

THE INFLUENCE OF RISING POPULATION ON POVERTY AND UNEMPLOYMENT IN NIGERIA

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Abstract

This work studies the influence of rising population on Poverty and Unemployment in Nigeria using Autoregressive Distributed Lag Bounds (ARDL) approach on annual data from 1980-2018. It explores the dynamic relationship between population growth and selected macroeconomic variables of economic growth, poverty, and unemployment as well as the direction of causality between them. The study also found that population growth and its components exerts a negative impact on the overall economic conditions in Nigeria. It was recommended that there should be an intervention by the government and NGOs by way of sensitizing the public on the importance and benefits of having a reduced number of children, by providing better policies to encourage investment and saving and providing an enabling environment that will help curb high fertility rate, thus leading to a decline in dependency ratio and poverty.

Keywords: Population, Poverty, Unemployment, ARDL, Modeling, Growth, Rate, Influence

JEL Classification: C22, C51, E27, H63, H81

1.0 Introduction

The increase in the level of Nigerian population with high impact on macroeconomic variables is of great concern to economists and researchers. Demographic report showed that the nation's population rose to 201,214,411 million in 2019, with a population growth rate of 2.60% (CBN 2019). She is the most densely populated country in Africa endowed with abundant natural resources (United Nations, 2017). Nigeria's high population growth rate poses challenge for her economic growth as this variable affects various socio-economic variables. This has become a source concern to many economists and policy makers. Hence, this work is earmarked to examine the influence of soaring population on poverty and unemployment in Nigeria.

Given the reality of high rate of unemployment in Nigeria, (23.1% in 2019), with high poverty rate, there is need to research into the nexus between these variables and population growth. The poverty rate in the 36 states of the federation is above the national

average of 69% (ADB, 2020). High poverty invariably echoes rising unemployment and this requires plausible solution. Given that the economy has regressed with negative GDP growth rate of -3.62% in the third quarter of 2020 (NBS 2020) occasioned by the current coronavirus pandemic, living standards and economic performance are heading towards imminent challenges that would require urgent attention. This motivated the author to delve into the subject matter for possible outcomes and policy recommendations that will be beneficial to the government, policy makers and researchers aimed at addressing the current challenges for sustainable economic growth and development. Unemployment Rate in Nigeria is increasing at alarming rate and this has become worrisome to researchers and the government according to Trading Economics. The essence of this research is to find out if the increase in unemployment rate and poverty in recent years is as a result of population growth or can be attributed to other factors.

The world's population is rising despite various efforts to checkmate soaring trend in the global phenomenon. Rutherford (2002) defined economic growth as growth in total output of economy overtime. The geometric rise in population without the corresponding increase in output depicts some effects on the economy. This scenario gives rise to negative consequences through the different aspects of human lives such as Education, Poverty, social welfare, Unemployment, immigration and Health, especially in developing nations of which Nigeria is a Member. Theodore (2006) asserted the rising population has implications on living standards, resources use and environment. This scenario poses challenge to development unless appropriate measures are put in place to resolve population dynamics in relation to economic development.

Existing theories have not given explicit generalization on the effect of population growth on economic growth of developing countries including Nigeria. Some theories harped on the Malthusian demographic transition axiom which shows that high population growth exerts pressure on the available natural resources; while other theories emphasized that high population will yield positive effects on economies to increase economic growth and development. Hence, there exists divergence of opinion on the importance of population growth. Some researchers emphasize the negative side of rapid population growth while others claim that it has positive effect and it is desirable (Afzal, 2009). The Nigerian population has been rising while the rate of economic growth has such little improvement. The question is now on how best to optimize the theoretical and empirical correlation between rising population, poverty and unemployment. What is the influence of population growth on poverty and unemployment? The objective of this study is to ascertain the influence of population growth on poverty and unemployment in Nigeria. A study of this kind is expected to provide useful information both to government and policy makers in Nigeria.

This paper is organized into five sections. Section one treats the introduction and section two contains literature review; section three x-rays the methodology, while section four explains

the results and discussion on results. Finally, section five centers on conclusion and policy, recommendations.

