POPULATION, UNEMPLOYMENT AND ECONOMIC GROWTH IN NIGERIA (1970-2019)

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CERTIFICATION

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DEDICATION

This project is dedicated to God. I am grateful for his mercy upon my life. He has been my strength from the beginning till this very moment of completing my Bachelor of Science degree Programme in Economics. I give him all the glory because he is worthy to be praised.

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ABSTRACT

This study examines the trend analysis of population growth, unemployment and economic growth in Nigeria, impact of population growth on unemployment, it also analyzed the effect of population growth and unemployment on economic growth in Nigeria. The study made use of annual time series secondary data .Data on population growth proxy as total population, unemployment, economic growth proxy as real GDP, consumer price index proxy as consumer price index growth, exports of goods and services, foreign direct investment, inflation, interest rate and government expenditure were sourced from World Development Indicators(2020), Central Bank of Nigeria Statistical Bulletin (2020),Penns World Table, version 9.0(2020).The data collected were analyzed using graphs and econometric techniques, particularly, Autoregressive Distributed Lag(ARDL) Model. The analysis performed were unit root test, using both Augmented Dickey-Fuller) test and the Phillip and Perron (PP) test, the lag order of the ARDL, models using VAR lag order selection criteria and bound test. The analysis of the trend shows that population is positively related to unemployment, population growth and unemployment has positive and negative trend on economic growth respectively. The result showed that population growth is positive and statistically significant to unemployment at long run but negative and statistically insignificant at short run. Also, for objective three, population growth is positive and statistically significant in long run and negative but statistically significant at short run while unemployment has a negative and insignificant effect on economic growth at long run while it has a positive and insignificant effect on economic

growth at short run. The study concluded that population growth is a significant component for any short-term and long-term development plan in Nigeria.

Keywords: Population Growth, Unemployment, Economic Growth.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Full employment is one of the major macro-economic objectives of every government because it brings happiness to the citizens, makes one wanted and needed. Because of the accelerated population growth element in the expanding economy, Nigeria's unemployment rate is increasing at an alarming rate, causing a challenge in the economy.

An active population and a gainfully engaged labor force have considerable potential to contribute to the growth and development of a nation's output for economic development. Nigeria, sometimes known as the "Giant of Africa", is the world's seventh most populous country and the African continent's first. The demographic data shows an estimated figure of 200 million people in Nigeria as at 2019; Fertility, Migration and Mortality are the three major factors determining the Nigerian Population.

Increased fertility has resulted in a big proportion of children and young people in Nigeria's population, which has a big percentage of unproductive people. Adult and elderly persons have died at a lower rate, making up a higher percentage of the population. The population is rising at a percentage of 3 each year, implying a geometric trend (Evans, 2011).

According to the National Demographic Health Survey (NDHS, 2003), birth rate in 1990, 1991 and 2003 stood at 39.0, 44.6 and 42.0. This confirms the notion that high birth rate is the cause of Nigeria's rapid population. However, there will continue to be an increase in human population if there is no practice of the use of contraceptives, family planning system and statutory law to control birth rate. Nigeria's population position should be open in order

to bring several population-related issues to the public's attention. Because of the majority of Nigeria's experts and professionals travel to other nations for a better way of life, migration has not contributed to significant population growth in the country. (Odusina,2003)

The unemployed are defined by the International Labor Organization (ILO) as members of the economically active population who are jobless but eligible for and seeking work, including those who have lost their jobs and those who have willingly quit their jobs. Undoubtedly, population growth particularly in Nigeria, is linked to an increase in unemployment rates. As a result, it is impossible to overstate the importance of bringing down the unemployment rate in order to mitigate its negative consequences on the Nigerian economy.

Unemployment rate can be defined as the percentage of citizens in the labor force (15-65 years old) who are looking for job but can't find it, excluding students and those who are medically unfit. (Orumie, 2016). The unemployed in Nigeria can be divided into two groups: older unemployed that have lost their jobs due to redundancy or insolvency, younger unemployed are the majority of those who have never worked (Oyebade, 2003). In Nigeria, unemployment is very prevalent among the youth. Due to a lack of official employment possibilities, young individuals may be obliged to rely on temporary job and other unconventional sources of income, resulting in underemployment. (Echebiri, 2005; Gibb and George, 1990; Onah, 2011).

The Nigerian economy's vices of a socioeconomic, moral and political nature such as thuggery, corruption, armed robbery, internet fraud, migration to urban from rural areas, waste and underutilization of human resources, are believed to be caused by youth unemployment. This occurs because the figure of people looking for work in labour force outnumbers the number of industries that can accommodate them all.

According to the Manpower Board and the Federal Bureau of statistics, Nigeria has an 80 million strong youth population, accounting for 60 percent of the country's overall population. In addition, 64 million are unemployed, with 1.6 million underemployed (Awogbenle and Iwuamadi 2010). Unemployment has been regarded as global economic problem and has been tagged as an obstruction to social and economic growth, particularly in developing countries such as Nigeria (Umo, 1999).

Nigeria's unemployment rate is unbelievably high, amidst an alarming rise in the population growth while economic recession stays at large. This twain dictator brings disturbing effects on the future of the nation's economy. Therefore, this study seeks to investigate the impact of population growth on unemployment in Nigeria.

1.2. Statement of the problem

Population growth that is out of control over the years has militated economic development benefit vis-a-vis amplified economic and social consequences in developing economy especially Nigeria. Nigeria's population situation and related issues must be discussed in order to raise public awareness of many population-related issues. Nigeria, for example has a high rate of poverty and unemployment. Furthermore, there is a major migration of individuals from rural to urban areas, resulting in social vices since available industries are unable to employ all labour market participants. Rapid population increase puts constant strain on resources, especially agricultural land. For example, in the Eastern states, up to 53% of the farming population cultivates less than 0.4 hectares per year, and most farmers cultivate only 0.2 hectares per year in the more densely populated areas part of the states are congested. Furthermore, when the population grew in geometric proportion to job placement, which grew in arithmetic progression, it became clear that the nation's formal education was driving unemployment, crime, and the cycle of poverty, as graduates were unable to find work. Rapid

population growth in Nigeria is also associated with high unemployment rates, which moved from 17% of the general population to 60% for youths, due to a shortage of job opportunities compared to the figure of people looking for them, and stagnant economic performance due to a big part of available resources being consumed rather than being invested to increase growth.

Unemployment leads to starvation which results in malnutrition, poor health, feelings of being unwanted which are appropriate indicator of the deteriorating welfare of the people; unemployment destroys self-confidents and cause a feeling of hopelessness, and these has led many to attempted and successful suicide. It erodes human capital and also make unemployed people sometimes feels as if the society does not need them.

Unemployment has been a persistent issue and it demands urgent attention and solutions as its effects are very severe. The effects include decline in the general standard of living, increase in income inequality and rise in criminal activities like Boko Haram, Yahoo Plus. In Nigeria, the streets are in disarray with bike riders and hawkers going to and fro with an average level of education who would have secured employment or exhibit their skills and resources if there are suitable environments and structures that encourage such. Unemployed youths are turning to cybercrime, also known as "419", because of this situation (Uddin and Uddin, 2013). In order to improve Nigeria's growth and unemployment, it is required that each person on all levels, including individuals, businesses, and government, take a position and play key parts in managing population growth and reducing unemployment.

1.3 Research Questions

To achieve the objectives of this study, the following questions are to be answered by this research study;

i. What is the trend and pattern of population and unemployment growth in Nigeria?

ii. What is the impact of population growth on unemployment in Nigeria?

iii. What are the effect of population growth rate and unemployment rate on economic growth in Nigeria?

1.4 Research objectives

The broad objective of this study is to investigate population, unemployment and economic growth in Nigeria. Specifically, the study seeks to:

i. access the trend and pattern of population and unemployment growth in Nigeria.

ii. examine the impact of population growth on unemployment in Nigeria.

iii. analyse the effect of population growth rate and unemployment on economic growth in Nigeria

1.5 Research Hypothesis

In order to achieve the above objectives, the following null hypotheses are stated in this research:

$H_{01:}$ There is no significant impact of population growth on unemployment in Nigeria

$H_{02:}$ There is no effect of population growth rate and unemployment on economic growth in Nigeria.

1.6 Significance of the study

Despite the country's natural endowments such as crude oil, gas, coal, gold, water resources, forest resources, rivers or lakes, land and other material resources, Nigeria has not been able to distribute these resources to meet the necessities of its population. Rapid

population is meant to be an “asset” to the economy as it increases productivity but has rather turn to a liability because no policy has been put in place to make the population growth proportional to the jobs available.

This study helps to enlighten the decision makers (Government) on the causes of unemployment in Nigeria. It will provide vital policy reference that could assist in tackling the crisis of unemployment in Nigeria. This research is also important since it addresses a vital component of the Nigerian economy as this will be able to flush out the major causes of unemployment and population growth. This research serves as a government guide to know the negative impact of rising population which result in high level of unemployment.

This study will also help the government in formulating policies to control birth rate in order to lessen population growth in Nigeria. That is, it will enable the government to put in place strategies and policies that will lead the country to economic growth and achieved the ultimate development.

1.7 Scope of the Study

This proposal is mainly focused on Nigerian geographical area. It will attempt to consider the population, unemployment and economic growth in Nigeria. This study is an analysis of the period running from 1970-2019. The time interval comprises of forty-nine-year period which has been drawn out to examine to a greater degree the current trend in population growth and development. The selection of this period depends on the availability of data and also on the reality that some significant changes in the Nigerian economy have occurred within the specified period. The key variables for this study are population growth, unemployment and economic growth.

CHAPTER TWO

LITERATURE REVIEW

This chapter attempts an extensive and comprehensive review of literatures which are related to the population, unemployment and economic growth in Nigeria. The issues discussed are categorized under three broad headings which includes the conceptual review, theoretical review and empirical review and also gaps from the literature.

2.1 Conceptual Review

The conceptual review comprises of broad definitions and in-depth explanation of various concepts that are related to the topic. Also, the various concepts are break down and discussed and their status in Nigeria as well.

2.1.1 Definition of Population

Population can be defined as the entire number of people that are alive at a specific point in time. (Thomas Frejka, 1973). In other words, population is a well-defined group of individuals, whether they are a nation or a collection of individuals who share a common trait. As a result, any collection of individuals linked by a similar characteristic. Thus, any selection of individuals grouped together by a common feature can be said to be population.

2.1.2 Definition of Population Growth

Population growth is the rise in the number of individuals in a population (Wikipedia, 2019). According to the Business Dictionary population growth is an increase in the number of both citizens and non-citizens that reside in a country, state, country, or city at a given period of time usually a year.

Population growth rate is the rise in a country's population in a year expressed as percentage of the population at the commencement of the year. It reflects the differences between fertility

rate and mortality rate plus net migration. The average of several years is more representative than any single year. The level at which population grows depends on the birth rate, death rate, immigration and migration which are further conceptualized below;

i) Birth rate: This is the aggregate number of individuals born into a population in a given period of time usually one year.

ii) Death rate: This is the aggregate amount of deaths per thousand people in a specific time period, generally a year.

iii) Immigration: This can be defined as the aggregate number of people that enters a country of which one is not native born with the goal of establishing a permanent residence.

iv) Emigration: This is the movement of a person out of a country with the intention of relocating permanently.

v) Net Migration: This is the disparity between the number of people entering a country and the number leaving it. Mathematically, Net Migration=Emigration-Immigration.

