CHAPTER ONE

1.1 BACKGROUND OF THE STUDY

Over the years if has become established that the existence of an efficient human capital is the key to economic growth and development in any nation. This seems from the fact that every other facility and resources required for economic development is driven by the availability of human capital. More so, in the absence of effective human capital development, an increasing population can have adverse negative effect on the economic growth of a nation. This is because a lot more resources are taken out to manage and cater for the teeming population that the same can generate.

It is therefore correct to state that the economic growth of a nation is significantly dependent on the growth of its population. This effect or impact can be either negative or positive depending at the existence of certain factors and conditions, when studied and understood can be managed or controlled to ensure continuous and sustainable economic growth and development. Meier (1984).

Economic development and growth depend on many factors or variables. These variables include variable resources, capital, population and technology. Development is also dependent on growth. Lipase (1963).

People have often said to crucial to the development of every society. Growth in population is one of the components of economic growth (wish the associated, although delayed increase in the labour force) has traditionally been considered a positive factor in stimulating economic growth and development. Lipase (1963).

The relationship between economic development and the growth of population is theoretically held to be positive especially when the population is largely productive and not dependent. Increased economic growth does not by itself guarantee economic development it makes economic development possible. Havey (1983). Economic growth enables improvements or positive changes to take place in various of economic activity due to increased production of goods and services. Larger population provide the need consumers demand to generate favourable economies of scale in production to costs of labour force means more productive man power in the economy.

The ability for a country to effectively exploit natural resources is dependent on among other things, the managerial and technical skills of its people. It is the people who exploit natural resources, accurate capital and carry out national political organizations and carry out national development programms. Thus, labour is the major contributor to prosperity and growth. Tadaro, (1982).

According to the theory of demographic transition growth occurs only after country would have undergone different levels of population growth to arrive to an optimum wide will naturally lead to growth.

A more conventional economic argument is that population growth in many third world countries a region is in-fact desirably to stimulate economic growth and development.

This is not a case in Nigeria; Nigeria is a less developed country and a highly populated one at that, more so her growth rate has always been very low, compared with the increase in population. This features of the nation is an cause for concern.

During the study, it is necessary to state that because development has no unit if measurement and because of lack of reliable date on its components economic growth will be used as a proxy for measuring development. This is because economic growth is the one component from which other components spin off and to which other components are related.

1.2 STATEMENT OF THE PROBLEM

Growth is a complex process as development is a multi dimensional one. The nature and causes of growth go beyond what is expressed by improvement in Gross Domestic Product.

Every economics primary objective is to develop in the medium or intermediate, this objective is stated as the need for growth. In the short run it is stated as the need for growth to attain whatever improvement is necessary for growth. In relation to this study the condition necessary for economics development and growth is population growth while growth itself is a condition necessary for development.

Population growth is the rate of which a given population multiplies itself. The population growth rate is as important to economists as the size of the population. Governments and economists would like to know if the population is growing faster or slower than the rates of other economic indicators.

Economics growth refers to the study process by the productive capacity of the economy is increased overtime to bring about increase in the output of goods and services and rising levels of national income. (Hodder's (1980).

The growth in the output of goods and services (i.e growth in GDP). It is the process by which national income or output is increased. An economy is said to be growing if there is a sustained increase in the actual output of goods and service per head. Meier GM (1984).

The rate of economic growth therefore measures increase in real national income, during a given period of time, usually a year.

Economic development is not the same as economic growth. It means more than mere growth of the economy (in terms of increased output) it is in the process of increasing substantial positive transformation in the various sectors of the economy. Meier GM (1984). The positive changes which take place improve the general rise in the standard of living of the masses with economic development; there are structural transformations in the different sectors of the economy as well as general improvement in different areas of the country, leading to increase economic welfare of the citizens. Economic development on the other hand is generally defined as consisting of "Improvement" in the various aspects of the life of the entire population of a country such improvements are generally manifested in greater numbers of useful tools for employable persons, higher real incomes, better health conditions, (literacy) and better government services.

Given Nigerians economic structure, population and rate of economic expansion, most people have blamed Nigerians low growth and development on a high population that is large and not very productive. Other has opined that the little growth the country has attained is a direct consequence of a large population.