2.0 Literature Review

Economic theories established that birth rate, fertility rate, life expectancy, crude death rate, and mortality rate are the key determinants of rising population (Todaro and Smith, 2011). These factors show varying degrees of impact on the population. However, negative effects of overpopulation include high government spending and social vices like fraud, bribery and prostitution (Dao, 2012; Anthony, 2013). The major reason for Nigeria's increasing population include: high birth rate, early marriages, increase in material welfare, customs, religions and superstitions, decreased death rate compared with birth rate. According to Jhingan (2016) rising population affects economic development in mixed ways namely: (i) promoting economic development and (ii) retarding economic development.

Arif and Chaudhry (2008) examined the impact of human capital on economic development in Pakistan from 1990 to 2005. Their findings revealed that investment in human capital stimulated economic development in the urban area and dismal performance in the rural area. Nwakeze and Omoju (2011) analyzed the correlation between economic growth and savings in Nigeria from 1980 to 2007 using VECM technique. The results showed that savings impacted positively while rapid growing population exerted negative influence on economy.

Ashraf et al., (2012) assessed the quantitative effect of exogenous reduction in fertility on output per capita using simulation model. The results showed that for a base case set of fixed natural resources such a change will raise output per capita by 5.6 % at a horizon of 20 years and by 11.9 % at a span of 50 years. Bruckner et al., (2014) studied the effects on population growth on national income of more than 139 countries from 1960 to 2007 using panel data analysis. The result showed that improvement in income induced by oil prices positively impacts on population growth. Olabiyi (2014) analyzed the effects of population dynamics on economic growth in Nigeria from 1980 to 2010 using VAR model. The result showed a positive relationship between infant mortality rate and economic growth. Michael et al (2014) examined the influence of population explosion on family standard of living in Calabar, using descriptive statistics. The study revealed causes of population explosion to include: migration, poverty, culture, poor family planning, illiteracy, ignorance, religion, and urbanization Okwori et al (2015), empirically examined the Malthusian demographic Theory in Nigeria from 1982 to 2012 using ECM model. Their results show that rising Population does not significantly impact on Economic Development.

Guga, Alikaj and Zeneli (2015) studied Population, Economic Growth and Development in emerging economies from 1994-2010. The result shows that human capital development and economic growth are related to each other. Their results also showed that population growth influenced economic growth positively. Lawanson (2016) studied the

effect of population growth on economic development in Nigeria using the OLS technique. The study showed that population has an insignificant positive influence on economic growth and a significant negative influence on economic growth.

Peterson (2017) studied the correlation between rising population and growth in economic output generally for the period 2000 to 2015. The findings showed that increase in population slowed slightly during the period for most regions with sub-Sahara Africa as the only exception, where population growth showed negative influence on economic growth. The study also showed that in low-income countries, rising population is detrimental to economic growth because it leads to bloated dependent children.

Ogunleye, Owola and Mubarak (2018) carried out an appraisal of Population Growth and Economic Growth in Nigeria over the period of 1981 to 2015 with Ordinary least squares regression. The study revealed that population growth exhibited significant positive influence on economic growth. Ogbuabor et al (2018) studied the effect of population growth on economic development in Nigeria using OLS with data range 1980 – 2016. The results show that population growth retards economic development in Nigeria. This confirms empirical literature and the Malthusian Theory which supports a geometric increase in population growth with more mouth to be fed thus leaving little or nothing to be saved.

Peter and Bakari (2019) examined the influence of population on the economic growth in African from 1980 -2015. The work used panel data approach and the result from GMM showed that population growth exerts a positive impact on economic growth in Africa but fertility showed negative impact on economic growth.

Adesina and Akintunde (2020) examined the influence of health shock on the poverty level in Nigeria for thirty-seven years (1981-2017) using VECM. The findings showed that Health shock has negative implications on poverty reduction and it contributes to poor households' inability to achieve sustainable economic empowerment. Health shock could make household poor or even poorer in future.

Gaps in Literature

Several researches were carried out on population and economic growth in various countries especially in Asian countries, the Middle East and Sub Saharan African countries, however such researches are not so much in the Nigerian case especially in recent years. The aim of this research is to fill the gap in literature on the impact of rising population on the Nigerian economy with focus on its impact of some social- economic indicators like poverty and unemployment.

