

Impact of youth unemployment on economic growth in Nigeria

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Abstract

This study investigated the impact of youth unemployment on economic growth in Nigeria. The study used time Series data from the World Development Indicators (WDI) 2020. The econometric technique adopted for this study is the autoregressive distributed lag model. The result of the ARDL bounds test suggests that there is no long run relationship between youth unemployment and economic growth in Nigeria. The study was subjected to both pre estimation and post estimation test. The study therefore recommended that the government should create more job opportunities, empowerment and enabling environment for youth to be more productive by making policies that is capable of reducing youth unemployment rate in the country. The study also recommended that the government should invest more in education by providing long lasting free education, build more girls schools, pay teachers at when due and provide adequate infrastructure so as to boost education, that quality education will provide female with employable skills so as to contribute effectively in the labour force.

Key words: Unemployment, Youth Unemployment, Economic growth and Education

Introduction

One of the greatest challenges facing the Nigerian economy is unemployment which has maintained a rising trend over the years. The total labour force in Nigeria is made up of all persons aged 15-64 years excluding students, home keepers, retired persons, and stay-at-home to work or not interested. Unemployment in Nigeria is defined as the proportion of labour force that was available for work but did not work in the week proceedings the survey period for at least 39 hours. Official figures from the Bureau of Statistics put the figure of unemployed at 19.70 percent, about 30 million, but this figure still did not include about 40 million other Nigerian youths captured in World Bank statistics in 2009. By implication, it means that if Nigeria's population is 140 million, then 50 percent of Nigerians are unemployed. Viewing this from the perceptive of the recent events in Nigeria, one can only conclude that Nigeria's unemployment poses a threat to its development, security, and peaceful co-existence, being that Nigeria is made up of diverse entities from different cultural and religious backgrounds most of whom have shown differences in political, cultural and religious understanding and accommodation emanating from concerns of abuse of power, resource allocation, nepotism, negligence and corruption among others.

Figure 1.1: The trend of youth unemployment in Nigeria from 1991 to 2020



Source: WDI (2020)

The youth population is increasing continuously but the youth unemployment rate is still higher than expected in Nigeria as can be seen in the rising trend of youth unemployment over the years. In a similar vein, projection of Nigeria’s population growth shows that the proportion of young persons aged 15 to 24 years, to the overall population, will continue to grow over the next twenty years and the large population of young women and their higher education enrolment make it necessary to ensure that youth employment policies and programs are put in place (Okojie, 2003).

According to Akande (2014), two-thirds of unemployed youth are between the ages of 15 and 24 years, this shows that tertiary and secondary school graduates are being hit by the unemployment dilemma in Nigeria. In terms of gender, available statistics have shown that the majority of the unemployed are female, and in terms of education, non-educated people are more unemployed than educated people (Solaja and Adenuga, 2016). Therefore, emphasis on unemployment has made females the primary concern of this study.

The government has in the wake of this situation introduced certain policy measures among as the Structural Adjustment Program (SAP) but despite the program, youth unemployment is still rising. Following the introduction of SAP in September 1986 which ushered in liberalization, deregulation, and devaluation programs of the domestic currency, many of the teething domestic firms collapsed (Gbagolo and Eze, 2014). This policy resulted in the loss of many

jobs such that many people were rendered unemployed. Although, these policies were designed to jump-start the growth of the economy, given the structure of the economy, some of the policy packages became out rightly inimical to the system due to wrong timing. The deregulation program led to the demise of small-scale and cottage industries which operated in both the formal and the informal sectors and were a source of major employment opportunities to the economy.

The major problem identified in this study is that majority of the self-employed youths in Nigeria have found it difficult to survive in their business operation due to; political instability in the country, high level of corruption, poverty, poor governance, increasing population without adequate policy initiatives among others. These factors have contributed enormously towards a high increase in crime wave in our country (Okafor, 2011; Ajaegbu, 2012). Owing to the above reason, the state of the economy of the nation has been affected in two distinct ways. Firstly, Gross Domestic Product (GDP) per person is adversely affected due to the non-contribution of the teeming unemployed graduates and non-graduates.