Having defined all this terms, the primary factor causing population growth is birth rate. Birth rate has influenced the population growth in so many ways and it is due to the fact that there is good and improved medical facilities and services. Child mortality has drastically reduced because unlike ages ago there were not advanced health service like better drugs and immunization that will reduce mortality, there are improved medical services which reduces medical services which reduces child, infant and even mother mortality (Odusina, 2006). Access to basic necessities of life (shelter, food and clothing), sex distribution, reduction in the infant mortality rate also contribute to the population growth.

Mathematically, population growth is the subtraction of the sum of the death rate and emigration from the sum of birth rate and immigration.

Population Growth= (Birth Rate +Immigration)- (Death rate +Emigration). This implies that rise in birth rate and increase in the number of immigrants has the tendency to increase

population and a decrease leads to a decrease in population. Also, an increase in the total number of death and the number of emigrants leads to a decrease in population and population growth whereas a decrease increases population and population growth.

It should be noted that high population growth rate is not synonymous with over population. Overpopulation is a problem that occurs when the number of people is higher than the carrying capacity of available resources. It can be caused by a decline in mortality rate, better medical facilities, poverty alleviation, technical advancements in fertility treatment, immigration and lack of family planning. Population can therefore grow at the rate that does not exceed the available resources. If population growth rate is equal to the growth rate of output, then we have optimum population.

2.1.3 Definition of Unemployment

Literally, most people think of unemployment in the same way they think of persons who are unemployed. Unemployment, on the other hand, is a lot more complicated idea than the one just given.

Unemployment happens because of lack of jobs to commensurate with the rapid population growth, even those who are now employed are fearful of losing their jobs due to the insecurity of the job, economic recession and retrenchment of workers Akiri (2016). Unemployment is the idleness of a person who relies on employment for a livelihood but not able to find the type of job for which he is qualified, even though he desires and is qualified for it. W.H. Beveridge (1931).

Investopedia (2018) defines unemployment is a situation in which a person is who is employable and actively seeking for employment and is not employed. Unemployment is frequently to gauge of economy's health. Unemployment takes place when workers who wish to employed are unable to find jobs, which result in reduction in economic output.

Unemployment can be seen as a significant economic indicator since it reveals the ability (or inability) of workers to find gainful work and impact on the economy's productive output.

According to International Labour Organization, unemployment can be referred to as the proportion of people in the labour force (unit in the entire economic active population, not the entire Nigerian population) who were actively searching for job but were unable to find it for less than 20 hours during the reference period to the total currently active (Labour force) population. Unemployment refers to individuals who are employable and actively seeking for job but can't find one.

Unemployment rate can be defined as the total percentage of labour force who are unemployed. Wikipedia (2021). The unemployment rate can be expressed as a percentage, and is calculated as follows:

Unemployment rate = unemployed/Labour force ×100%

Unemployment is caused by variety of factors on both the demand(employer) and supply(employee) sides. High interest rates, a worldwide recession, and a financial crisis may all contribute to demand-side cutbacks. Frictional and structural unemployment play a significant effect on the supply side.

2.1.4 Types of Unemployment

There are many types of unemployment in Nigeria: Structural unemployment, Frictional unemployment, cyclical unemployment, classical unemployment and seasonal unemployment.

a) Structural Unemployment

This type of unemployment occurs when a worker's skill set does not match the skills required by the available jobs, or when employees are available but unable to reach the employees geographical locations. A teaching position in America, for example, may need relocation, yet the worker will be unable to obtain a work visa due to visa limits. It can also happen when

organization undergoes a technical shift, such as workflow automation, which eliminates the need for human labour.

b) Frictional Unemployment

Frictional unemployment refers to people who are unemployed for a period of time. An example is a worker who has recently quit or been fired and is looking for a job in a non-recessionary economy. It is not an unhealthy thing because it is usually generated by people looking for a job that's a good match for their skills.

c) Cyclical Unemployment

This type of unemployment occurs when the economy's aggregate demand is insufficient to offer jobs for everyone who wants to work, this sort of unemployment happens. In a recession, demand for most goods falls, less production is needed, and less workers are needed.

d) Classical Unemployment

Classical unemployment arises when government set the wage rates above the equilibrium prices that cause labour to rush for the jobs in the labour market which exceeds from the existing vacancies.

e) Seasonal Unemployment

This is an unemployment that result from seasonal changes. There are some industries and occupations such as agriculture, the catering trade at vacation resorts, and various agro-based industrial activities, such as sugar mills, are only a few examples of industries and occupations. In which the activities of production are seasonal. As a result, they only hire people for a limited time each year.

2.2 Theoretical Review

This work examines the basic theories guiding this research proposal and considers the theories of population growth as well as the theories of unemployment.

2.2.1 Theories of Population growth

The main theoretical review underpinning this study under population growth includes the Malthusian theory, Optimum population theory, and the Demographic Transition theory.

2.2.1.1 Malthusian Theory of Population Growth

Thomas Robert Malthus (1766-1834) was the prominent figure to analyze the population statistics. His formulation on population was a landmark in the history of population theories. He generalized the relationship between population factors and social change. In his Essay on the Principle of Population (1978). Malthus claimed that because of the great attraction between the sexes, the population could double every twenty-five years. He contended that the population would eventually grow so large that food production would be insufficient. Malthus contended that the world's population was growing more rapidly than the available food supply. He claimed that the food supply grows in an arithmetic progression (1, 2, 3, 4), while the population grows geometrically (1, 2, 4, 8). According to him, the gap between the food supply and population will widen over time. Even if food supply increases, it would be insufficient to meet the demand of a growing population. To control over-population resulting from the imbalance between population and food supply, Malthus suggested preventive checks which are voluntary actions people take to avoid contributing to the population. (Late marriage, chastity and moral restraint) and Positive checks which are things that may shorten the average lifespan (war, famine, and flood) to reduce the population's growth rate.

The passion between sexes led people to marry at a relatively early age and would result in such a large number of births that the population would double itself in few years if unchecked by misery and vice. The Nigerian situation vividly displays the twain problems of high population and food shortage. The concern over food has been accentuated in the recent past due to lack of aggregate demand for essential commodity. The Nigerian problem is not due to lack of land, water, labour, etc. as they are all available in abundance. The real issue is that of inability to mobilize these abundant resources to provide adequate food for the country's teeming population. Even though criticized for his pessimistic views, the Malthusian theory had considerable influence on social policy particularly in Great Britain. It influenced people's thinking all over the world including that of Charles Darwin who propounded the famous biological (evolution) theory. Also, Malthus supported the argument that trade unions could not improve the welfare of workers since any wage increase would only lead to reproduction until there was again barely subsistence enough for all (Samuelson).

2.2.1.2 The Optimum Theory of Population

The optimal theory, unlike the Malthus theory, does not establish a link between population growth and food availability. Rather, it is concerned with the relation between the size of population and production of wealth. Thus, the optimistic theory is more realistic than the Malthusian theory of population.

The optimum population is the ideal population which combines the other available resources or means of production of the country will yield the maximum returns or income per head. Economists like Robbins, define it as the population that generates the highest potential economic returns as possible. Carr-Saunders defines it as the population that produces maximum economic welfare. It is defined by Dalton as the method that generates the greatest

amount of income per person. Out of all this definitions, Dalton's view is more realistic and scientific.

The optimum population theory is based on some assumptions:

1. The proportion of working population to total population remains constant as the population of the country increases.

2. As the population of a country increases, the natural resources, the capital stock, in techniques of production remain unchanged.

3. The habits and tastes of the people do not change.

Figure 1: Diagrammatic Representation of the Theory

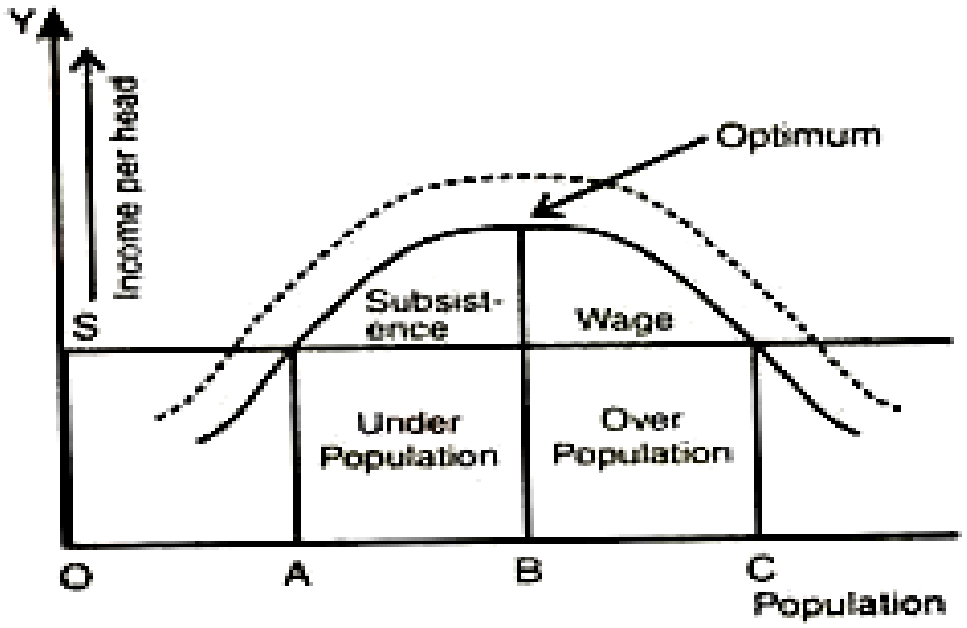


Fig. 1

Source: Economics discussion

In the diagram I above, the income per head is represented by OY axis and the volume of population is shown along OX axis. OS is the income per head which gives only subsistence wage rate to the population. This stage of wages places the minimal restrict to the profits

according to head. The subsistence profits according to head can succeed with tiers of populace.

1. When population is simply too small to take advantage of the country's assets with most performance. This is the extent of OA population.

2. When population is simply too large and the performance falls to present best a subsistence profit to the labour force. This is the extent of OC population.

OB indicates optimum population which makes use of the available resources to present itself the maximum profit per head. For a population much less than OB, profit according to head will increase with the growth in population. For a population better than OB, profits according to head can growth with the lower in population through preventive checks.

The dotted curve in the diagram shows the level of income per head with an improvement in technology or expansion of foreign trade. This will help to raise the income curve and generate population growth until wages are once again equal to subsistence level.

Therefore, optimum population is not fixed and a inflexible one. It is alternatively variable and relative to resources and technology. Optimum population is not just an economic concept but qualitative in nature. Prof. Cannan has correctly remarked, "It is being forever altered with the progress of using knowledge and other changes affecting the economic system. It is, thus, a dynamic concept. It may be higher or lower as different methods of production are used.