3.0 Methodology

Theoretical Framework

This study adopted the endogenous growth model. The rationale for using this model is because it looks deeply into the sources of growth rate of an economy on the long run

based on endogenous technical progress in growth model. It maintains that economic growth is mainly as a result of internal factors rather than external factors. Romer (1994) model is applied which involves human capital along with new technology. In the Romer's model, to incorporate endogenous technological change, the function relation is adjusted as:

$$Y_t = F(K_t, N_t, A_t) \quad (1)$$

From equation (1) it can be seen that the level of aggregate output depends on the capital (K_t), and labour (N_t), and technology (A_t), which appears as an endogenous input. In this model, the output of an individual firm not only depends on its own level of inputs but also on the technology used by other firms whose benefits also accrue to it. The production function of an individual firm denoted by the subscript i is:

$$Y_{it} = F(K_{it}, N_{it}, A_t) \quad (2)$$

In the production function listed above, the technology input subscript t appears along with subscript i because this technology may not be exclusive input of a firm, but maybe copied from others. Romer opined that investment is a source of technological progress. He distinguishes between private returns to capital and social returns to capital. Investment or capital accumulation of a firm enables it to have access to new machines and also new ways to doing things. The model encourages the implementation of policies which advocates for increased investment.

Model Specification

The model specified in this section is based on theoretical framework of the study that considers growth as a function of labour capital and other efficiency factors. Moreover, economic growth in this study is considered as overall economic performance, hence growth is captured by three variables: GDP growth rate, poverty rate, and unemployment. These are the main indicators of economic performance for a developing country (Todaro and Smith, 2009). Taking cognisance of the demographic factors that affect population which in turn affects economic growth, three equations are specified in the study. The functional form of the first model is the poverty rate giving as:

$$POV = f(PGR, ADEPR, FERT, HEXP, SSER,) \quad (3)$$

Where POV = poverty rate (measured as proportion of Nigerians living below 1.9 dollars per day), $ADEPR$ = adult dependency ratio, $FERT$ = fertility rate

$HEXP$ = government health expenditure

$SSER$ = secondary school enrolment rate

PGR = population growth rate

For the second model which is unemployment, the specification is:

$$UNEM = f(PGR, ADEPR, FERT, LEXP, RGDP, SSER) \quad (4)$$

Where LEXP = life expectancy in years

RGDP = real Gross Domestic Product

Modeling ARDL

The basic form of an ARDL model is given below:

$$\Delta y_t = \alpha_0 + \beta_i y_{t-1} + \lambda_k \sum_{k=1}^k \Delta SR_{k,t-1} + \sigma_k \sum_{k=1}^k LR_{k,t-1} + \mu_t$$

Where: Δ = first difference of variable,

μ_t = a random "disturbance" term,

y_i = the dependent variable,

SR = the short-run dynamics of explanatory variables,

LR = the long-run dynamics of the explanatory variables.

β, λ and σ are the parameters to be estimated; α_0 is the constant parameter (Bahmani-Oskooee. & Fariditavana. 2016) and (Ohiomu 2020)

The ARDL models are specified below;

For the Poverty Equation:

$$\begin{aligned} \Delta POV_t = & \alpha_0 + \delta_1 PGR_t + \delta_2 ADEPR_t + \delta_3 FERT_t + \delta_4 HEXP_t + \delta_5 SSER_t + \\ & \sum_{i=1}^{p-1} \psi_i \Delta PGR_{t-i} + \sum_{i=1}^{q_1-1} \varphi_2 \Delta ADEPR_{t-i} + \sum_{i=1}^{q_1-1} \varphi_3 \Delta FERT_{t-i} + \\ & \sum_{i=1}^{q_1-1} \varphi_4 \Delta HEXP_{t-i} + \sum_{i=1}^{q_1-1} \varphi_5 \Delta SSER_{t-i} + \theta ECM_{t-1} \xi_t \quad (.5) \end{aligned}$$

Apriori expectation: $\delta_1, \delta_2, \delta_3, > 0$; $\delta_4, \delta_5, \delta_6 < 0$; also, $\varphi_1, \varphi_2, \varphi_3, > 0$ $\varphi_4, \varphi_5, \varphi_6, < 0$