These divergences question the theoretical relationship between populated but not growing but China is highly populated and growing rapidly. Also the growth of population in Western Europe has lead to its rapid industrialization. This

study is prompted by the need to understand population growth and economic development in Nigeria.

The Nigeria population has been growing while the rate of economic growth has such little improvement the question on how best to exploit the theoretical relationship between population growth and economic development has persisted for long and it has become necessary to asses the issues. Thus, this scenario prompts us to find out whether the increasing population growth has a positive or negative effect on Nigerians development.

1.3 RESEARCH QUESTION

The following questions point to our research

1. Does population growth hamper economic growth?
2. Does population growth have any effect on income?

1.4 OBJECTIVES OF THE STUDY

The following of the study research includes the followings

1. To determine whether a relationship exists between population growth and economic development.
2. To determine the direction of causality between population growth and economic growth.

1.5 HYPOTHESIS

The study will be guided by the following hypothesis

HO: There is no significant relationship between population growth and economic development in Nigeria.

Ha: b1=0: There is no direction of causality between population growth and economic development in Nigeria.

1.6 SIGNIFICANT OF THE STUDY

The importance of the research is to be appreciated by all since concepts of population growth economic growth and development affects everybody irrespective of class, status or occupation.

However, the study will be importance to the following categories of persons.

i. **Government (policy makers)**

The government will benefit from the study since it will provide the basics for making policy changes and formulating future policies. It helps the economy in planning for development.

ii. **Students:** The study is important to students since it will reveal more details and provide more information for those who are interested in finding out

population trends in Nigeria and its consequences to economic growth in Nigeria and also for further studies.

iii. **Research:** This study will provide more information for further research about the population trend in Nigeria.

1.7 SCOPE AND LIMITATIONS OF THE STUDY

Chronologically the study covers the period of about twenty nine years (1981-2011). The data or any other pieces of information utilized in the conduct of the study will be restricted to those published by national institution to ensure consistency.

The population under study covers an estimate for the entire population of the Nigeria economy.

Geographically the study is restricted to the territory of Nigerians sovereignty. In terms of context, the study scope is primary inclined to macro-economics is nothing but an aggregate of micro-economics.

During the course of its conduct, this study has been limited or hindered from early completion due to factors such as

i. Financial constraints

ii. Unwillingness of certain institution to provide needed information.

iii. Discrepancies between data from different sources.

CHAPTER TWO

LITERATURE REVIEW

2.1 THEORETICAL LITERATURE

Population is a critical factor in the development plans of any civilized society for effective countries, it is necessary to have an actual count of population i.e in form of an accurate census. This will enable government to know how many people to whom they should distribute amenities and social services.

In everyday language, the word "population" means the number of person living in a country or in a given geographical area at any given time. Population growth rate is the rate at which a given population multiplies itself.

Some economists believe that a rapidly expanding demand for goods and provided ample opportunities for the investment of savings which will in turn stimulate a high level of economic activity. They believe that a slow rate or population growth or a static population growth limits the opportunities for investment and causes economic stagnation and under development.

Population plays a vital role in a nation's economic development and there is a relationship between population growth and economic development. Population growth has an impact on per capital income on the levels of going, on agricultural development, on employment, on social infrastructure, on labour force, aggregate demand, on capital formation and the environment.

The population growth rate is important to economists as the size of population. Governments and economists would like to know if the population is growing faster or slower than the rates of other economic indicates. For example, it will be necessary for the government to know whether the gross domestic product or GNP is growing faster than the population, then a high standard of living can be assured. It is know that their population grows faster than their GNPs leading to consequent falls in standards of living. It is therefore necessary for countries to keep proper balance between population growth rate and the rate of increase of Gross Domestic Product.

The consequences of population growth an economic development have attracted the attention of economists ever since. Adam Smith wrote; the annual labour of every nation is the fund which originally it with all the necessaries and conveniences of life (Adam Smith, 1776). It was only Malthus and Ricardo who create an alarm about the effects of population growth on the economy. But their fears have proved unfounded because the growth of population in Western Europe has led to its rapid industrialization.

2.1.2 ECONOMIC GROWTH

According to lipase (1963), he points that growth is one of the most important variables of macro economics policy that reflects changes in either productive capacity or percentage utilization of that capacity. Growth yield benefits like the

improvement of living standards, the redistribution of income and the facilitation of desirable changes in life style, kind Leberger (19650 defines economic growth" as a sustained increase in per capital or per worker product, most often accompanied by an increase in population and usually by sweeping structural changes and for Madison (1970) the raising of income levels is generally called economic growth in which countries. But this view does not specify the underlying forces which raise the income levels in the economy.

