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Unemployment and Economic Growth in Nigeria: A Time-Series Analysis

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ABSTRACT

In this article, an attempt is made to identify the Effect of Unemployment on Economic Growth in Nigeria from 1999-2015. Therefore, the Gross Domestic Product (GDP), Unemployment rate Government Expenditure and Money Supply are used as variables to find the effect of unemployment on economic growth. For this purpose, Ordinary Least Square (OLS) regression technique and for checking stationarity in data Augmented Dickey−Fuller (ADF) unit root test was used and after careful analysis of the data the result shows that unemployment having a negative and insignificant impact on economic growth. At one per cent increase in unemployment lead to 0.04 per cent decrease in Gross Domestic Product (GDP) this is in line with a prior expectation. This implies that when unemployment increase is bringing the falling down the level of GDP in the economy. The study recommends that the concerted effort should be made by policy makers to increase the level of output in Nigeria by improving productivity/supply in order to reduce unemployment and the prices of goods and services (inflation) so as to boost the growth of the economy. Another policy implication of this study is that government should embark on labor intensive technique of production as against capital intensive and also close the border to some extent which is the likely measure to reduce unemployment and Inflation and increase domestic output level (GDP).

Introduction

Unemployment has been one of the most persistent and unmanageable macroeconomic problems facing the developing countries, mostly the African countries. For any economy to develop, its total national output most exceed it total population for particular period of time. Largely in developing countries of Africa and other part of the world are experiencing reverse form of the last statement, these may be attributed as a result of poor management or underutilization of its national resource.
According to Brigg (1973) unemployment is the difference between amounts of labor employed at a current wage lends and working conditions and amount of labor hired at these levels. In recent time the definition of unemployment by the international labor organization (ILO) is said encompassing, “the unemployed is a number of the economically active population, who are without work but available for and seeking for a work, including people who have lost their jobs and those who have voluntarily left (World Bank, 1998).

The issue of unemployment has advisedly great impact on economic growth and development to Nigeria since the attainment of independence in 1960, the optimistic predictions about the ability of the modern industrial sector of the country to absorb the increasing number of urban unemployed and rural underemployed labor force have not been realized in spite of the minimally noticed. In trying to correct this defect, major development plans were brought; among such are structural adjustment plan (SAP), the green resolutions, operation feed the nation, National economic empowerment strategies NEED vision (20.20.20) and the current transformation agenda by the Dr good luck Ebele Jonathan.

Nigeria is a country that is endowed with enormous resources, both human and natural resources which if well exploited can contribute to economic growth and development, thereby reducing the high rate of unemployment. These resources are scattered across the six geo-political zones which are: North–west; North–east; North–central; South–west; South–east and South–south. Despite the abundant resources endowed on Nigeria by nature its citizens still struggling to survive due to economic hardship or difficulties in the country. Undoubtedly, parts of the macroeconomic goals which the governments strive to achieve are the maintenance of stable domestic price level and full–employment. Macroeconomic performance is judged by three broad measure unemployment rates, inflation rate and the growth rate of output. Unemployment is generally seen as macroeconomic problem as well as socio–economic problem. It has been categorized as one of the serious impediments to social and economic progress. Apart from representing an enormous waste of a country's man power resources, it generates welfare loss in terms of lower output there by leading to lower income and well –being. Unemployment arise as a result of insufficient and non–available of jobs to correspond with the growing population, even those who are employed sometimes live with the fear of being unemployed due to job insecurity and retrenchment of workers. There is employment of factors production if they are engaged in production.

This issue of unemployment in Nigeria remained intractable, even in the developed economies of the world. According to Achebe (1983) meaningful employment could bring happiness, makes one wanted and needed. It further argues that people acquire certain skill so that they could be employed and be able to provide for their needs and that of the family, but unemployment seems to stop in and dash this hope.