It has therefore become an issue of concern to study the effect of youth unemployment on economic growth in Nigeria. There is a need to examine the extent youth unemployment influences economic growth in Nigeria because if the issue of youth unemployment is not properly handled, social problems such as prostitution, drug abuse, robbery, domestic violence, social, religious, and civil unrest, and so on will keep rising at a geometrical rate. This could also increase the dependency ratio, poverty rate, and even underutilization of human resources, which tends to decrease economic growth by decreasing per capita income and so on.

Even though some studies have been conducted on youth unemployment and its effects on economic growth in Nigeria, most studies concentrated on cross-sectional analysis in Nigeria. For instance, Aiyedogbon and Ohwofasa (2012); Bayrak and Tatli (2018) evaluate the effect of youth unemployment and its consequence using survey data. Other studies, such as Katumo (2019) did not focus on Nigeria. Katumo (2019) evaluates the effect of youth unemployment on economic growth in Kenya. The shreds of the evidence above have shown that there is a limited study within the time frame (1991-2020) that used quarterly data which is more frequent than annual data to link youth unemployment and economic growth in Nigeria. Therefore, to solve the existing problem, this current study will examine the effect of youth unemployment on economic growth in Nigeria from 1991 to 2020 using quarterly data.

Empirical Literature

So many related works have been undertaken in different parts of the world especially in Nigeria on unemployment and economic growth. In this study, the empirical literature is grouped into two categories.

Studies in Nigeria

Njoku and Ihugba (2011) investigate the relationship between unemployment and economic growth in Nigeria from the period of 1985 to 2009. One major finding of the study is that the economy grew by 55.5 percent between 1991 and 2006, and the population increased by 36.4 percent. All things have been equal, this should have resulted in a decrease in the rate of unemployment but rather, unemployment increased by 74.8 percent. The study recommends that the agricultural sector as a medium of reducing unemployment in Nigeria should be harnessed and advises that Government and all relevant stakeholders continue in their quest towards reducing unemployment, as well as give their support in ensuring that the agricultural sector is not downtrodden but embraced in this task.

Obumneke (2012) examines the socio-economic implications of youth unemployment in Nigeria as well as its causes and implications. This study identifies the main causes of youth unemployment in Nigeria which are; adoption of untimely economic policy measures, wrong impression about technical and vocational studies, the neglect of the agricultural sector, poor educational Planning, and poor enabling environment, anchoring the explanation of the causes of this youth unemployment on neo-liberalism that created economic and social dislocations. The study concludes that addressing the problem of youth unemployment must involve all stakeholders. Suggestive from the analysis, therefore, is that effective policy measures such as Re – prioritization of the Agricultural Sector, reformation of the educational system, and Provision of Enabling Environment that will drastically reduce unemployment and poverty should be adopted to eradicate the menace of youth unemployment.

Aiyedogbon and Ohwofasa (2012) evaluate the effect of youth unemployment and its consequence using a survey of Youth in Yobe State, Nigeria. Data for the study were collected using a good structure questionnaire and descriptive statistics were employed for data analysis. The result of the study revealed that rapid population, labour force arising from rural-urban migration, lack of employable skills, cultural barriers, lack of awareness, lack of vibrant manufacturing sector (industries, factories), and massive corruption were seen as major causes

of youth unemployment in the study area. The study recommends that the Nigerian Government should create enabling socio-economic and political environment including the provision of infrastructure to make industrial climate investment-friendly.