Schumpeter (1934) defines growth as a gradual and steady change in the long run which comes about a gradual increase in the rate of savings and population.

Hanson (1977) defines growth as the rate of expansion of national income or total volume of production of goods and services of a country. The rate of economic growth determines the rate at which the real standard of living of people increases. Also MCG raw hill (1973) defines economic growth, as an increase in a nations or an areas capacity to produce goods and services couples with an increase in production of these goods and services.

According to Akpakpan (1991) economic growth refers to the steady process by which the productive capacity of the economy is increased over time to bring about increase in the output of goods and service and raising levels of national income.

The central bank of Nigerians bulletin (1995) defines economic growth in terms of an increase in a nations output of goods and services as measured by the gross Domestic Product (GDP).

Tadaro (1982) tags the concern of or growth as "Growth-man-ship" and traces the study of growth to Adam Smith. The trend in attaching much significance to growth has grown to an extent that development programmes are assessed by the digress to which a country's national output and incomes are growing.

The need to understand the nature and causes of growth cannot be over emphasized. The major factors in or components of economic growth in society are capital accumulation, growth in population and technological progress.

Economic growth is desirable since the growth of an economy mean there will be more goods and services for people to consume. Governments aim at achieving high long-run rates of growth, for the benefits of social welfare.

Conditions, better housing, higher levels of identifications (literacy) more and better government services, better agricultural and industrial skills and technologies, higher production and lower personal and regional socio economic inequalities than before.

J. A. Schumpeter, (1934) defines economic development as a discontinuous and spontaneous change in the equilibrium state previously existing. This view of

Schumpeter has been widely accepted and established by the majority of economists.

According Meier (1984) defines economic development “as the process whereby the real per capital income of a country increase over a long period of time, subject to stipulations that the number of people below an “absolute poverty line” does not increase and that the distribution of income does not become more unequal.

According to kindle Berger, economic development” implies both output and change in the technical and institutional arrangements by which it is produced and distributed. Belshaw (1956) sees economic development as a social process which results in a “cumulative increase in levels of consumption.

However, Red away (1963) definition of economic development refers to a more equitable special distribution of wealth.

In a country Madison (1970) defines economic development as “the raising of income levels in poor countries” friedman (1972) defines economic development as an innovative process leading to the structural transformation of social system.

There are also manifested in the greater ability of the people (the nation) to draw domestic resources (human and material) to solve their problems.

An evaluation of societies, economics as well as the works of Tadaro 91982) and Akpakpan (1991), it can be deduces that economic development revolves within a society and cannot be exported or imported. In this view economic development is a consistent and systematic effort towards improvement of all aspect of society.

Economic development deals with the total personality of man; hence man is the critical component of development. This is so because man is the object and subject instrument and beneficiary of development. Thus argument is supported by Akpakpans prescription of development, reduction in the level of absolute poverty, improvement in the techniques of production and technologies, improvement in literacy, health service, a rise in the real output of goods and services.

2.1.3 THEORIES OF POPULATION

In recent year economists have begun to focus attention on the relationship between population growth and economic development. Does population growth accelerate or retard economic development?

Six theories or approaches to the economics of population will be analyzed. They include

1. The Malthusian theory
2. The theory of Demographics transition
3. The optimal population theory

4. The pessimistic view (neo-Malthusians)
5. The optimistic view (comuoopians)
6. The Neutral view.

2.1.4 THE MALTHUSIAN THEORY

Reverend Thomas Malthus was an English clergyman and economist who in 1778 published a work called essay on the principle of population" it has had much effect on planning for the improvement of society ever since.

According to Thomas Malthus review on population growth he perceived the critical importance of population growth to standard of living in early nineteenth century. He asserted two relations concerning rates of increase. In Malthus, while population was growing at a geometrid progression (e.g 100, 103, 109.09, 109.27, 112.55) where the increase in this example is 3 percent per period. And agricultural output was increasing at arithmetic progression (e.g 100, 103, 106, 109, 112) where increments in this example are 3 units per period. As a result if these relationships, population growth would son out run the available resources and this signified disaster, Malthus therefore, suggested checks as a means of keeping the population a growth rate down.