2.2.1.2 Demographic Transition Population Theory

Demographic transition is a term, first utilized by Warren S. Thompson (1929), and in a while via way of means of Frank W. Notestein (1945), regarding to a historical process of

change which accounts the trends in births, deaths and population growth that occurred in today's industrialized societies, especially European societies. This method of demographic change commenced for the maximum component with inside the later 18th century. This theory should not be regarded as a 'law of population growth', but as a generalized description of the evolutionary process. It is a theory which attempts to specify general laws by which human populations change in size and structure during industrialization. It is frequently accepted as a useful tool in describing the demographic history of a country.

The theory postulates a specific sample of demographic change from a excessive fertility and excessive mortality to a low fertility and low mortality whilst a society progresses shape a in large part of rural agrarian and illiterate society to a dominant urban, industrial, literate and modern society.

Stages of the Demographic Transition Model

There are five stages of Demographic Transition Model which are explained below:

Stage 1 is high stationary characterized by high mortality and fertility rate, giving a low growth rate of population. It is associated with low output, undeveloped and agricultural dominated conditions. There is high death rate because people are poor and they cannot afford adequate and balanced diet with the result that they have poor health and they are prone to diseases, there is absence of effective medical facilities. Death rate become exceptionally high during the period of war, famines and epidemics.

There is increase in birth rate due to illiteracy traditional, social and spiritual ideals and early age of marriage additionally there may be dearth of knowledge and awareness and facilities for family planning methods and in a predominantly agricultural economy, children are more assets and less of liability.

The second stage occurs when economic development takes place and mortality rate declines due mainly to improvements in living conditions with particular reference to sanitation and health care. However, the birth rate still remains relatively high and the resultant widening gap between the declining death rate and high birth rate leads to a significant rise in the population growth rate.

In Stage 3, fertility rate declines in relation to economic development, industrialization, and urbanization and increase in the economic roles of women outside the home. Both fertility and mortality rates decline continuously, with the fertility rate declining more slowly, thereby leading to a period of population growth that tapers off gradually.

In Stage 4, Low stationary birth and death rates are both low, stabilizing the population. These international countries have a tendency to have more potent economies, better degrees of education, better healthcare, a higher proportion of working women, and a fertility rate hovering around two children per woman.

In Stage 5, there is Natural Decrease**,** the death rate is more than the birth rate. It results in low population growth. Such a situation is regarded as a matter of concern in any developed country. Natural decrease

2.2.2 Theories of Unemployment

Economists from time memorial have postulated different theories as regard unemployment. Different school of thought conceived unemployment from different angle but the bottom line remains the same that unemployment decreases national output. The theories of unemployment are: Keynesian theory of unemployment, Efficiency wage theory and Okun's theory.

2.2.2.1 Keynesian Theory of Unemployment

John Maynard Keynes in the 1930s revolutionized thinking in several areas of macroeconomics including unemployment, money supply, and inflation which is seen in his publication of 1936 titled 'The General Theory of Unemployment, Interest and Money". Keynesian theory of unemployment is also known as cyclical unemployment or deficient demand theory of unemployment occurs when there is no adequate aggregate demand in the economy. The theory argued that as there is decrease in the demand of goods and services, production level will also decreases making few workers to be needed. The Keynesian model is predicated on the assumption of inflexible prices and market imperfection, Keynes saw the lack of demand for jobs as potentially resolvable by the government by raising its aggregate expenditure, deficit spending which can boost employment level and increases aggregate demand in the economy

2.2.2.2 Efficiency Wage Theory

This is a macroeconomic approach of explaining unemployment which was introduced by Alfred Marshall to denote the wage per efficiency unit of labour. The rationale behind this theory is as follows; Assume that workers differ in quality, not just abilities but in the probability to shrink, in other words, some people are lazier than others and are therefore less likely to work harder. An employer cares about the cost of labour depending upon the productivity of the workers. The objective is to minimize the wage divided by productivity (wage per unit produced) which can be achieved by increasing wages in other to increase productivity. The reason for this is that as wages increases, the cost shrinking becomes higher because if you are caught, you are fired and lose your wages and the higher the wage, the more you lose by being fired. A higher wage thus means that you work even harder since it is more important for you not to be fired. Secondly, if employees get hold of a better pay, they will

simply experience greater loyalty closer to the organization and be inclined to work harder and with greater determination.

2.2.2.3 Okun's Theory of Unemployment

Arthur Okun's (1962) in his study in the US economy, empirically proved the inverse relationship between unemployment and the potential output i.e., economic growth, depending on the participation in the workforce, the duration of work and the change in productivity (Holmes and Silverstone,2006).

The theoretical ground of relation Okun investigated is based on the fact that increased workforce must produce more goods and services. Okun found that the unemployment rate declined in the years when the real growth rate was high, whereas the unemployment rate increased in the years when the real growth rate remained low.

It believed that a percentage decrease in unemployment rate leads to 3 percent increase in economic growth (Okun's, 1962). When the growth rate of unemployment rose by 1% above the trend rate of growth, it can only result to 0.3% reduction in unemployment. The validity of the theory was tested by employing US real GDP data and the result indeed supported the theoretical relationship of unemployment and economic growth. Moreso, Freeman (2007) stated that if real GDP performance increases by 3% and unemployment reduces by 0.3%, it implies that the increase in the real GDP performance for each percentage reduction in unemployment rate accounts for average 2% growth rate in real GDP of the country.

2.3 Empirical Review

Ojegbile (1986) well-known reveals that the extent of unemployment is a mirror image of the state of a nation's economy and over-dependence on oil caused the forget of the agricultural sector, that may have provided gainful employment for job seekers, is a more compelling explanation for rising unemployment, particularly in Nigeria. Inadequate

educational facilities, such as the lack of comprehensive vocational training in school curriculum and entrepreneurs' preference for capital-intensive rather than labor-intensive production practices, have additionally attributes to growing unemployment.

Todaro (1989) also attributes rural-urban migration to the relative unattractiveness of rural life due to lack of basic amenities. He asserts that the pull elements consist of a continuously widening rural-urban income gap in favour of urban dwellers and a presumed better probability of securing wage employment in the cities.

Rama (1998) shows that cultural factors also increase the length of time that job seekers spend on the job queue. Many first-time job seekers take advantage of family support to wait for the suitable job opening thus rejecting existing work opportunities that are as at then unattractive to them-a case of voluntary unemployment.

Walterskirchen (1999) studied the relationship between Growth, Employment and Unemployment in European Union. He employed two methods to obtain results namely the time series analysis for individual European Union countries and the international cross country analysis(panel data) for all the EU countries from the period of 1988 to 1999.Walterskirchen (1999) found that the relationship between GDP growth and change in unemployment was divided into two components: the link between GDP and change in employment is governed by economic factors whilst those between change in employment and unemployment rates are governed by demographic influences and labour market policies. The results of the study reflect a strong positive correlation between GDP growth and the change in the level of employment. Output must increase at a faster rate than the rate of productivity in order to produce a rising trend in the level of employment and reduce unemployment.

Calmfors and Holmlund (2000) look at the connection among economic growth and unemployment in Sweden. This research in the short run that there is a significant inverse relationship between economic growth and unemployment, but they could not conclude on the long run relationship between the variables as higher long-run growth rate resulting from rapid structural change or technological improvement (which engenders higher productivity) tends to either increase structural unemployment or lesson unemployment or reduce unemployment rate generally.

Thornton (2001) conducted a research on the long run relationship between population growth and economic development in seven Latin American countries namely, Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela. His findings supported the realization reached by Dawson and Tiffin (1998). that may be a long-run relationship between population and real per capita GDP does not appear.

Bello (2003) investigates the phenomenon of unemployment in the sub-Saharan Africa with unique connection with the Nigerian experience. Having recognized the nature of this episode on this sub-Saharan region, the study unfolds a number of factors that account for this phenomenon and of course the first-rate danger it poses the economic involved. Assessment of past and the present anti unemployment policy measures in Nigeria was made and the result shows that a number of economic factors inhibit their performance.

Abdul (2007) engaged in a study to examine the relationship between output and unemployment in Malaysia 1970-2004. Their study applied the basic econometric analysis of testing stationery using ADF and Phillip-Perron test. The result confirmed that there is a negative relationship between unemployment and economic growth. The coefficient of the regression results is -1.75% and it is significant at 1% level. It means that a 1% decline in

unemployment will increase GDP by 1.75%. Furthermore, they confirmed that there is a two-way causality between unemployment and GDP in the Malaysian economy.

Aktar and Ozturk (2009) carried out a study on the topic "can unemployment be cured by economic growth and foreign direct investment in Turkey". The study was conducted using quarterly time series data for Turkey from the first quarter of 2000 up to the fourth quarter of 2007.The study employed the econometric technique termed VAR model to obtain results. The results of the study reflect that there are two co-integrating vectors in the system and this indicates that there is a long run relationship among variables used. It also suggested that foreign direct investment did not have any contribution towards the reduction of unemployment and in the creation of new jobs in Turkey. The study suggested that Turkey should focus on increasing the labour skill to attract more and better foreign direct investment.

Obadan and Odusola (2010), Unemployment and growth are inversely connected. It was also revealed that the response of the economy to the economy to unemployment differed by sectors. Employers in the industries sector for instance, use less labour to achieve a high volume of production, resulting in worker unemployment. The study looked on the coincidental association between unemployment and productivity in different sectors of Nigerian economy except service sectors.

Meidani (2011) studied the dynamic effect of the unemployment rate on Per Capita Real GDP in Iran using Auto-regression Distribution Lag (ARDL) from the period of 1971 to 2006.The results obtained from the ADRL long run coefficient shows that in the long run unemployment is statistically significant in determining GDP. Unemployment is positively related with GDP based on the result of short run and long run.

Kreishan (2011) used annual data covering the period of 1970 to 2008, to ascertain the relationship between unemployment and economic growth of Jordan. The empirical results

revealed that Okun's law has not been confirmed for Jordan. Thus, it can be suggested that the lack of economic growth does not explain the unemployment problem of Jordan. Therefore, economic policies related to demand management would not have an important effect in reducing the unemployment rate. Accordingly, the implementation of economic policies oriented to structural change and reform in the labour market would be more appropriate by policymakers in Jordan. The result of this study is in line with other studies in Arab countries.

Durosinmi (2012) examined the impact of unemployment and economic growth between the period of 1970 to 2010 through multivariate regression analysis, the study used the ordinary least square methodology. According to the report, Nigeria's unemployment rate has a detrimental impact on the country's economic growth.

Adewole (2012) examined the effect between population growth on economic development in Nigeria for the period of 1981 to 2007 using the ordinary least square techniques and the Phillips-Perron test. The findings indicated that real gross domestic product, population growth and per capita income are non-stationary at levels, but the null hypothesis of non-stationary was rejected at first difference for both test models with intercept and trend. The study also revealed that population growth has positive and significant impact on economic sustainability proxied as real gross domestic product and per capita income.