Akinyemi, Ofem, and Ikuenomore (2012) investigate the issue of graduate turnout and graduate employment in Nigeria. The study utilized a checklist questionnaire titled Employers' Skill Requirement for Graduate Employment, and two sets of secondary data (archival data). The data collected were analyzed through the use of simple percentages, frequencies, and charts to ascertain the extent of the mismatch between graduate turnout as regards their skills and graduate employment in Nigeria. The study discovered that over the years, graduate turnout outpaced the graduate employment rate in Nigeria, and The total graduate unemployment rate increasing from year to year over the period under study. The study, therefore, recommended that the issue of mismatch between graduate turnout as regards their skills and graduate employment should be seriously addressed by taking a three-dimensional approach that involves the tertiary institutions, the government, and the labour market.

Akeju and Olanipekun (2014) examine the relationship between the rate of unemployment and economic growth in Nigeria. This study intends to test the validity of Okun's law in Nigeria. The theoretical proposition of Okun's law is that a negative relationship exists between the unemployment rate and economic growth. To examine the relationship between the unemployment rate and economic growth, Error Correction Model (ECM) and the Johansen 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 a short and the long-run relationship between the unemployment rate and output growth in Nigeria. The study recommends that there is a need to incorporate fiscal measures and increase the attraction of foreign direct investment (FDI) to reduce the high rate of unemployment in the country.

Onodugo (2015) examines the impact graduate unemployment has had on the economic growth in Nigeria starting from 1999. The objective is to find out the relationship that exists between graduate unemployment and economic growth (Gross Domestic Product) using data collected from the Central Bank of Nigeria and the National Bureau of Statistics. A regression model was applied and the result showed that there is a negative relationship between graduate unemployment and GDP and Real wages. It was also found that corruption, lack of political will to implement economic policies and reforms, over-dependence on the oil sector, and poor educational planning are the major causes of graduate unemployment in Nigeria and until these

factors are addressed the economic activities in Nigeria will continue to be attacked or plundered.

Olawale (2015) investigates the impact of macroeconomic variables on Nigerian unemployment using the Vector Autoregressive (VAR) approach but later adopted the Vector Error Correction Model (VECM) to calculate the Forecast Error Variance Decomposition (FEVD) and to plot the Generalized Impulse Response Function (GIRF). Finally, the study carried out a Granger causality test to know the variables that are informative in forecasting the unemployment rate. The forecast error variance decomposition showed that shocks to the unemployment rate remain the major source of variation in the forecast of the unemployment rate. The result of the Granger causality test showed that the Inflation rate is linearly useful in forecasting the unemployment rate in Nigeria. The study recommended that government should diversify the economy including processing its crude petroleum locally and exporting refined petroleum products.

Solaja and Adenuga (2016) investigate the causes, effects, and remedies of graduate unemployment in Nigeria as well as the consequences and implications of graduate unemployment in Nigeria. This study uses empirical analysis to examine the causes of unemployment in Nigeria. Primary and secondary data were used in this study. For the primary data, the questionnaire was used to solicit responses from the respondents. In conclusion economic recession, governmental policy, employment of expatriates, and trade union wage demand increase the rate of unemployment. The study argued that planning for human resource use in Nigeria has been based on guesswork and needs reevaluation.

Onwachukwu (2016) analyses the determinants of the unemployment rate in Nigeria from 1980 to 2016. The study used the Ordinary Least Squares (OLS) method to estimate the model and the result of the study revealed that Government Expenditure, Inflation Rate, and Population are statistically significant in explaining changes in unemployment in Nigeria for the period under review. However, the first lag of unemployment and Real Gross Domestic Product is found not to be statistically significant in explaining unemployment in Nigeria. The researcher recommended that government should be allocating a higher amount of money to capital expenditure in the budget, and monitoring awarded projects to see that they are completed.