For the Unemployment Equation:

$$\begin{aligned} \Delta UNEM_t = & \alpha_0 + \delta_1 PGR_t + \delta_2 ADEPR_t + \delta_3 FERT_t + \delta_4 LEXP_t + \delta_5 SER_t + \delta_6 RGDP_t \\ & + \sum_{i=1}^{p-1} \psi_i \Delta PGR_{t-i} + \sum_{i=1}^{q_1-1} \varphi_2 \Delta ADEPR_{t-i} + \sum_{i=1}^{q_1-1} \varphi_3 \Delta FERT_{t-i} \\ & + \sum_{i=1}^{q_1-1} \varphi_4 \Delta LEXP_{t-i} + \sum_{i=1}^{q_1-1} \varphi_5 \Delta SER_{t-i} + \sum_{i=1}^{q_1-1} \varphi_6 \Delta RGDP_{t-i} \\ & + \theta ECM_{t-1} \xi_t \end{aligned}$$

(6)

Apriori expectation: $\delta_1, \delta_2, \delta_3, > 0$; $\delta_4, \delta_5, \delta_6 < 0$; also, $\varphi_1, \varphi_2, \varphi_3, > 0$ $\varphi_4, \varphi_5, \varphi_6, < 0$

Sources of Data

The Secondary data comprising time series observations from 1980 to 2018 (39 years) shall be employed in performing the research study. The data on PGDP and population growth rate will be collected from the World Bank, data for crude birth rate, poverty rate, unemployment rate, and total fertility rate will be collated from CBN Statistical bulletin. The study employs the ARDL Bound Testing approach developed by Pesaran et al. (2001).

4.0 Results and Discussion of Findings

Descriptive statistics

Descriptive statistics for the data used in the study are presented to highlight the pattern of distribution of the datasets. The annualized summary statistics of the data used in the empirical analysis are presented in Table 1. The Table shows the mean and other moment conditions for each of the variables. Average GDP growth rate was 4.15 percent over the study period, which indicates a relatively low growth rate of the economy since the 1980s. Considering that maximum value was 14.6 percent for the period, there is clear indication that the economy has not performed too well over a longer period of time in Nigeria. The minimum GDP growth rate is -7.58, suggesting that the economy has passed through many large swings in terms of both positive and negative growth rates. These large swings are confirmed by the high standard deviation which is relatively greater than the mean value. This indicates that there was a lot of variability in growth rates over the period, with certain periods having large declines and others having relatively high growth. This high variability of the growth rate of the economy presents certain difficulty in the manner of economic management and tools that can be used to achieve growth prospects over time. The population dynamics in the study could have contributed to the unsteady growth path of the Nigerian economy. The skewness values for GDP growth is however very low, which suggests that the mean value is largely representative of the performance of the growth rate over the entire period of the study. The J-B value of 0.05 is not significant at the 5 percent level which shows that the data series for economic growth is homogeneous for the years.

Table 1: Descriptive statistics

Variable	Mean	Max.	Min.	Std.	Skew.	Kurt.	J-B	Prob.
GDPGR	4.15	14.60	-7.58	4.42	-0.06	3.14	0.05	0.97
UNEMPL	8.90	19.70	1.80	4.97	0.50	2.31	2.36	0.31
POV	55.47	63.50	52.90	2.81	1.62	4.93	22.55	0.00
PGR	2.58	2.71	2.49	0.07	0.09	1.71	2.70	0.26

ADEPR	89.08	92.76	86.62	2.02	0.53	1.87	3.83	0.15
FERT	6.15	6.78	5.17	0.41	-0.19	2.36	0.87	0.65
LEXP	48.10	53.99	45.64	2.85	0.92	2.28	6.16	0.05
SSER	38.75	54.17	23.92	10.24	0.16	1.62	3.18	0.20
HEXP	65.34	296.44	0.04	90.53	1.24	3.09	9.70	0.01

Source: Author's computation

The other economic performance variables in the study are unemployment rate and poverty rate. The average unemployment rate in the study for the period is 8.9, which is very high, with a low standard deviation value of 4.97, suggesting that unemployment in Nigeria has been relatively high over the years. Proportion of individuals in poverty (living on less than 1.9 dollars a day) is 55.47 percent over the period. This also indicates a high poverty rate in the economy since 1980. Thus, with all the economic indicators combined (i.e., low growth rate of GDP, high poverty and unemployment rates), the Nigerian economic environment appears to be quite unstable and relatively weak.

