paid but for all groups as workers bargain to restore relativities.

(iv) Government Intervention in Micro Lending: The government can disburse money to micro finance banks for lending to market women, petty traders, and artisans to stimulate economic growth. How it will work is that the bank will ask these people to form corporative societies, to enable members to get small loans to expand their businesses. The corporative societies will act as a guarantor for members to ensure borrowers repay the loans. This plan can help many poor Nigerians become self-reliant and as their business grows; they will create jobs to reduce unemployment.

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