Onwuka, Ugwu, and Chukwuma(2020)examined the implications of youth unemployment and violent crimes on the economic growth of Nigeria. A sample of 272 persons was selected from the population of 147 business owners and 125 members of the national council of youth in

Anambra state Nigeria and questionnaires were administered through simple random sampling to collect data for analysis. SPSS version 20 software was used for analysis using Analysis of Variance (ANOVA) to analyze the data and compare the different population of mean existing within the groups and between the groups at the five-point-Likert scale of strongly agreed, agree, undecided, disagree, and strongly disagree. The study concludes that youth unemployment affects negatively economic growth in Nigeria due to a high increase in violent crimes such as, kidnapping, robbery, thuggery, and terrorism which hinders business investment and economic growth. The study recommends that government should support unemployed youth with an incentive such as unemployment benefit as it is done in a developed nation like America, Europe, and Asia. Finally, the government should make entrepreneurship education compulsory at all levels of education and monitor its implementation plan to ensure that both the trainees and the instructors are complying with the laid down policy and budget plan.

Studies outside Nigeria

Calmfors and Holmlund (2000) survey theoretical and empirical knowledge on the determinants of equilibrium unemployment. The evidence suggests that generous unemployment insurance, product market regulations, high unionization, and uncoordinated bargaining at the sectoral level contribute to high unemployment. Much evidence suggests that also macroeconomic shocks can have long-term effects on unemployment. In an open economy, changes in product demand, which drive a wedge between the real product and real consumption wages, can have long-lasting effects. Macroeconomic shocks can also interact with labour-market institutions. The relationship between long-term growth and unemployment is unclear. A higher growth rate can have both positive and negative unemployment effects.

Tansel and Tasci (2004) evaluate the determinants of unemployment duration for men and women in Turkey using the results of the Household Labor Force Surveys of 2000 and 2001 to construct a cross-section of durations of unemployment spells. Non-Parametric and parametric estimation methods were employed in the analysis to control for the unobserved heterogeneity. Two alternative definitions of unemployment are considered. The researchers carried out the analysis are for men and women separately. The results of the study reveal that women are experiencing higher unemployment durations than men and age and education have a negative and positive respectively on the hazard rate. The researchers also indicate that the effect of the local unemployment rate is large and negative.

Sofi and Yasmin (2011) assess the magnitude of educated unemployment among rural youth of Jammu and Kashmir. A well-designed questionnaire was prepared for this 25% of households to collect correct and complete information about educated unemployed youth of rural areas. The respondents were contacted in their respective homes and the whole survey was conducted for three months. The study revealed that there are wide inter-state variations regarding the magnitude of unemployment in India and the lopsided educational system, lack of industrialization in rural areas were cited as the main causes of rural unemployment. This study also recommended That Government at the federal, state, local level and the civil society should take effective steps in collaboration with one another to solve the problem of widespread unemployment in the state and make full utilization of idle resources for a better and prosperous future of the state.

Kipsha and Msigwa (2013) examine the determinant of youth unemployment in Tanzania. The study adopted a Multinomial logistic regression model (MLM) to analyze the determinants of unemployment in Tanzania. The findings of the study revealed that gender, geographical location, education, skills, and marital status are all significant factors in explaining the difference in youth employment status in Tanzania. From the findings, the study recommended that the government and policymakers should review job market laws and regulations to promote a smooth transition of youth from education to the job market. The study also further recommends that the government and policymakers should strengthen the laws and regulations relating to gender balance in the job market to give equal chances to the youth with the same level of skills or education.

Viljoen and Dunga (2014) evaluate the factors that determine female unemployment in South African townships employing a logistic regression model to analyze the possible determinants of female unemployment. The results of the regression show that the household size, age, marital status, access to social grants, and poverty status were found to be significant determinants of whether one is employed or not.

Mirica (2014) examines the long-term relationship between unemployment and higher education demand in Romania. Engel-Granger methodology was used to examine the long-term relationship between higher education and unemployment. Also, a brief analysis of unemployment and the higher education area in the European context is provided. One of the major findings of this study is that there is a long-term negative relationship between unemployment and higher education demand. This study recommended that government

should be encouraging high-school graduates to pursue higher education which might be the proper approach in reducing unemployment.