Population growth rate is 2.57 percent is high on average over the period, with a maximum value of 2.71 and minimum value of 2.49. This shows that population growth rate has remained high for all the years and this high rate can be devastating for the economy, especially in years when growth rate of GDP was either low or negative. The other population indicators of fertility rate and adult dependency rate also indicate unhealthily large demographic indicators for Nigeria. Average fertility rate is 6.15, indicating that Nigerian women have up to 6 children on average. The dependency ratio of 89.08 is also high and shows that population in Nigeria puts a lot of pressure on the working class, which may intensify poverty and lower productivity. The average life expectancy is 48.1 years for the Nigerian population over the years.

Table 2 shows the result of the Bounds test of long run effects for the ARDL specification for the specified equations (three) for this section of the analysis. The equations are separated based on the dependent variables used for the particular equation. The evaluation of the results is based on the critical F-statistic values for the lower and upper bounds as also reported in the results. If at any significance level, the estimated F-value is greater than both the lower test (I0 Bounds) and the upper test (I1 Bounds) values, then there is no cointegration among the variables. If the estimated F-value lies between the two Bounds values, then there is need to proceed with a lesser structure of the ECM analysis. However, if the estimated value lies above both Bounds test values, then there is clear cointegration among the variables.

Table 2: Testing the Existence of a Long-Run Relationship (Bounds Cointegration Test Result)

<i>Null Hypothesis: No long-run relationships exist</i>						
	Economic growth		Poverty		Unemployment	
Test Statistic	Value	k	Value	k	Value	k
F-statistic	10.85	5	2.99	6	6.08	6
<i>Critical Value Bounds</i>						
Significance	I0 Bound	I1 Bound	I0 Bound	I1 Bound	I0 Bound	I1 Bound
10%	2.26	3.35	2.12	3.23	2.12	3.23
5%	2.62	3.79	2.45	3.61	2.45	3.61
2.50%	2.96	4.18	2.75	3.99	2.75	3.99
1%	3.41	4.68	3.15	4.43	3.15	4.43

Source: Author’s computation

From the Table it is seen that the computed F-value lies above the lower and upper bounds. These results show that for all the equations, there is cointegration among the variables. This is because, for each equation, the critical F-value is greater than the I0 Bounds and I1 bounds values. It is only in the unemployment equation that this is not the case, yet the critical F-value for the equation still lies between the I0 and the I1 Bounds test values. Thus, a long run relationship can be estimated between the economic growth variables and the population growth variables.

The ARDL Results

The Bounds test for long run relationships shows that the selected independent variables in the study actually move together with economic growth in the long run. This gives the mandate to proceed for the estimation of the long run ARDL models that were specified in Chapter Three. The optimum lag length of one period for the model was selected based on the Shwarze-Bayesian Information criterion (SIC).

The result of the cointegrating estimates for the unemployment model is shown in Table 3. In the result for the short run estimates, the coefficient of population growth passed the significance test at the 10 percent level (p-value = 0.097), indicating that population growth has some sort of positive impact on unemployment in economic growth. This implies that rising population growth leads to rising unemployment rates in the country. Apparently, population growth appears to be higher than the rate of job creation in the country. The coefficient of dependency ratio failed the significance test at the 5 percent level, while that of fertility rate passes the test for the first and second lags. For these lags, the coefficient of

fertility rate is positive, showing that fertility rates also push up unemployment in Nigeria. Apparently, the results show that the population indicators tend to increase the rate of unemployment in Nigeria. For the other variables, the second lag of life expectancy has a significant negative impact unemployment, while economic growth also has a significant negative impact (at the 10 percent level). This result shows that when the economy grows, unemployment rates tend to reduce.

The coefficient of the error correction term (ECM) has the expected negative sign and is significant at the 1 percent level. The significant and negative coefficients indicate that there is capacity for restoring long run stability following any short run deviation of the economy from equilibrium. The coefficient of the ECM term is also high at -0.705, which indicates that up to 86 percent of the long run adjustment to equilibrium is completed within the first year. This shows that population issues have strong asymptotic tool for dissipating economic growth in Nigeria.