Unemployment has reached a very alarming proportion in Nigeria, with a greater number of the unemployment being primary and secondary school leavers and university graduates and even those not attended school. This situation has recently been compounded by the increasing unemployment of professionals such as bankers, engineers and doctors and also those do not attend school or not professional ones. The toll is within the productive segment of the Nigeria population the recent economic recession ravaging the country has further deteriorated the unemployment situation in Nigeria. Between May 2015 to May 2016, unemployment rose by 65% especially youth unemployment. Official figure from the bureau of statistic puts the figure of unemployment rate at 38% and youth unemployment rate at 65% as at 2015 to 2016 (CBN). By implication over 80 million Nigerians are unemployed this means that if Nigeria's population is 190 million, then 60% of Nigerians are unemployed. Viewing this from the perceptive of the recent events in North-East especially Yobe State where unemployment and poverty among others played a key role in the of uprising, one can only conclude that Nigeria's unemployment poses a threat to its economic growth, security and peaceful co –existence. In Nigeria, unemployment has an impact on economic growth. The data related to variables are given below:

Table:1 All Variables Data

Years	Log GDP	log Umplm	Log GNE	log MS
1999	12.52012	17.5	13.2689	11.84493
2000	12.6737	18.1	13.28424	12.01539
2001	12.69104	13.7	13.35882	12.11706
2002	12.85298	12.2	13.36945	12.19195
2003	12.94164	14.8	13.41572	12.24699
2004	13.0672	11.8	13.5327	12.32862
2005	13.16836	11.9	13.55149	12.41712
2006	13.27207	12.3	13.53912	12.55178
2007	13.321	12.7	13.6402	12.76906
2008	13.39209	14.7	13.62935	12.96919
2009	13.40202	19.7	13.70645	13.03817
2010	13.74405	21.1	13.70842	13.06671
2011	13.80423	35.6	13.69409	13.11975
2012	13.86093	39.1	13.69583	13.2011
2013	13.90854	37.3	13.75842	13.24114
2014	13.9549	38.2	13.76765	13.26
2015	13.97854	39.1	13.76722	13.27285

Sources: CBN and NBS Reports

Literature Review

According to the international labor organization (ILO) only those belonging to the age group of 15 to 65 years should be included in the labor force of a country. Unemployment may also be defined as the gap between the potential "full employment" and the number of employed persons.

Downes (1998) investigate the necessary conditions for reducing the unemployment rate in Trinidad and Tobago. From the period of 1971-1996, he used error correction model and estimate by OLS (ordinary least square) instrumental variables. Further, he found that the both long and short runs change in real gross domestic product (RGDP) and Real Average Earning (RAE) have a statistically impact on changes in the unemployment rate in both short and long-run.

The Keynesian framework, as examined by Thirlwal (1979), Grill and Zanalda (1995) and Hussian and Nadol (1997), postulated that increase in employment, capital stock and technological change are largely endogenous. Thus, the growth of employment is demand determined and that the fundamental determinants of long-term growth of output also influence the growth of employment.

Levin and Wright (2000) find that it is important but difficult to distinguish between desirable effects of unemployment insurance that are observation equivalent when designing optimal unemployment insurance causes permanently higher involuntary unemployment by raising the reservation wage.

Tabeuina (2000) found his empirical support by raising a hypothesis that unemployment has a negative effect on economic development which Layard and Nikckel (1999) cannot find the labor market institution that increase unemployment also lower economic development and level of output in Nigeria.

Bello (2003) investigates the phenomenon of unemployment in the sub-Saharan Africa with specially reference. Having diagnosed the nature of the episode in this Sub-Saharan region, the study unfolds a number of factors that account for this phenomenon and of course the great threat it poses the economic involved.

Obadanand & Odusola (2005) discovered that unemployment and growth are inversely related. It was also discovered that growth responsible to unemployment varied among sectors of the economy. For example, employers in industries sector use les labor to accomplish high volume of production thereby leading to unemployment workers the researcher analyzed the casual link between unemployment and productivity in different sectors of Nigerian economy except service sectors.

According to recent World Bank publication edited b**y** Tread Well (2010) wage employment had declined by 20% in Nigeria, despite applicable economic growth and development. This development has been described as jobless and unfruitful development because it has not translated into jobs and real economic opportunities for learning young population. Therefore, it is necessary to check the casual relation of unemployment and economic growth in Nigeria from 1999-2005.