Laku and Deda (2013) study the situation of unemployment in Kosovo country in relation to population growth. They depict the current state of affairs in Kosovo in terms of labour policies, employment, and management policies as they relate to labour market changes. They detect severe differences in tabular formats, with young individuals being the most afflicted by unemployment. Unemployment is rising in both cities and rural areas, scaring the younger generation and posing a severe threat to a social and barrier development. According to demographic data up till 2012, the country's population is growing year after year. According to the same statistic, over 60% of the population in Kosovo is of working age,

necessitating an immediate intervention of governmental power through its channels to ease the existing situation, as increased population equates to increased unemployment, an issue that must always be seen as inversely related.

Olabiyi (2014) studied the relationship between population and economic growth for Nigeria using data from 1980 to 2010, specially focusing on the effects of fertility and infant mortality rates on the economic growth. The method of estimation was Vector Auto Regression (VAR) model. The results showed that decrease in fertility rate increased economic growth rate gradually from 3.3% to 7.9% for horizon of 12 years during the period of the study. Also, an increase in infant mortality rate increased economic growth rate from 0.6% to 14.9% for the same time horizon.

Olotu, Salami and Akeremale (2015) discovered a phenomenon in which existing production components are unable to be fully utilized. According to the report on Nigeria, jobless growth is increasing as a result of the country's inability to absorb the large number of graduates created each year. Entrepreneurship should be encouraged in Nigeria as this will also reduce unemployment and contribute to a sustainable economic development in Nigeria.

Orumie (2016) researched on the inverse relationship between unemployment rate and gross domestic product considering population growth as well using the multiple regression models. It provides opportunity to assess other determinants of economic growth, (in this case, population growth). The results gotten from the model developed in this research study revealed that since 1970, the rate of unemployment and population has been on the increase amidst declining gross domestic product. The result also discloses that unemployment and population growth contribute commeasurably to gross domestic product.

Adekola Paul, Allen, Olawale-Isaac, Akanbi and Adewumi (2016) conducted research on whether unemployment in Nigeria is primarily driven by demographic change or if other inherent causes are to blame for this societal problem. The population and unemployment

structures of three positively selected and densely populated countries in three countries-Nigeria, China, and the United States-were compared. The findings reveal that population increase is not the sole factor driving population growth; however, in Nigeria, both population and unemployment are increasing.

Imiosi, Olatunji and Ubi (2017) study the impact of unemployment on economic growth in Nigeria by evaluating annual secondary data on gross domestic product, unemployment rate, minimum wage, labour force, and population for the period of 1980-2016 using Ordinary least squares multiple regression analytical method. The findings show that unemployment, population, and labor force have a substantial impact on the country's economic growth, whereas the minimum wage rate has no meaningful impact. They researchers recommended that government should support job growth in the economy, particularly in the real sector; that private sector companies should be motivated to hire more people by providing incentives; and that the labour market be regulated.

Abdurrasheed Nasir Ila (2018) examined the impact of unemployment on Nigeria's economic growth from 1986 to 2018 using time series annual data on real. Ordinary Least Square (OLS) and Granger Causality techniques were employed to determine the relationship between the variables and its nature. The OLS result showed that unemployment had a negative relationship with GDP growth in the economy. Also, the Granger causality tests showed that there exists no causal relationship between the variable.

Maijama, Musa, Yakubu and Mohammed (2019) examined the impact of population growth and unemployment in Nigeria. The research made use of annual time series data from the period 1991 to 2017.The Dynamic Ordinary Least Square (DOLS) were used in the process of estimating the model. The main results revealed that population and exchange rate impacted positively with the unemployment. Government should focus more on attracting foreign direct

investment, increasing GDP per capita and the desired rate of consumer price index in order to control unemployment in the country.

2.4 GAPS FROM THE LITERATURE

Most studies pioneered by various scholars have always been focused on population growth and economic growth, unemployment and economic growth, effect of population growth on economic development, relationship between growth, unemployment and employment in Nigeria putting little emphasis on the population growth, unemployment and economic growth in Nigeria.

This study therefore analyse the effect of population growth, unemployment on economic growth. As most researches have not included recent data, this study seeks to update the literature.

CHAPTER THREE

RESEARCH METHODOLOGY

This research section deals with the processes, methods, or measures used for the intent of this study in information compilation and handling. This chapter covers the research design, theoretical framework, model specification, estimation techniques and sources of data collection.

3.1 Theoretical Framework

The economic theory guiding this study is Malthusian theory of population growth. Malthus made the gloomy prediction that in a short while as a result of this growing population, the nation's per capita GDP will fall overtime. Falling per capita GDP leads to higher rate of unemployment since the effect of savings and investment which are very critical to boost economic growth has been undermined due to an increasing population.

The implication of Malthus' model is that the real wages determined by the market would always cling down to the subsistence level. Population would begin to grow if real wages were above that level, including a fall in nominal wages which resorts because firms now have a larger supply of labour available. This could render some persons unemployed due to the fall in the nominal wage which resorts as a result of the increase or growth in the population.

3.2 Model Specification

The specification of the model expresses the mathematical relationship between the dependent variable and the model's independent variable. Based on the theoretical framework

for the study and some empirical reviewed, the empirical model for objective two is presented below:

UNEM= f (POP) …….. (3.1)

Where;

UNEMP=Unemployment

POP=Population Growth

The equation above is specific in functional form and explains that unemployment depends on the population growth. In the theoretical and empirical literature on the analysis of macroeconomic determinant of unemployment, some variables like population growth proxy as total population, EXG (Exports of goods and services), GEXP (Government Expenditure), INR (Interest rate) and Inflation will be included.

UNEMP=β_0+ $ln\beta_1$POP GR+$ln\beta_2$EXG+β_3GEXP + $ln\beta_4$INR+$ln\beta_5$ INF+ U_t ..... (3.2)

β_1>0, β_2-β_4<0

The econometric function is in equation two where;

POP=Population Growth

UNEMP =Unemployment

GE=Government Expenditure

INR=Interest Rate

INF=Inflation

b_0-b_4 =parameters.

The equation 2 above shows that unemployment is a function of population growth proxy as total population, government expenditure, interest rate, and inflation. It shows that unemployment depends on these variables and if there are changes in these variables it will affect unemployment either positively or negatively.

U_t is the error term which will be used to capture other important variables not included in the model.

To achieve objective two of this study, the wish to determine the impact of economic growth on unemployment, which will be estimated in the following equation;

RGDP= *f*(POP +UNEM) …….. (3.3)

RGDP=Real Gross Domestic Product

POP =Population growth

UNEM=Unemployment

Moreover, the theoretical and empirical literature on the analysis of the determinants of unemployment growth, the literature points to a number of several important variables. For simplicity. this study includes economic growth, foreign direct investment, are specified below;

$RGDP=\beta_0+ ln\beta_1 POP+ln\beta_2 UNEM+ln\beta_3 FDI+ ln\beta_4 CPI + ln\beta_5 EXR + U_t$ ..... (3.4)

$\beta_1-\beta_2<0, \beta_3 > 0$

RGDP=Real Gross Domestic Product which is the proxy for Economic Growth.

POP=Population Growth proxy as total population

UNEM=Unemployment Growth

FDI= Foreign Direct Investment

CPI=Consumer Price Index

EXR=Exchange Rate

There is a negative a priori relationship between GDP and population growth and unemployment also positive a priori expectation between GDP and foreign direct investment.

It is expected that population growth should have a positive relationship with unemployment in the estimation model. This means that they should possess positive sign in the estimation. Because with the rising population although the factors of production keep increasing but that increase is not proportion to the production and utilization of the resources.

3.2 Estimation Techniques

The Auto-Regressive Distributed Lag (ARDL) Bounds Testing Approach is the regression analysis used in the estimation technique of this research in order to analyze if population and unemployment have short run and long run impact on the economic growth in Nigeria. The ARDL approach requires estimating the conditional error correction version of the ARDL model for variables under estimation. In order to evaluate the model specification below, the following techniques must be followed;

i. Unit root Test

In order to do any expressive policy analysis with the results of this study. It is important to differentiate between correlations that is developed from sheer trend(spurious) and one related to a primary causal relationship. To realize this, all the data used in the study are initially tested for unit root to establish that they are stationary. By stationary, what is intended is that (Gujarati,2007) the mean and variance of the time series data are the same no

matter how they are measured, that is, they do not vary with time. The test would help to detect spurious regression on the time series and it will also help in good forecasting. To know whether or not the time series data is stationary at any level, a unit root test using the Augmented Dickey Fuller (ADF) and the Phillips-Perron (PP) tests are adopted.

ii. **Lag Length**

A vital element in the specification of ARDL model is the determination of the lag length of ARDL. To choose the appropriate lag length, therefore, following the literature the information criteria such as the Akaike Information Criteria (AIC), Hannan-Quinn information criteria (HQ), the Log Likelihood (LL), the schwarz Information Criteria (SIC) and the Final Prediction Error (FPE) were considered.

iii. Co-integration Analysis

The use of ARDL Bounds Testing Approach becomes unacceptable when the time series data of the regressor and the regressed variable are not integrated of order zero (0). Given such a scenario, a co-integration analysis can be used to examine the long run relationship between the two variables that are not integrated of order zero (0). Co-integration analysis refer to a group of variables that are move together, although individually they are non-stationary, meaning that they are likely to go upwards and downwards over time. After ascertaining that variables are stationary, it is required to determine whether or not there is a long-term relationship between population, unemployment and economic growth.

iv. Short-run and Long-run Estimates

This technique generally provides unbiased estimates of the long-run model and valid t-statistic even when some of the regressors are endogenous (Harris and Sollis,2019), Inder

(1993) and Pesaran (1997) have shown that the inclusion of the dynamics may correct the endogeneity bias.

In view of the above advantages, for objective two, the ARDL form of equation (2) is specified as follows:

$$\Delta \ln UNEM = \beta_0 + \sum_{i=1}^{a} a_1 \, \Delta lnUNEM_{t-i} + \sum_{i=0}^{b} a_2 \, \Delta lnPOPGR_{t-1} + \sum_{i=0}^{c} a_3 \, \Delta lnEXG_{t-i} + \sum_{i-0}^{d} a_4 \Delta lnGEXP_{t-i} + \sum_{i=0}^{e} a_5 \Delta lnINR_{t-1} + \sum_{i=0}^{f} a_6 \Delta lnINF_{t-i} + \beta_1 lnUNEM_{t-1} + \beta_2 lnPOPGR_{t-1} + \beta_3 lnEXG_{t-1} + \beta_4 lnGEXP_{t-1} + \beta_5 lnINR_{t-1} + \beta_6 lnINF_{t-1} + \mu_t \quad (3.5)$$

Where Δ represents the first difference operator, β_0 is the drift component and μ_t is the white noise residual. The β_s represents the long run coefficient to be estimated when the α_s represents the short run coefficients in the respective variables in the model. This study tests the null hypothesis of cointegration

$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0.$

For objective three, the ARDL model of equation (3.4) is specified as;

$$\Delta \ln RGDP = \beta_0 + \sum_{i=1}^{a} a_1 \Delta lnRGDP_{t-i} + \sum_{i=0}^{b} a_2 \Delta lnPOPGR_{t-1} + \sum_{i=0}^{c} a_3 \Delta lnUNEM_{t-i}$$

$$+ \sum_{i-0}^{d} a_4 \Delta lnFDI_{t-i} + \sum_{i=0}^{e} a_5 \Delta lnCPI_{t-1} + \sum_{i=0}^{f} a_6 \Delta lnEXR_{t-i} + \beta_1 lnRGDP_{t-1}$$

$$+ \beta_2 lnPOPGR_{t-1} + \beta_3 lnUNEM_{t-1} + \beta_4 lnFDI_{t-1} + \beta_5 lnCPI_{t-1}$$

$$+ \beta_6 lnEXR_{t-1} + \mu_t$$

(3.6)

Where Δ represents the first difference operator, β_0 is the drift component and μ_t is the white noise residual. The β_s represents the long run coefficient to be estimated when the a_s represents the short run coefficients in the representative variables in the model. This study tests the null hypothesis of cointegration $H_0: \beta_1 = \beta_2 = \beta_3 = 0$.