Table 3: ARDL Result estimation for the unemployment model

Variable	Coefficient	t-Statistic	Prob.
<i>Short run cointegrating coefficients</i>			
D(PGR)	4.911	1.728	0.097
D(LADEPR)	3.347	1.632	0.116
D(FERT)	-8.261	-1.677	0.107
D(FERT(-1))	6.198	2.871	0.008
D(LEXP)	6.456	2.485	0.020
D(LEXP(-1))	-4.606	-1.992	0.058
D(LRGDP)	-3.172	-1.723	0.098
D(LSSER)	-11.099	-1.622	0.118
CointEq(-1)	-0.705	-4.551	0.000
<i>Long Run Coefficients</i>			
Variable	Coefficient	t-Statistic	Prob.
PGR	6.967	1.897	0.070
LADEPR	5.404	1.492	0.149
FERT	1.966	2.630	0.015
LEXP	0.066	0.269	0.791
LRGDP	-4.501	-1.667	0.109
LSSER	-15.746	-1.638	0.115
C	-34.192	-0.306	0.763
<i>Cointeq = LUNEMPL - (6.96*PGR + 54.404*LADEPR -19.96*FERT + 0.06*LEXP -4.50*LRGDP2 -15.74*LSSER -34.19)</i>			

Source: Author's computation

For the long run, the coefficients are also similar to those of the short run. The coefficients of PGR and FERT both pass the test at the 10 percent and 1 percent levels respectively, both with positive coefficients. This shows that population growth and fertility rates increase unemployment in Nigeria in the long run. These are the only significant coefficients among the variables in the result, suggesting that population issues are critical for explaining unemployment conditions in Nigeria. In the long run, policy measures for controlling population rates are the most effective tools for reducing unemployment in Nigeria permanently.

Finally, the result of the estimation for the model that explains the determination of poverty rates in Nigeria is presented in Table 4. From the result of the short run estimates, the coefficients of population growth exhibit interesting characteristics. For the current variable, the coefficient is negative and passes the test at the 10 percent level, which shows a slightly negative effect of population growth on poverty rates as the immediate impact. However, for the lagged variables, the coefficients are positive and significant at the 5 percent level. This shows a clear positive impact of population growth on poverty rates in Nigeria in the short run. Thus, rising population is shown to increase poverty rates in the short run in Nigeria. dependency ratio also has significant positive impact on poverty which shows that dependency rates also increase poverty rates in Nigeria. The coefficient of the error term is however significant at the 1 percent level and has the expected negative sign. This shows that there will be restoration to long run equilibrium following any short term deviation in the system.

Table 4: ARDL results estimation for poverty rate model

Variable	Coefficient	t-Statistic	Prob.
<i>Short run cointegrating coefficients</i>			
D(PGR)	-1.039	-1.954	0.065
D(PGR(-1))	1.450	2.963	0.008
D(LADEPR)	1.565	2.310	0.032
D(LFERT)	-0.445	-1.364	0.188
D(LHEXP)	0.021	3.284	0.004
D(LHEXP(-1))	-0.017	-2.722	0.013
D(LSSER)	0.482	1.030	0.316
D(LSSER(-1))	1.003	1.905	0.071
CointEq(-1)	-0.288	-2.701	0.014
<i>Long Run Coefficients</i>			
Variable	Coefficient	t-Statistic	Prob.
PGR	1.939	2.711	0.000

LADEPR	5.437	2.037	0.014
LFERT	-1.547	-1.215	0.055
LHEXP	0.214	2.262	0.239
LSSER	-3.271	-2.149	0.035
C	-14.68	-1.564	0.092
<i>Cointeq = LPOV1 - (-1.938*PGR + 5.43*LADEPR -1.54*LFERT +0.21*LHEXP -3.27*LSSER - 14.6837)</i>			

Source: Author’s computation

For the long run result, the coefficients of population growth and dependency rates are positive, which show that population growth actually increases poverty in Nigeria in the long run.

Granger Causality Test

There could be reverse effects of population growth on economic growth in Nigeria. Hence, the Granger causality test between population and economic growth is performed in this section. It can be seen that PGR granger causes GDP growth, but GDP growth does not Granger cause PGR. Also, causality also runs from unemployment to poverty, which shows that it is poverty that mainly causes unemployment in Nigeria. Causality also runs from unemployment to population growth and from dependency rates to unemployment. Poverty also tends to Granger cause population growth, while dependency rates cause poverty. There is no bidirectional causation in the result. Hence, the results of the estimates are reliable.