Phiri (2014) uses a momentum threshold autoregressive model to evaluate the nonlinear equilibrium reversion between unemployment and economic growth for South African data between the periods 2000–2013. The study employs three de-trending methods to obtain the relevant ‘gap’ data; namely, the Hodrick-Prescott (hp) filter, the Baxter-King (bk) filter, and the Butterworth (BW) digital filter. A common finding from the empirical analysis is that Okun’s law holds concretely for South African data regardless of the model specification or the de-trending technique that is used. Moreover, the analysis proves that unemployment granger causes economic growth in the longrun, a result which may account for the jobless-growth phenomenon experienced by South Africa over the last decade or so.

Gocer and Erdal (2015) analyzed the relationship between youth unemployment and economic growth, in the context of Okun law, by using new generation panel data analysis and cointegration tests. In this study, 18 Central and Eastern European countries have been selected as subject matter whose youth unemployment rate is above the EU-28 average (25 %) for the period 2006-2012. The results show that, if youth unemployment is quite severe; even an exclusive economic growth will not be enough to reduce the youth unemployment rate in the country. It is recommended that the global and country-specific policies which are effective, result-driven on youth (Un) employment and labour market issues, should be developed. This study is expected to make a significant contribution to the literature on unemployment and social conflict.

Baah-Boateng (2016) undertakes an empirical assessment of the main sources of youth unemployment in Africa. Based on panel data of 41 African countries covering the period 2000–2010, the study finds a demographic youth bulge and poor economic growth from both supply and demand sides of the market to be key drivers of youth unemployment in Africa. The empirical findings also suggest higher youth employment rates among females than males and a higher concentration in urban than rural areas. Investment in the high labour absorption sectors of agriculture and manufacturing is advocated as job creation strategies, along with population control measures to slow the growing youth population in Africa. High growth in the low employment sectors of mining and extractive industries could serve as resource generating avenues to promote investment in education and skill training, along with infrastructure to facilitate growth in high labour absorption sectors.

Bayrak and Tatli(2018) evaluate some key factors affecting youth employment from 2000-2015. Youth unemployment rate (YU) was the dependent variable while consumer price index (INF), domestic gross savings (GS), labor productivity (LP), and economic growth rate (GR) were the independent variables. Data from 31 OECD countries were obtained from World Bank (WB) and OECD databases. Panel Data Analysis was used to analyze the data. The results show that growth, inflation, and savings affect youth unemployment negatively while labor productivity affects youth employment positively. It is therefore concluded that growth, inflation, savings, and labor productivity are among the key determinants of youth unemployment.

Katumo (2019) examines the relationship between youth unemployment and economic growth in Kenya. Secondary data was collected and used to illustrate the relationship between the variables, while the methodology used was the Granger causality test and the OLS method. A unidirectional causal relationship existed linking the two variables, where the lags of economic growth granger cause youth unemployment, and the coefficient between the two variables was positive. Hence Okun's law coefficient didn't apply when it comes to youth unemployment as opposed to overall unemployment. However, the coefficient was statistically significant, indicating that even though the economy grew, the youth unemployment levels didn't decline in high variations. The study suggested the County and National Government, in collaboration with the vision 2030 board should come up with viable policies to curb unemployment and at the same time, invest in the informal sector to drastically scale down youth unemployment.

Gaps in Literature

Even though some studies have been conducted on unemployment and its effects on economic growth in Nigeria, most studies concentrated on cross-sectional and annual time series analysis in Nigeria. For instance, Aiyedogbon and Ohwofasa (2012) evaluate the effect of youth unemployment and its consequence using a survey of Youth in Yobe State, Nigeria. There is no study known to us within the time frame that used quarterly data which is more frequent than annual data to link youth unemployment and economic growth In Nigeria. Therefore, it is against this backdrop that this current study seeks to contribute to the literature by examining the relationship between youth unemployment and economic growth in Nigeria from 1991 to 2020 using quarterly data.