Objectives of the Study

The main objectives of this study are to examine the impact of unemployment on Nigerian economic growth. The objectives are given below:

i. To determine the relationship between unemployment and economic growth in Nigeria.
ii. Determine the ways in which unemployment affect the economic growth in Nigeria.

Hypothesis

In order to achieve the objectives outlined above, the following hypothesis will be tested.

i. Ho: There is no significance relationship between unemployment and economic growth in Nigeria.
ii. Hi: There is significance relationship between unemployment and economic growth in Nigeria.

Methodology and Sources of Data

This study will make use of regression tools of analysis in analyzing the data collected and the estimation procedure here would be that of Ordinary Least Square Estimators (OLS) and for checking stationarity Augmented Dickey–Fuller (ADF) Test was used. The emphasis would be to know whether the variables are well behaved or not. We aim to ascertain their level of statistically significant or otherwise.

The data used in this research are secondary source by nature, sourced from the reports and bulletin of the Central Bank of Nigeria (CBN). The unemployment data and GDP growth were generated from Central Bank of Nigeria statistical bulletin and National Bureau of statistics (NBS) form the period (1999-2015).
Base on the theoretical framework of this research work, we state the functional relationship between Economic growth and sustainable development in Yobe State (Using GDP as a proxy) and Unemployment rate with other selected variables like Government Expenditure and Money supply as follows;

GDP = F (UNMPLR, GEXP, MS) ……………………………. (i)
GDP =β0 + β1 UNEMPLR + β2 GEXP + β3MS + μ………… (ii)
Where;
GDP = Gross Domestic Product
UNEMPLR = Unemployment Rate
GEXP = Government Expenditure
MS = Money supply
β = Parameters to be estimated
μ = Error term Error term that captures other variables not included in the equation

Regression Analysis and Discussion

The time-series data were collected for the period of 16 years and analyzed using regression analysis. Regression analysis is, therefore, used to test the hypothesis. E-views software was used because conveys the clear arms of the study.

TABLE-2: UNIT ROOTS TEST FOR MODEL

Variables	At levels	At Firsts Difference	At Second Difference	Order of Integral
Log GDP	-1.895466	-2.795707	-3.684420	I (2)
Log UMPL	-2.148606	-2.252372	-4.226516	I (2)
Log Gexp	-1.511168	-3.993092		I (2)
Log M2	-1.726948	-3.027254	-3.539287	I (2)

The Augmented Dickey−Fuller (ADF) unit roots test shows that the all variables are stationary. Gross Domestic Product (GDP), unemployment (UMPL), and Money supply (M_2) are stationary at levels, first difference and after second difference. While Government Expenditure are stationary at levels and after first difference.

TABLE-3: GDP AS DEPENDENT VARIABLE

Variables	Coefficient	Standard Error	T-Statistics	Probability
Constant	0.053247	0.017255	3.085887	0.0115
D (D (Log UMPL))	-0.004671	0.002486	-1.879194	0.0896
D (Log GEXP)	0.8500182	0.314664	2.7018734	0.0222
D (D (Log M2))	-1.031882	.02655834	-3.881683	0.0031

R^2=0.71
F−STATISTIC =8.49
DW=1.33
Bruech Godfrey LM Test =0.6
Heteroskedasticity test=0.76
Jergue Bera=0.33
Ramsey =0.51

The value of R^2 which 0.71 shows that the variable explains GDP which implies that 71 per cent of the changes in independent variables account from changes in Gross Domestic Product (GDP) of Nigeria. Hence 29 per cent are captured by the variables outside the models. The Durbin Watson result is 1.33 this implies that the model is free from serial correlation. The F−Statistic result is 8.49 which shows that the variable jointly explained GDP. And also, the probability of Breusch Godfrey 0.67 is greater than 0.03 observed of serial correlation from the models. The Jargue Bera value 0.33 still and implies that

model normal, heteroskedasticity test 0.76 shows that the model is not correlated. Ramsey test 0.51 implies that the model is normal or well specified.
Gross Domestic product (GDP) and unemployment exhibit a negative and insignificance relationship. At one per cent increase in unemployment lead to 0.04 a decrease in Gross Domestic Product (GDP) this is in line with a prior expectation. This implies that when unemployment increase is brings the falling down the level of GDP in the economy.
There exist a positive and significant relationship between Gross Domestic Product and government expenditure. This implies that a one per cent in increase in government expenditure lead to 0.85 increases in Gross Domestic Product (GDP). This is in line with a prior expectation. Therefore, when the government expenditure increase also GDP will increase and level of unemployment will also reduce.