Table 5: Causality test results

Null Hypothesis:	Obs	F-	Prob.
LPOV1 does not Granger Cause LUNEMPL	36	0.86	0.43
LUNEMPL does not Granger Cause LPOV1		4.92	0.01
LPGR does not Granger Cause LUNEMPL	36	0.25	0.78
LUNEMPL does not Granger Cause LPGR		3.21	0.05
LPGR does not Granger Cause LPOV1	36	0.46	0.64
LPOV1 does not Granger Cause LPGR		15.21	0.00

Source: Author’s Result Using E-views

Discussion of Findings

The main findings of the study highlight the negative role of rising population on poverty and unemployment in Nigeria. The study has shown that population growth not only hinders economic growth (by reducing productivity), it also intensifies the unemployment and poverty problems in the region. Indeed, population growth affects the supply of labour

and employment (ADB, 2012). Also, the social dimension of high population growth is also observed in this study. These results confirm the findings by Peterson (2017) who found that in low-income countries, rising population is detrimental to economic growth because it leads to bloated dependent children.

Finally, from the study it can be concluded that rapid population growth which is supposed to be an asset to any nation turned out to be a liability and problem in this study, perhaps due to low productive capacity and poor capacity utilization. This is the case in many developing countries with low productive capacity. The findings also showed that population growth intensifies the unemployment and poverty problems in the region including Nigeria. Indeed, population growth affects unemployment, poverty and ultimately economic growth.

5.0 Conclusion and Policy Recommendations

Conclusion

In this study, the researcher made an attempt to establish the impact population growth has on poverty and unemployment in Nigeria. The results showed that;

(i) Fertility rate in Nigeria is very high compared to many other nations;
(ii) Nigeria as a nation has not been able to take advantage of her rising population to expand her labour force and productivity and (iii) the huge population is characterized by high level of poverty and unemployment in the country. It is argued in this study that population growth may exert effects on the Nigerian economy through various measures, including poor economic, and social welfare dimensions. Thus, the study demonstrated a stable effect of population changes on GDP growth rate, unemployment and poverty rates in Nigeria since these factors capture the essential aspects of economic performance and distributional effects in Nigeria. Based on the empirical analysis of the data in the study, following findings were made.

1. That population growth contributes positively to poverty rates in Nigeria. From the study it is shown that rising population, adult dependency and fertility rates combine to intensify poverty rates in Nigeria.
2. That population growth also significantly increases unemployment rates in Nigeria. In this direction population growth itself and fertility rates were the main factors shown to be stimulating unemployment in the country, especially in the long run.

Policy Recommendations

From the analysis so far, certain policies recommendations can be made on the appropriate means of checking population growth or making it work better for economic improvements in Nigeria.

- The government should embark on massive employment generation schemes that will absorb the unemployed through strategic stimulus investments in Agricultural

transformation, communication, construction, entrepreneurial education, hospitality industry, manufacturing, mining, real estates, and railway networks amongst others. This has triple action tendency to checkmate poverty rate, unemployment syndrome and accelerate economic growth for sustainable development as well as control population indirectly, because when people are meaningfully engaged, there is less tendency for procreation.

- Similarly, it has been established at the course of this study that high population growth leads to unemployment. The government should put measure to ensure that the economy grows at a higher rate than the population growth. This will lead to a healthier and better educated workforce which in turn will bear economic fruits if the workers can find jobs.
- The Government should provide grass root education and enlightenment for proper understanding of the relationships between population growth and economic growth which is critical to the successful implementation of any population policy in Nigeria.
- Our result has highlighted the odious relationship that population has with the economy. The formulation and adoption of a clearly defined policy on population is the basic foundation for a meaningful intervention in the formulation of population-related projects and programmes for the federal, states and local governments in Nigeria. This can be achieved with the establishment of a database and the provision of socio-demographic indicators in all geographical areas in the country.
- The government, Policy makers and other population analysts should enact strict population control policy to handle the nation's surging population and sensitize the public on these issues through specific training and programmes that highlight evidence-based policy crafting.

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