Model Specification

The model of this research work is specified in a linear form and it ranges from general to specific modeling, in line with theory. Apart from the core variables, this study includes additional control variables to achieve a robust result as well as to avoid the problem of model misspecification while bearing in mind the over-identification problem in econometric analyses.

To capture objectives one and two, this study employs the autoregressive distributed lag (ARDL) bounds testing approach with dynamic error correction model (ECM) where we apply the unrestricted ECM when no-cointegration is detected or the restricted ECM if otherwise. ARDL was proposed and extended by Pesaran and Shin (1998) and Pesaran, Shin and Smith, (2001) respectively incorporating a bound testing approach to cointegration. Given the foregoing, we specify our linear functional form model as;

$$GDPPC = f(YUNEMP, GFCF, EDU) \dots \dots \dots 3.4$$

Where

GDPPC = Gross Domestic Product per capita

YUNEMP = Youth unemployment

GFCF = Gross fixed capital formation

EDU = Education proxied by secondary school enrolment

f = functional form.

Forging ahead, we econometrically re-specify equation 3.4 reflecting the generalized ARDL (p, q) model;

$$GDPPC_t = \alpha_0 + \sum_{j=1}^p \phi_j GDPPC_{t-j} + \sum_{k=0}^q \lambda_k YUNEMP_{t-k} + \sum_{k=0}^q \lambda_k GFCF_{t-k} + \sum_{k=0}^q \lambda_k EDU_{t-k} + \mu_t \dots \dots \dots 3.5$$

Where α_0 = constant, ϕ_j, λ_k are the parameters, p is the lag length of the dependent variable, q is the maximum lag for the independent variable (s), t is the time, j & k are the initial/starting lags, μ_t is error term (which is white noise), while other variables remain as defined already.

Also, we perform the ARDL bounds test approach for equation 3.5 (ARDL (p, q)). This approach tests the null hypothesis of no cointegration against the alternative. The alternative hypothesis here implies the existence of a cointegration or long-run equilibrium relationship among the variables. To this end, the conditional ARDL (p, q) model is specified thus;

$$\begin{aligned} \Delta GDPPC_t = & \alpha_0 + \beta_1 GDPPC_{t-1} + \delta_1 YUNEMP_{t-1} + \delta_1 GFCE_{t-1} + \delta_1 EDU_{t-1} \\ & + \sum_{j=1}^p \phi_j \Delta GDPPC_{t-j} + \sum_{k=0}^q \lambda_k \Delta YUNEMP_{t-k} + \sum_{k=0}^q \lambda_k \Delta GFCE_{t-k} \\ & + \sum_{k=0}^q \lambda_k \Delta EDU_{t-k} + \mu_t \dots \dots \dots 3.6 \end{aligned}$$

We use equation 3.6 to demonstrate how the long-run equilibrium association or cointegration of the variables can be ascertained. Here, we test the null hypothesis that all the long-run coefficients are jointly equal to zero against the alternative that at least one of the long-run coefficients is not equal to zero. This is specified thus;

$$H_0 : \beta_1 = \delta_1 = 0$$

$$H_1 : \beta_1 \neq \delta_1 \neq 0$$

We can only specify the short-run model which is the ARDL (p, q) model in equation 3.3 if we are unable to reject the null hypothesis (that is, there is no cointegration),

We can specify both the short-run and long-run model which is the error correction model (ECM) if we have supporting evidence against the null hypothesis (that is, there is cointegration),

The error correction model (ECM) representation is specified as;

$$\begin{aligned} \Delta GDPPC_t = & \alpha_0 + \sum_{j=1}^p \phi_j \Delta GDPPC_{t-j} + \sum_{k=0}^q \lambda_k \Delta YUNEMP_{t-k} + \sum_{k=0}^q \lambda_k \Delta GFCE_{t-k} \\ & + \sum_{k=0}^q \lambda_k \Delta EDU_{t-k} + \gamma ECT_{t-1} + \mu_t \dots \dots \dots 3.7 \end{aligned}$$

Where; ECT_{t-1} is the error correction term, γ is the speed of adjustment which must be negative and statistically significant to show that there is a convergence in the longrun., Δ is the first difference operator, every other variable remains as defined in the foregoing. Note

that the long-run information is embedded in the ECT_{t-1} . Equation 3.7 is also known as the restricted ECM while equation 3.5 is also referred to as the unrestricted ECM.