3.5 Sources and Method of Data Collection

The data for this study will be obtained mainly from secondary sources; specifically, from Central bank of Nigeria (CBN) statistical bulletins various sources and World Development indicator (WDI). The data that will be used for this study will cover fifty (50) from 1970-2019.The table below shows the variables of interest, Types and sources of data collected for the purpose of this study.

Table 3.1 Summary of Variables

S/N	VARIABLES	DESCRIPTION	SOURCES OF DATA
1	Unemployment (UNEM)	Unemployment occurs when a person who is actively searching for employment is unable to find work. The a priori expectation has a negative relationship with economic growth.	World Development Indicator (WDI) 2019
2	Government Expenditure (GEX)	This is the acquisition of goods and services intended to create future benefits. The a priori expectation has a negative relationship with unemployment.	CBN Statistical Bulletin (2019)
3	Interest Rate (INR)	This is the rate a bank charges to borrow its money and is a percentage of the amount loaned. The a priori expectation has a negative relationship with unemployment.	World Development Indicator (WDI) 2019
4	Inflation (INF)	It is a measure of the rate of rising prices of goods and services in an economy. The a priori expectation	World Development Indicator (WDI) 2019

		has a negative relationship with unemployment.	
5	Gross Domestic Product (GDP)	It is the total market value of all the final goods and services produced by a country's economy during a specified period of time	World Development Indicator (WDI)2019
6	Foreign Direct Investment (FDI)	It is an investment made by a firm or individual in one country into business interests located in another country. The a priori expectation has a negative relationship with real gross domestic product.	World Development Indicators (2019)
7	Population Growth (POP GR)	It is the increase in the number of people living in a country. The a priori expectation has a positive relationship with unemployment and real GDP.	World Development Indicator (WDI) 2019
8	Exports of goods and services (EXG)	This is a good produced in one country that is sold into another country. The a priori expectation has a positive relationship with unemployment.	World Development Index (2019)

9	Consumer Price Index (CPI)	This measures the average change in prices over time that consumers pay. The a priori expectation has a negative relationship with real GDP.	Penns World Table version 9.0(PWT) 2019
10	EXCHANGE RATE(EXR)	This is the value of a country's currency for the purpose of conversion to another. The a priori expectation has a negative relationship with real GDP.	World Development Indicator (WDI) 2020

Source: Author's Computation (2021)

CHAPTER FOUR

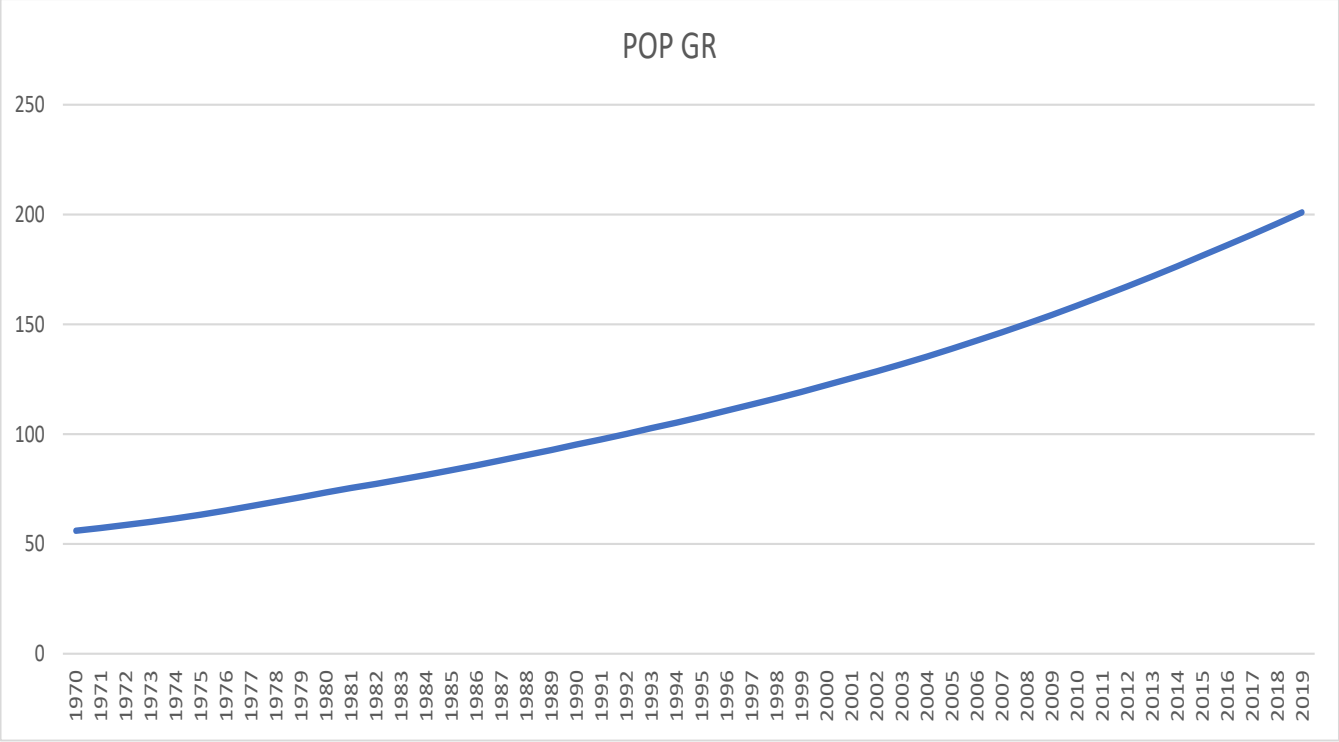
PRESENTATION AND DISCUSSION OF DATA

Introduction

The analysis of this chapter is divided into six sections. Section 4.1 focuses on the trend analysis of population growth, unemployment and economic growth, Section 4.2 focuses on the unit root test that is conducted in the study to observe the time series of the variables in the question. In section 4.3, the VAR lag order selection criteria results are examined. Section 4.4 reveals the test for cointegration among the variables using the bound test approach. Section 4.4, it also involves running a short run and long run tests relationship of the variables in each objective. Section 4.5 discusses the summary of discussion and result.

4.1 Trend Analysis

4.1.1 Trend and Pattern of population growth in Nigeria (1970-2019)



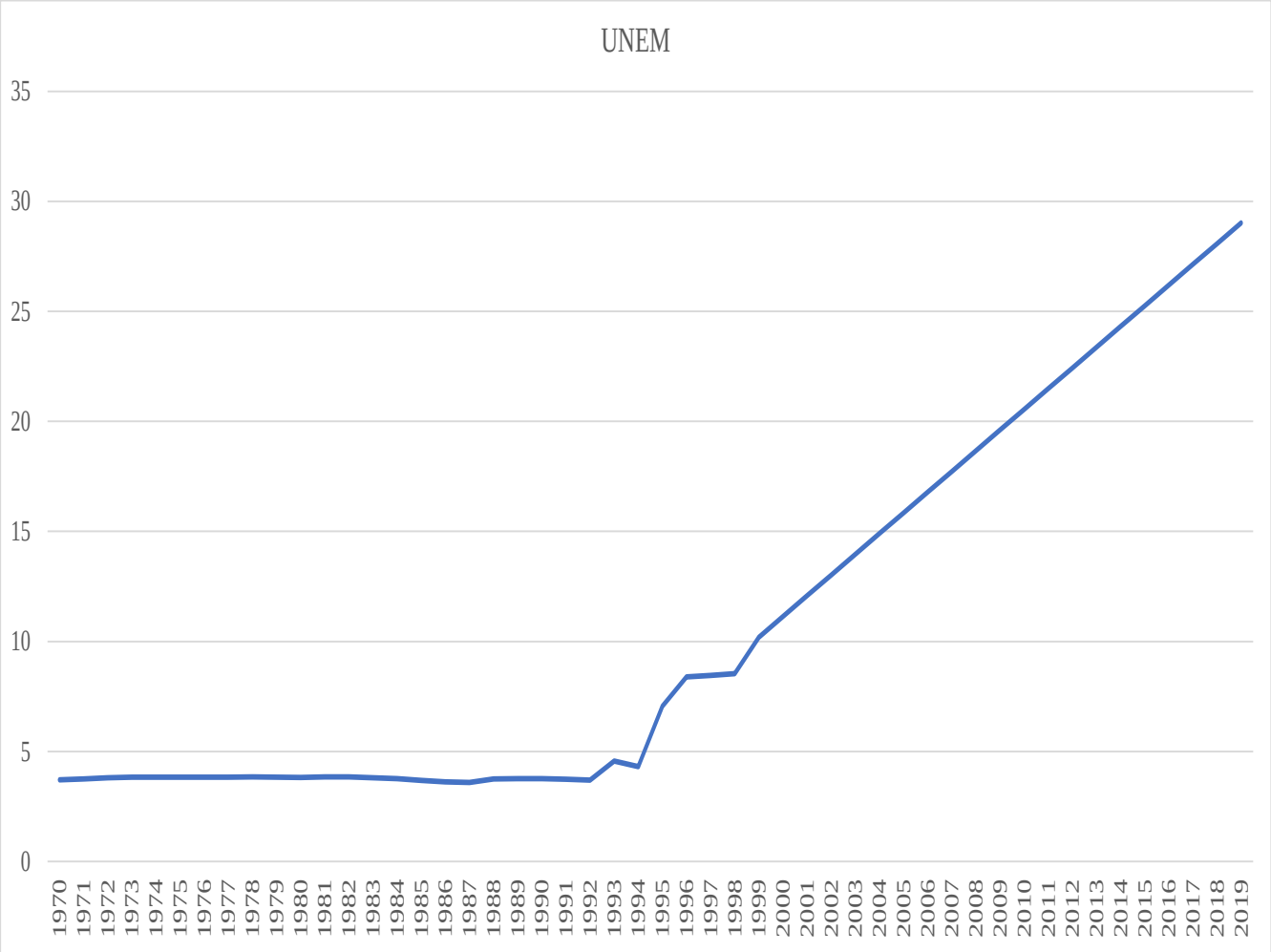
Source: Authors Computation from WDI

Figure 2: Trend of Population growth (1970-2019)

Throughout human history the world's population has been gradually growing. Population growth in Nigeria has always been positive because the value was 55.98 in year

1970 and now increased to 200.96 in year 2019.This rapid increase is caused by falling mortality rates, underutilized contraception and lack of female education. An increase in population will inevitably create pressures leading to more deforestation, spikes pollution and emissions. It increases violence and political unrest and higher risk of disasters and pandemics.