There exist a negative and insignificance relationship between Gross Domestic Product (GDP) and money supply (M_2). At one per cent increase in money supply (M_2) lead to a 1.03 decrease in Gross Domestic Product {GDP} this is not in line with a prior expectation. This why because when government increases money supply in the society investment, manufacturing product and firm's industrial will increase, but the high rate of taxation leads to the increase in the cost of production, resulting in the price of goods and services (inflation rate). Once the price of goods and services increased the people will no longer afford it (goods and services).Therefore, the stocks of goods and services remain unsold. This leads to the falling down of manufacturing sectors, industrial sectors will collapse which leads to disinvestment, which negatively affects the level of GDP (economic growth) in Nigeria. Therefore, high rate of taxation, high rate of interest etc. has great negative impacts on economic growth in Nigeria.

In order to establish the relationship and impact between the dependent variable (GDP) and independent variables (unemployment, correlation analysis and regression analysis was used. Correlation analysis was used to test strength of the relationship that exists between the variables while the regression was used to determine the impact of independents variable on the dependent variables.

Summary and Conclusion

From the research carried out on the effect of unemployment on economic growth of Nigeria from 1999- 2015 using ordinary least square regression technique, the data shows that unemployment is negatively related to the economic growth. The economic analysis of the findings shows that the variables under consideration conform to apriority expectation of the economics theory. The statistical evaluation equally shows a higher level of statistical insignificant of individual coefficient of the estimate. The evidence stems from the fact that the T- statistics of the variables shows that UNEMP and money supply (M_2) are insignificant while GEXP is significant as shown in table 2. However, the R^2, which had a value of 0.71indicate that the entire regression had goodness of fit which means that, 71% fluctuation in the dependent variable is explained by fluctuation in the regression. More so the F-test showed that the entire regression was adequate. The summary of the whole regression indicated that the overall regression is statistically significant implying a good fit. The econometric finding shows that from the Durbin Watson (DW) test that the successive values under consideration were Auto correlated. That is, the absolute values of DW statistics are greater than various critical values at 5%.

1. The relationship between gross domestic product (GDP) and unemployment (UMPL) is negative and insignificance. Because when unemployment increases GDP decreases
2. Gross domestic product (GDP) and government national expenditure (GEXP) has positive relationship. Because government spent more on both capital and recurrent project so as people employed resulting in increase in GDP.
3. Gross domestic product (GDP) and money supply(M2) has a negative and insignificance relationship. Because of the high interest rate and taxes.

The study examines the impact of Unemployment on Economic Growth of Nigeria between 1999 and 2015. The relationship between unemployment and economic growth was found to be negative, indicating that curtailing the level of unemployment in Nigeria will guarantee economic growth of Nigeria. Empirical research was carried out testing the Effect of Unemployment on Economic Growth of Nigeria, using Gross Domestic Product (GDP) as a proxy for Economic growth. Gross Domestic Product (GDP) was regressed on Unemployment rate, Government Expenditure, and Money supply from 1999 to 2015. The result also shows that unemployment insignificantly affects economic growth, but a good performance of an economy in terms of per capita growth may therefore be attributed to the other factors in the country.

Recommendations

Based on the findings of the study, the following recommendations proffered;

1. Concerted effort should be made by policy makers to increase the level of output in Nigeria by improving productivity/supply in order to reduce unemployment and the prices of goods and services (inflation) so as to boost the growth of the economy.
2. Another policy implication of this study is that government should embark on labor intensive technique of production as against capital intensive and also close the border to some extent which is the likely measure to reduce unemployment and Inflation and increase domestic output level (GDP).
3. There is equally an urgent need for more infrastructure facilities like expanding the telecommunication network to the rural part of the country, good roads and electrification projects which can create employment for the jobless citizens.
4. A conducive environment for foreign direct investment should be created to ensure Nigeria's full participation in the global business opportunities that will create job for the teeming population.

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