In general, the outcome of the bounds test indicates whether there exist long-run dynamics among variables in the model. This dynamic error correction model (ECM) is derived from the ARDL model through a simple linear transformation (Banerjee, Dolado, Galbraith, and Hendry, 1993). That is, the ECM integrates the short-run dynamics with the long-run equilibrium without losing long-run information.

DESCRIPTIVE STATISTICS

Here, we give a summary of all the peculiarities of the respective variables employed in this study. These descriptive statistics report the number of observations, probability, mean, standard deviation, minimum and maximum values. Table 4.1 shows it all.

Table 4.1: Descriptive Statistics of Study Variables

	GDPPC	YUNEMP	LGFCF	EDU
MEAN	12.53936	10.46167	24.77184	93.40953
MEDIAN	12.55620	9.600000	24.74208	94.11572
MAXIMUN	12.86190	17.98000	25.08253	102.1081
MINIMUN	12.21950	7.810000	24.53892	78.66348
STD.DEV	0.243714	2.486967	0.150271	6.192711
PROBABILITY	0.000983	0.000000	0.024510	0.000887
OBSERVATION	120	120	120	120

Source: Researcher's Computation Using Eviews 9.0

With the ARDL model, there is a necessary pre-estimation test that needs to be carried out so that we can be very sure that all conditions are satisfied for the application of the model. The result of these tests is discussed in this section of the study.

Stationarity, Lag Length Criteria, and Bounds Test

For us to determine the order of integration of our variables and to be sure that the series is integrated of order $I(0)$ and $I(1)$ but not $I(2)$, a unit root test was carried out using the Augmented Dickey-Fuller test (ADF) on these variables. Our result reveals that all the variables, gross domestic product (LGDP), youth unemployment (YUNEMP), gross fixed capital formation (GFCF), and education (EDU) were all integrated of order 1, meaning the series were stationary after the first difference. The decision rule for no unit root is that the ADF test value must be less than 0.05 probability value for a variable to be stationary (see table 4.2).

Table 4.2 Unit Root Test (Result)

Variable	ADT Stat at Level	Prob. Value at 5%	ADF Test Stat at 1 st Diff	Prob. Value at 5%	Order of Integration
GDPPC	1.2724	0.9474	-2.2795	0.02	I(1)
YUNEMP	1.6358	0.9749	-10.8167	0.00	I(1)
GFCF	1.8804	0.9854	-8.9340	0.00	I(1)
EDU	0.1374	0.7240	-10.8167	0.00	I(1)

Source Researcher's computation using Eviews 9.0

Lag Length Criteria: The study adopted Akaike information criteria because of its consistency in selecting the optimal lag length.

Table 4.3 ARDL Bounds test for cointegration (Result)

F-Statistic	5% sig. at I0 Bound	5% sig. at I1 Bound
0.312896	3.23	4.89

Source: Researcher's computation using Eviews 9.0

From the result of the bounds test in table 4.3, we found that there exists no long-run relationship among variables of interest suggesting that there is no cointegration in the model. This implies that the coefficients of the long-run equation are all equal to zero. We can see that the f- statistic value is less than the 5% critical value bounds. As a result of this, this study has to employ the Autoregressive Distributed lag (ARDL) model which accounts for the long-run dynamics to capture objectives one and two

Estimation and Interpretation for Model one

Table 4.4: ARDL (1,1,0, 0) MODEL (Result)