4.1.2 Trend and Pattern of Unemployment rate in Nigeria (1970-2019)



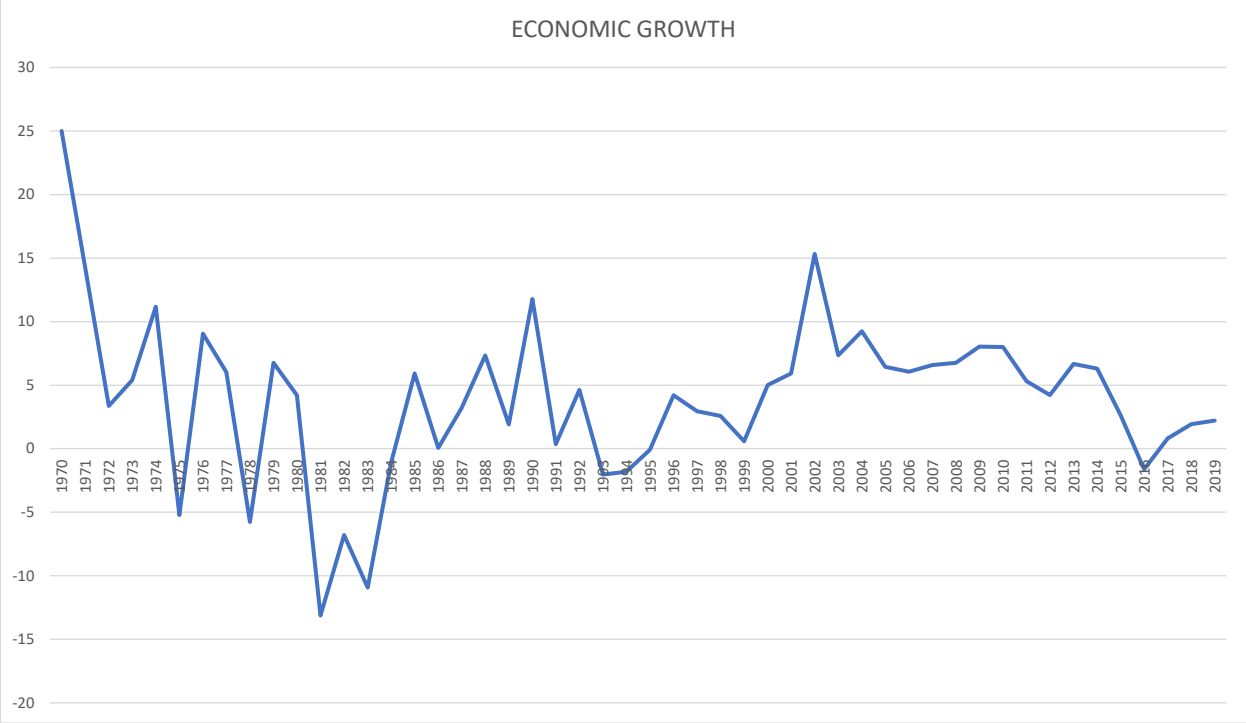
Source: Author's computation from World Development Indicator (WDI) 2019

Figure 3: Trend of Unemployment (1970-2019)

Unemployment rate in Nigeria shows a fluctuation from 1979 to 1988, there was rapid increase from 4.5 to 7.05 in 1995 as reviewed by World Development Indicators (WDI) 2019 due to the increased population, increased number of graduates without matching job

opportunities, inflation, poor infrastructure, poor management of the economy, over dependence on oil as its major source of revenue and change in technology and the trend remained positive till 2019 and the rate was 29.01 and this indicate that Nigeria has an unemployment problem. Unemployment affects a person financially, it is well known that we cannot buy anything without money; the constant income buys food, clothing and shelter. Due to the loss of income, unemployed people will not be able to earn money to meet financial obligations. I t affects persons psychologically. Numerous studies have revealed a relationship between unemployment and lack of self-esteem and confidence leading to depression.

4.1.3 Trend and Pattern of Economic Growth in Nigeria (1970-2019)



Source: Authors Computation from WDI

Figure 4: Trend of Economic growth (1970-2019)

Economic growth in Nigeria was 25.0 as at year 1970, but it dropped down 3.36 in the year 1972, it later increased to 11.16 in 1974.This is to show that the trend was positive even though the percentage fluctuated but it dropped to a negative figure -5.2 in year 1975 but also attained

appositive figure in 1980. The negative trend occurred in 1980 remains till 1995 where it attained the first positive figure since the fall. The trend remained positive till the year 2015. Before and after then, the trend of economic growth fluctuated. However, there was no negative figure till 2016 because of the occurrence of recession in that year caused by high interest rate, deflation and poor management. The trend figure has been positive from 2017-2019 because of the increase in aggregate demand and supply.

4.2 Unit Root Test Results

As a preliminary step, before detailed estimations of equation 3.2 and 3.4 were undertaken, the study applied Augmented Dickey-Fuller (ADF) test and the Phillip-Perron (PP) tests to ascertain the order of integration of the variables under consideration. This is crucial because most macroeconomics time series show a non-stationary behavior leading to a false result of appropriate measures not taken. The ADF results presented in table 4.1 upper panel(ADF test for level only) reveals that consumer price index growth rate ,exchange rate, exports of goods and services, foreign direct investment, inflation, interest rate, economic growth proxy as real gross domestic product, and general expenditure which are stationary at level I(0) while consumer price index, export of goods and services, exchange rate, foreign direct investment, inflation, interest rate, population growth, economic growth proxy as real gross domestic product and unemployment are stationary at first difference I(1).The lower panel of the same table 4.1 ADF test for(trend and intercept) shows that cpi, exg, fdi, inf, inr, economic growth proxy as rgdp, are stationary at level I(0) while cpi, exg, interest rate, exr, fdi, inf, inr, rgdp, popgr, rgdp, gexp and unem are stationary at first difference I(1).

The table 4.2 upper panel (PP test for level only) shows that consumer price index growth rate, exg, fdi, rgdp and gexp are stationary at level I (0) while cpi, exg, interest rate, exr, fdi, inf, inr, rgdp, popgr, rgdp, gexp and unem are stationary at first difference level.

Following the PP test as seen in table 4.2, the test results displayed in the upper panel (intercept only) shows that CPI, export of goods and services, fdi, rgdp, and general expenditure are stationary at level I (0). The result of the variables stationary at first difference I (1) are cpi, exg, interest rate, exr, fdi, inf, inr, rgdp, popgr, rgdp, gexp and unem. Also, the PP test results for panel two (trend and intercept) showed that cpi, exg, fdi, inflation, interest rate and GDP are stationary at level I (0) while cpi, exg, interest rate, exr, fdi, inf, inr, rgdp, popgr, rgdp, gexp and unem, were stationary at first difference I (1).

Table 4.1: Augmented Dickey-Fuller (ADF) Test Results

Augumented Dickey Fuller Test with Intercept only												
Variables	Level						1st Diff					
	Test statistic cal Values				P-Values	Remarks	Test Statistics cal Values				P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
CPI	-7.0178	-3.5744	-2.9238	-2.5999	0.0000	I(0)	-8.1226	-3.5812	-2.9266	-2.6014	0.0000	I(1)
EXG	-3.4951	-3.5713	-2.9224	-2.5992	0.0122	I(0)	-8.9144	-3.5744	-2.9238	-2.5999	0.0000	I(1)
EXR	2.1013	-3.5713	-2.9224	-2.5992	0.9999	NS	-4.7038	-3.5744	-2.9238	-2.5999	0.0004	I(1)
FDI	-4.1925	-3.5713	-2.9224	-2.5992	0.0017	I(0)	-9.6508	-3.5744	-2.9238	-2.5999	0.0102	I(1)
INF	-6.6295	-3.5713	-2.9224	-2.5992	0.0000	I(0)	-5.2571	-4.2050	-3.5266	-3.1946	0.0006	I(1)
INR	-5.4875	-3.5713	-2.9224	-2.5992	0.0000	I(0)	-6.1379	-4.2050	-3.5266	-3.1946	0.0000	I(1)
POPGR	4.7179	-3.5713	-2.9224	-2.5992	1.0000	NS	-3.9795	-3.5744	-2.9238	-2.5999	0.0033	I(1)
RGDP	-5.6295	-3.5713	-2.9224	-2.5992	0.0000	1(0)	-5.6532	-4.1567	-3.5043	-3.1818	0.0001	I(1)
lnGEXP	-3.6834	-3.5885	-2.9297	-2.6031	0.0078	I(0)	-1.7687	-1.7687	-2.9281	-2.6022	0.3909	NS
UNEM	4.7179	-3.5713	-2.9224	-2.5992	1.0000	NS	-3.9795	-3.5744	-2.9238	-2.5999	0.0033	I(1)
Augmented Dickey Fuller (ADF) Tests with Trend and Intercept												
Variables	Level						1st Diff					
	Test Statistic cal Values				P-Values	Remarks	Test Statistics cal Values				P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
CPI	-7.0256	-4.1611	-3.5064	-3.1830	0.0000	I(0)	-8.0301	-4.1706	-3.5107	-3.1855	0.0000	I(1)
EXG	-3.4283	-4.1567	-3.5043	-3.1818	0.0593	I(0)	-8.8825	-4.1611	-3.5064	-3.1830	0.0000	I(1)
EXR	2.2050	-3.5713	-2.9224	-2.5992	0.9999	NS	-4.6641	-3.5744	-2.9238	-2.5999	0.0004	I(1)
FDI	-5.5950	-3.5744	-2.9238	-2.5999	0.0000	I(0)	-5.5290	-4.1611	-3.5064	-3.1830	0.0002	I(1)
INF	-8.6647	-3.6156	-2.9411	-2.6091	0.0000	I(0)	-7.8361	-4.2191	-3.5331	-3.1983	0.0000	I(1)
INR	-4.8396	-3.6105	-2.9390	-2.6079	0.0003	I(0)	-4.7837	-4.2119	-3.5298	-3.1964	0.0022	I(1)
POPGR	-0.9886	-4.1567	-3.5043	-3.1818	0.9362	NS	-6.1853	-4.1611	-3.5064	-3.1830	0.0000	I(1)
RGDP	-10.6263	-3.5744	-2.9238	-2.5999	0.0000	I(0)	-10.5836	-4.1611	-3.5064	-3.1830	0.0000	I(1)
lnGEXP	-1.7834	-4.1809	-3.5155	-3.1883	0.6958	NS	-8.8958	-4.1611	-3.5064	-3.1830	0.0000	I(1)
UNEM	-0.9886	-4.1567	-3.5043	-3.1818	0.9362	NS	-6.1853	-4.1611	-3.5064	-3.1830	0.0000	I(1)

Source: Authors' computation using E-view 10(2021)