Variables	Coefficient	Std. Error	t-statistic	Prob.
GDPPC(-1)	1.003821*	0.010534	95.29583	0.0000

YUNEMP	-0.009761**	0.003318	-2.941550	0.0040
GFCF	-0.004066	0.019690	-0.206492	0.836
EDU	0.151166**	0.066131	2.285845	0.0251

Source: Author's computation (E-views 9)

Note: * denotessignificance at 1%, ** denotes significance at 5%

The result in table 4.4 is Auto-Regressive Distributed Lag (ARDL) model. The study found that one previous year of the gross domestic product has a significant positive effect on the current gross domestic product in the long run. It implies that gross domestic product at one year period significantly contributes to the current gross domestic product in Nigeria. The impact was positive at both one-year and two-year periods.

Youth unemployment and economic growth

The study found that current years of youth unemployment significantly impact economic growth in the long run. Each increase in youth unemployment in the current period, led to a decrease in economic growth by 0.976 percent. This result implies that on average, economic growth will be reduced if youth unemployment increases in Nigeria. The results conform to apriori expectation because economic growth tends to be reduced if resources are lying idle. This result is in line with the empirical work of Onwuka, Ugwu, and Chukwuma(2020) which discovered that youth unemployment affects economic growth negatively in Nigeria.

Gross fixed capital formation and economic growth

The study found that the current level of gross fixed capital formation insignificantly impacts economic growth in the long run. Each increase in gross fixed capital formation in the current period, led to a decrease in economic growth by about 0.407 percent.

Education and economic growth

These also studies discovered that education proxied by school enrolment positively and significantly influences economic growth in Nigeria. Each additional year of education in the current period, led to an increase in economic growth in the long run by about 15 percent. This result implies that on average, economic growth will increase if educational attainment rises in Nigeria.

Post Estimation (Diagnostic Tests)

Table 4.5 Serial Correlation LM and Heteroscedasticity Test Result

LM Test	Heteroscedasticity Test				
	F-statistic	Obs* R ²	F-statistic	Obs*R ²	Scaled explained SS
Model 1	1.161797	2.439984	0.5282	2.7179	16.9946
	(0.3167)	(0.2952)	(0.7545)	(0.7434)	(0.0045)

Table 4.5 displays serial correlation and heteroscedasticity test results. The results show that we cannot reject the null hypothesis of no serial correlation in model 1. Note that the probability of the F-statistic is large and greater than the 5% threshold though the rule is to check the observed R² statistics. Note also that the probability values are in parenthesis in Table 4.5. The probability value of the observed R² in model 1 is 0.3167. These p-values are very large and greater than the 5% conventional level hence we failed to reject the null hypothesis of no serial correlation in residuals. Similarly, and desirably, model 1 shows no presence of heteroscedasticity given the high p-value of the observed R² (0.7434) which is more than the 5% standard level. To this end, we conclude that our two models are good and reliable at least for inference and forecast. Other higher tests such as the CUSUM and CUSUM of square tests could be found in the appendix section.

Recommendation

A study such as this has so many policy implications which, if carefully identified and treated appropriately, could contribute to economic prosperity. To this effect, the following policy recommendations emanating from the findings of this study are in order.

1. Since youth unemployment has a negative and significant impact on economic growth in Nigeria, the study recommends that the government should create more job opportunities, empowerment, and enabling environment for youth to be more productive by making policies that are capable of reducing the youth unemployment rate in the country so as to improve economic growth.
2. Since educational has a significant impact on economic growth in Nigeria, the study recommends that the government should invest more in education by providing long-

lasting free education, build more girls' schools, pay teachers when due, and provide adequate infrastructure to boost education. Quality education will provide youth with employable skills to contribute effectively to the labour force.

3. Finally, curriculum planners should focus more on entrepreneurship education to impact students with the necessary skills which will make them more productive in society.

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