Table 4.2: Phillip- Perron (PP) Test Results

Phillips-Perron(PP) Tests with Intercept Only												
Variables	Level						1st Diff					
	Test Statistic	cal Values			P-Values	Remarks	Test Statistic	cal Values			P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
CPI	-7.0178	-3.5744	-2.9238	-2.5999	0.0000	I(0)	-47.7722	-3.5777	-2.9252	-2.6007	0.0001	I(1)
EXG	-3.4947	-3.5713	-2.9224	-2.5992	0.0123	I(0)	-9.2353	-3.5744	-2.9238	-2.5999	0.0000	I(1)
EXR	-0.7468	-4.1567	-3.5043	-3.1818	0.9635	NS	-4.8923	-4.1611	-3.5064	-3.1830	0.0013	I(1)
FDI	-4.1942	-3.5713	-2.9224	-2.5992	0.0017	I(0)	-22.6463	-3.5744	-2.9238	-2.5999	0.0001	I(1)
INF	-6.6315	-3.5713	-2.9224	-2.5992	0.0000	NS	-38.6231	-3.5744	-2.9238	-2.5999	0.0001	I(1)
INR	-5.4976	-3.5713	-2.9224	-2.5992	0.0000	NS	-38.6920	-3.5744	-2.9238	-2.5999	0.0001	I(1)
POPGR	3.3944	-3.5713	-2.9224	-2.5992	1.0000	NS	-3.9122	-3.5744	-2.9238	-2.5999	0.0039	I(1)
RGDP	-5.6407	-3.5713	-2.9224	-2.5992	0.0000	I(0)	-11.7220	-3.5744	-2.9238	-2.5999	0.0000	I(1)
lnGEXP	-2.0555	-3.5713	-2.9224	-2.5992	0.2631	I(0)	-8.0091	-3.5744	-2.9238	-2.5999	0.0000	I(1)
UNEM	3.3944	-3.5713	-2.9224	-2.5992	1.0000	NS	-3.9122	-3.5744	-2.9238	-2.5999	0.0039	I(1)

Phillips-Perron(PP) Tests With Trend and Intercept												
Variables	Level						1st Diff					
	Test Statistic	cal Values			P-Values	Remarks	Test Statistic	cal Values			P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
CPI	-7.0258	-4.1611	-3.5064	-3.1830	0.0000	I(0)	-48.2943	-4.1658	-3.5085	-3.1842	0.0000	I(1)
EXG	-3.4508	-4.1567	-3.5043	-3.1818	0.0564	I(0)	-9.4652	-4.1611	-3.5064	-3.1830	0.0000	I(1)
EXR	-1.8188	-4.1567	-3.5043	-3.1818	0.6804	NS	-5.5193	-4.1611	-3.5064	-3.1830	0.0002	I(1)
FDI	-4.1488	-4.1567	-3.5043	-3.1818	0.0102	I(0)	-22.2739	-4.1611	-3.5064	-3.1830	0.0000	I(1)
INF	-6.7891	-4.1567	-3.5043	-3.1818	0.0000	I(0)	-41.3398	-4.1611	-3.5064	-3.1830	0.0000	I(1)
INR	-6.3688	-4.1567	-3.5043	-3.1818	0.0000	I(0)	-38.5597	-4.1611	-3.5064	-3.1830	0.0000	I(1)
POPGR	-0.9870	-4.1567	-3.5043	-3.1818	0.9364	NS	-6.1853	-4.1611	-3.5064	-3.1830	0.0000	I(1)
RGDP	-5.6533	-4.1567	-3.5043	-3.1818	0.0001	I(0)	-11.8691	-4.1611	-3.5064	-3.1830	0.0000	I(1)
lnGEXP	-0.3331	-4.1567	-3.5043	-3.1818	0.9874	NS	-8.7161	-4.1611	-3.5064	-3.1830	0.0000	I(1)
UNEM	-0.9870	-4.1567	-3.5043	-3.1818	0.9364	NS	-6.1853	-4.1611	-3.5064	-3.1830	0.0000	I(1)

Source: Author's computation using E-View 10(2021)

4.3 VAR Lag Order Selection Criteria Results

In evaluating the specified ARDL models, the probable existence of long-run relationship among the variables was tested using the ARDL co-integration technique. This is because unlike other methods of estimating cointegrating relationships, the ARDL cointegration technique does not involve symmetry of lag lengths; each of the variables can have a different number of lag terms. However, it was required to determine the appropriate lag length in order to avoid the issue of misspecification and loss of the degrees of freedom before this test is run. Following the literature, lag order selection criteria ascribed to sequential modified LR test statistics (each at 5% level) (LR), Final Prediction Error (FPE) , Akaike information criteria (AIC), Schwarz information criteria (SIC) and Hannan-Quinn information criteria(HQ) were considered. The results are presented in table 4.3 and 4.4.

Table 4.3: Lag Length Order Selection for objective two

Lag Length Selection Criteria Results for objective 2						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1301.93	NA	1.87E+16	54.4971	54.731	54.58549
1	-831.9517	802.8803	2.66E+08	36.41466	38.05196	37.03339
2	-747.4879	123.1764*	37928868*	34.39533*	37.43603*	35.54442*

Source: Author's Computation using E-View 10(2021)

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

Table 4.4: Lag Length Order Selection for objective three

Lag Length Selection Criteria Results for objective 3						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1084.799	NA	5.81E+12	46.41699	46.65318	46.50587
1	-674.0639	699.1242	698670.2	30.4708	32.12413	31.09296
2	-592.5043	118.0011*	108400.8*	28.53210*	31.60256*	29.68753*

Source: Author's Computation using E-View 10 (2021)

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

4.4 **Bound Test Approach to Cointegration**

Having determined the optimal lag length, the next step is to determine the cointegration relationship between the variables. Due to the limitations of the conventional Wald -test F -statistics, Pesaran and Shin (1995, 1998) suggested two critical values (lower and upper bound) to examine the relationship. If the computed F-statistic is lower than the lower bound I(0) the null is not rejected but if the computed F-statistic is greater than the upper bound I(1) it implies that there exists a long run relationship among the variables. However, if the computed F-statistics lies between the lower bound and upper bound the long run association between the variables are inconclusive. The result of the bound test is shown in table 4.4. As can be seen from the table 4.4, at 5 percent level of significance the study rejects the null hypothesis of no long run relationship among the examined variables that is in objective two the F-statistics (16.42349) is greater than the upper bound value (3.38) at 5 percent level of significance, in objective three the F-statistic (6.315868) is greater than the upper bound (3.38) at 5 percent level of significance. This empirical rule out the possibility of estimated relationship being false. Therefore, this study accepts the existence of a long run relationship amongst the examined variables and that there is co-integration.

Table 4.4 Bound Test Approach to Cointegration for objective 2 Results

Results of Bound Test Approach to Cointegration for objective 2

Significance	Critcal Value Bonds		Computed F-statistic
	Lower Bound	Upper Bound	
	I(0)	I(1)	
10%	2.08	3	16.42349
5%	2.39	3.38	
2.5%	2.7	3.73	
1%	3.06	4.15	

Source: Author's Computation from E-Views 10 (2021)

Table 4.5 Bound Test Approach to Cointegration for objective 3 Results

Results of Bound Test Approach to cointegration for objective 3

Significance	Critical Value Bond		Computed F-statistic
	Lower Bound	Upper Bound	
	I(0)	I(1)	
10%	2.08	3	6.315868
5%	2.39	3.38	
2.5%	2.7	3.73	
1%	3.06	4.15	

Source: Authors Computation from E-Views 10 (2021)

4.5 Empirical Results on the population growth Implication on unemployment

4.5.1 Long Run Impacts of Population growth on unemployment

Table 4.5 presents the results of the long run impact of population growth on unemployment. The table shows that population growth has a positive (1.001228) but statistically significant impact on unemployment as shown by the t-statistic (3.163875) and the prob.value (0.0029). As it were the coefficient of the exports of goods and services is positive(0.011954) but not statistical with prob.value(0.2148) which is greater than 0.05 and t-statistic(1.259634).Specifically, in the long run holding other things constant a one percent change in exports of goods and services will increase unemployment by 0.011954 percent.

Also, the government expenditure has a negative effect on unemployment, as revealed by the coefficient (-6.27E-05) is statistically insignificant with the prob.value (0.2724) which is greater than 0.05 and t-statistic (-1.112219) hence a unit increase in government expenditure will bring about -6.27E-05 decrease in unemployment. Furthermore, the coefficient of interest rate (-0.018347) is statistically insignificant with prob.value (0.1652) which is greater than 0.05 and t-statistic (-1.412462) but has a negative effect on unemployment. The coefficient of inflation rate (-0.004246) is statistically insignificant with prob.value (0.4161) which is greater than 0.05 and t-statistic (-0.821331) but has a negative effect on unemployment. By implication population is statistically significant while exports of goods and services, government expenditure, interest rate and inflation are statistically insignificant in table 4.5.

Also, the R^2, the adjusted R^2, the F-statistic and the Durbin –Watson statistic for the selected model is shown in panel B of the Table 4.5. As observed from the result presented in Table 4.5 the explanatory power (R^2) of the model is high (0.997659). In essence, the proportion of variation in unemployment that is jointly explained by population growth, exports of goods and services, government expenditure, interest rate and inflation is about

99%. Adjusted R^2 that is the proportion of variation in economic growth measured by real GDP that is jointly explained by the explanatory variables after the effect of insignificant repressor has been removed is about indeed is about 99%. Furthermore, the F-statistic which is used to measure the overall significance of the estimated model is significant at 2982.544 with probability value p = 0. These suggest that the rate of natural increase in inflation, government expenditure and inflation are insignificant determinants of unemployment in Nigeria while population growth and exports of goods and services are significant determinant of unemployment in Nigeria. This further reinforces the fact that the results reported are of policy significance and insignificance. Besides, the Durbin-Watson statistic which is used to test for autocorrelation of residuals in the model, in particular, the first order autocorrelation indicates the absence of autocorrelation at 2.064089.

4.5.2 Long Run Effect on Population Growth and Unemployment on Economic Growth

Table 4.6 presents the results of the long run impact of population growth and unemployment on economic growth. The table shows that population growth has a positive (0.078386), and statistically significant on economic growth and the relationship between them is statistically significant as shown by the t-statistic (2.861584) and the prob.value (0.007). As it were the coefficient of unemployment is negative (-0.092471) but not statistically significant with prob.value (0.8906) which is greater than 0.05 and t-statistic (-0.138537). Specifically, in the long run holding other things constant a one percent change in unemployment will decrease real GDP by -0.138537 percent. Likewise, foreign direct investment depicts a negative effect on economic growth, as revealed the coefficient (-0.382363) is statistically insignificant with the prob.value (0.6131) which is greater than 0.05 and t-statistic (-0.510033) hence a unit increase in foreign direct investment will bring about -0.382363 decrease in economic growth.

Additionally, the coefficient of consumer price index growth (-0.003091) is statistically insignificant with prob.value (0.4321) which is greater than 0.05 and t-statistic (-0.794493) and has a negative effect on economic growth. As it were the coefficient of the exchange rate (-0.010098) but not statistically significant as the prob.value (0.753) is greater than 0.05 and t-statistic (-0.317127). Also, the R^2, the adjusted R^2, the F-statistic and the Durbin-Watson statistic for the selected model in panel B of the table 4.6. As observed from the result presented in table 4.6 the explanatory power (R^2) of the model is low (0.419195). In essence, the proportion of variation in economic growth measured by real GDP that is jointly explained by population growth, unemployment rate, foreign direct investment, consumer price index and exchange rate is about 42%.

Moreover, the Adjusted R^2 that is the proportion of variation in economic growth that is jointly explained by the explanatory variables after the effect of significant and insignificant repressor has been removed is about 25%. Furthermore, the F-statistic which is used to measure the overall significance of the estimated model is significant at 2.598291 with probability value p=0.017387. This indeed is a re-enforcement of the goodness of fit. These suggest that the rate of natural increase of unemployment rate, foreign direct investment, consumer price index and exchange rate are insignificant determinants of economic growth in Nigeria while population growth is significant determinant of economic growth in Nigeria. This further reinforces the fact that the results reported are of policy significant and insignificance. Besides, the Durbin-Watson statistic which is used to test for autocorrelation of residuals in the model, in particular, the first order autocorrelation indicates the absence of autocorrelation at 2.123034.

Table 4.5 Estimated Long Run Dynamics Test Result for objective two

LONG RUN FOR OBJECTIVE TWO

Regressand:D(UNEM)				
Panel A: Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob
UNEM(-1)	1.001228	0.04706	21.2756	0
POPGR	0.019861	0.006277	3.163875	0.0029
EXG	0.011954	0.00949	1.259634	0.2148
GEXP	-6.27E-05	5.64E-05	-1.112219	0.2724
INR	-0.018347	0.01299	-1.412462	0.1652
INF	-0.004246	0.00517	-0.821331	0.4161
C	-1.611836	0.433073	-3.72186	0.0006
Panel B:Goodness-of-fit Measures				
R^2			0.997659	
Adjusted R^2			0.997324	
F-statistic			2982.544	
Prob(F-statistic)			0	
Durbin-Watson stat			2.064089	

Source: Author's computation using E-views 10 (2021)

Table 4.6 Estimated Long Run Dynamics Test Result for Objective Three

LONG RUN FOR OBJECTIVE THREE

Regressand:D(RGDP)				
Panel A:Long Run Coefficients				
Variable	Coefficient	Std. Error	t-statistic	Prob
RGDP(-1)	0.078386	0.146876	0.533691	0.5968
POPGR	70.95106	24.79433	2.861584	0.007
POPGR(-1)	-146.4344	46.49158	-3.149696	0.0033
POPGR(-2)	75.64717	22.42294	3.373651	0.0018
UNEM	-0.092471	0.667481	-0.138537	0.8906
FDI	-0.382363	0.749683	-0.510033	0.6131
CPIGR	-0.003091	0.003891	-0.794493	0.4321
CPIGR(-1)	-0.001113	0.004035	-0.275837	0.7843
CPIGR(-2)	-0.009028	0.00385	-2.34484	0.0247
EXR	-0.010098	0.031842	-0.317127	0.753
C	-5.484029	6.792719	-0.807339	0.4248
Panel B:Goodness-of-fit Measures				
R^2			0.419195	
Adjusted R^2			0.25786	
F-statistic			2.598291	
Prob(F-statistic)			0.017387	
Durbin-warson stat			2.123034	

Source: Author's computation using E-views 10 (2021)

4.6 Empirical Results on the Short Run Effects

4.6.1 Estimates Short Run Dynamics Test Results for Objective Two

The result presented in table 4.7 reveals that the coefficient of the error correction term for the estimated equation is both statistically insignificant and negative with prob. value = 0.1472 and t-statistic = -1.484325. In essence, the speed of adjustment implied by the coefficient of ECT suggests that the deviation from short run to long run is corrected by 0.09 units per each year. Therefore, there is no stable long run relationship among population growth, unemployment, exports of goods and services, government expenditure, interest rate, inflation. Government expenditure is both statistically insignificant and positive at 0.000249 unit. Precisely, a unit increase in the population growth will cause unemployment to decrease by -2.48471-unit, ceteris paribus. It is both statistically insignificant and but negative. Similarly, exports of goods and services is insignificant but has a negative impact on unemployment at 0.004199 unit. Also interest rate has a negative insignificant short run impact on unemployment at -0.002867 unit. Finally, inflation rate has a negative insignificant short run impact on unemployment at -0.001689 unit.

4.6.2 Short Run Effects of population growth and unemployment on economic growth.

The result presented in table 4.8 shows that the coefficient of the error correction term for the estimated equation is both statistically significant and positive with prob. value=0.005 and t-statistic =-3.01315. In essence, the speed of adjustment implied by the coefficient of ECT suggests that the deviation from short run to long run is corrected by 74% per each year. Therefore, there is stable long run relationship among the real GDP, population growth, unemployment, foreign direct investment, consumer price index proxy as consumer price index growth and exchange rate. Similarly, unemployment is statistically insignificant but has a positive effect on real GDP at 0.1333 unit. Additionally, exchange rate is statistically insignificant but has a positive effect on real GDP at 0.039045 unit. Also, population growth is statistically significant, but has a negative effect on real GDP at -42. 82417. Also, foreign

direct investment is statistically insignificant but has a negative impact on real GDP at -0.223508. Finally, consumer price index is statistically insignificant but has a negative effect on real GDP at -3.90E-05 unit.

Table 4.7 Estimated Short Run Dynamics Test Result for Objective Two

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.199505	0.378347	-0.527307	0.6015
D(UNEM(-1))	0.26777	0.167961	1.594241	0.1204
D(UNEM(-2))	0.240199	0.168411	1.426265	0.1632
D(POPGR(-1))	2.569542	2.088564	1.230291	0.2273
D(POPGR(-2))	-2.484713	2.101866	-1.182146	0.2456
D(EXG(-1))	-0.033012	0.012968	-2.545584	0.0158
D(EXG(-2))	-0.004199	0.013856	-0.303059	0.7637
D(GEXP(-1))	-0.00015	0.000238	-0.6315	0.5321
D(GEXP(-2))	0.000249	0.000244	1.021697	0.3144
D(INR(-1))	-0.039173	0.014633	-2.67707	0.0115
D(INR(-2))	-0.002867	0.012357	-0.232011	0.818
D(INF(-1))	-0.012974	0.005688	-2.281065	0.0291
D(INF(-2))	-0.001689	0.004784	-0.352969	0.7264
ECT(-1)	-0.092252	0.062151	-1.484325	0.1472

Source: Author's computation using E-views 10 (2021)

Table 4.8 Estimated Short Run Dynamics Test Result for Objective Three

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.55621	2.870496	0.193768	0.8476
D(RGDP(-1))	-0.156856	0.212658	-0.737599	0.4661
D(RGDP(-2))	-0.169284	0.152288	-1.111602	0.2746
D(POPGR(-1))	40.91126	20.96493	1.951414	0.0598
D(POPGR(-2))	-42.82417	21.25575	-2.01471	0.0524
D(UNEM(-1))	2.653008	1.867427	1.420676	0.1651
D(UNEM(-2))	0.133301	1.905104	0.069971	0.9447
D(FDI(-1))	0.448475	0.861378	0.520648	0.6062
D(FDI(-2))	-0.223508	0.741056	-0.301608	0.7649
D(CPIGR(-1))	0.004393	3.40E-03	1.291719	0.2057
D(CPIGR(-2))	-3.90E-05	0.00399	-0.009779	0.9923
D(EXR(-1))	-0.021915	0.058326	-0.375729	0.7096
D(EXR(-2))	0.039045	0.056682	0.68884	0.4959
ECT(-1)	-0.747315	0.248016	-3.013175	0.005

Source: Author's Computation from E-views 10 (2021)

4.7 Summary of Discussion of Results

This chapter of the research addressed assessment outcomes in line with the study's goals. In this empirical job, there are three particular goals. The three objectives of examining the

trend of population growth, unemployment and economic growth, examine the impact of population growth on unemployment, analyse the effect population growth, unemployment on economic growth proxy as real GDP in Nigeria have been accomplished through econometric analytical method. The analysis of the trend shows that population growth is positively related to unemployment, population growth and unemployment has positive and negative trend on economic growth respectively. The analysis reveals that population growth is positive and statistically significant to unemployment at long run but negative and statistically insignificant at short run. The effect of population growth and unemployment on economic growth proxy as real GDP shows that population growth is positive and statistically significant in long run and negative but statistically significant at shot run while unemployment has a negative and insignificant effect on economic growth at long run while it has a positive and insignificant effect on economic growth at short run.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of the findings of this study. It outlines the summary, policy conclusions and recommendation premised on the results of the study.

5.1 Summary of the findings

The main objective of this project work was to examine the connection between Nigeria's population growth, unemployment rate and economic growth from 1970 to 2019.The trend analysis of population growth, unemployment and economic growth was produced precisely. The research also examined the impact of population growth on unemployment. And finally, the effect of population growth and unemployment on economic growth in Nigeria was created. The necessary background to the research was laid to accomplish these objectives, the issues were recognized and justified accordingly. The research used econometric analytical methods. Using the Auto Regressive Distribution Lag Model (ARDL), specific objectives 2 and 3 were achieved. The unit root was estimated to determine the time series of variables included in the study using both the Augmented Dickey-Fuller (ADF) and the Phillip and Perron (PP) test before the ARDL test was conducted. The outcome of the ADF and PP revealed that some of the variables were not stationary at level form, while some are selection criteria that picked stationary leading to the first difference test. After the variables had been determined to be stationary at level or first difference. The ARDL models' lag order was produced using VAR lag order 2 for the two model 3.2 and 3.4. The cointegration relationship between the variables was determined in each ARDL model using the bound sample strategy after the lag length was selected, which means that there is a long-term relationship between the variables. The research then proceeded to assess the long-term and short-term relationship between factors using ARDL. The investigation shows no significance for the effect of population growth and unemployment on economic growth.

5.2 Conclusion

This research aims to address the three primary problems of population growth, unemployment and economic growth. The empirical findings presented in the research suggested that the presence of a long-term population that exerts a positive impact on unemployment that is significant to short term unemployment that has a different impact. Population growth has a positive effect on economic growth in Nigeria at the long run and statistically significant but negative effect on economic growth in the short run. while unemployment has a negative and insignificant effect on economic growth at long run while it has a positive and insignificant effect on economic growth at short run.

5.3 Recommendations

The nature of the population growth, unemployment rate and economic growth relationship in Nigeria. These findings have significant policy consequences for policymakers at home. It is not a necessary condition for encouraging unemployment, economic growth to imply population growth and raising unemployment rate. This research only used population growth, exports of goods and services, government expenditure, interest rate and inflation as variables influencing Nigeria's true unemployment that turned out to be irrelevant in both short and long term after inquiry. Also, this research only used population growth, unemployment, foreign direct investment, consumer price index growth and exchange rate as variables influencing the Nigeria's true GDP that turned out to be irrelevant in both the brief and long term after inquiry. Further study may therefore add additional variables to determine its connection and meaning.

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