Malthus forecast of down did not come true because alongside the population growth, there was an advance in technology which improved agricultural production. Improved efficiently in the transportation system enables

more materials to be provided to areas that needed them. The individual revolution also changed the ideal of land as a fixed factor of production. Better farming, techniques were evolved and more output was obtained to match increase in production.

In some regions of the world where the population increases faster without a corresponding increase on agricultural efficiency, Malthus prophecy is said to be vindicated (Jadaro, 1982).

In Nigeria today, the argument is for reducing the family size to match the means available for supporting the individuals. This lands the credence to Malthus argument that there should be a balance between population growth and the means to support it (Agu, G. A, 1989).

2.1.5 THE DEMOGRAPHIC TRANSITION

The demographic transition or population describes the shift from high fertility and mortality common in less developed countries to the low fertility and mortality usually falls first, followed by fertility, but the timing and pace of change follow different patterns throughout the world.

The demographic transition is based on the actual population trends of the advanced countries of the world. According to this theory, every nation or country passes through five different stages of population development.

First stage: In this stage, the country is background and is characterized by high birth and death rate with the result that the growth rate of population is low people mostly live in rural areas and their main occupation is agricultural which is in state of backwardness. Large family is regarded as a necessity to augment the low family income. Children are and assets to the society and parents. More children in a family are also regarded as God given and pre-ordained. All economic and social factors are responsible for a birth rate and the death rate is also high due to mal-nutritional food with a low caloric value, lack of medical facilities and lack of any sense of cleanliness.

Thus, this stage is also known as "High stationary" stage (HS), high birth rates and death rates remains equal overtime.

Second stage: in the second stage, the economy enters the phase of economic growth (modernization), Agricultural and industrial productivity increases means of transport develops, there is greater mobility of labour education expands higher incomes and improved public health methods etc. all these led to marked reduction in mortality which gradually raises life expectancy from under 40 years to over 60 years and brings decline in death rate, but birth rate is almost stable. People do not have any inclination to reduce the birth of children because with economic growth employment opportunities will increase and children are able to add more to the family income with the decline in the

death rate and no change in the birth rate, population increases at a rapid rate. This stage is a tarry expanding" (EE) stage in population development.

Third stage: This is the "late expanding' (LE) stage of population development. In this stage, declining birth rate accompanied by death rates decline more rapidly as a result, population grows at a diminishing rate when the forces and influences of modernization and development causes fertility to begin to decline God.

Forth stage: In this stage, the fertility rate declines and tends to equal the death rate so that growth rate of population declined. As growth gams momentum and people cross, substance level of income, then their standard of living expands. The leading growth sector expands and leads to an expansion in output in other sectors. Men and women prefer to many late, and then the desire to have more children to supplement parental income declines. This will tend to reduce the birth rate which along with an already rate of population. Advanced countries of the world are passing through this "lower stationery" (LS) stage of population development.

Fifth stage: In advanced countries this stage leas to "declining" (D) stage of population. This is a continuous decline in birth rates when it is not possible to lower death rates. The existence of this stage in any developed country is a matter of speculation, ML Thigan (1997).

2.1.6 THE OPTIMISTIC VIEW (CORNUCOPIANS) The optimistic argue that population growth, tar from being a cause of economic and environmental problems, is infect a positive stimulus to innovation and problem solving. According to Borden (1986) essentially economic growth for any nations hiages on the organizations and development of a better labour force (better utilization, skills, education, and attitude) etc.

An optimist by name Juliana Simon argues that, I am from being source of economic and environmental disaster, population growth is a good thing. He noticed that despite the fast growth of world population since the tweet century, the process of scarce resources such as metals and minerals had actually gone down. He came to argue that provides more labour and brain power population growth stimulates solutions. For instance, shortages of minerals, metal a fuel stimulates substitutions and exploration for new sources. Shortage of food and land stimulates the development of news and more productive types of agriculture. Simon's arguments have been applied mainly to issues such as macro-economic growth and natural resources.

Thus, the optimists, at their strongest, argue that the more people in a country, the better .J. Blunden (1995).

2.1.7 THE OPTIMUM POPULATION THEORY: The optimum population of a country is that population which given existing factors of population and technology, will generate the greatest natural product. It is a situation in which output per head is at a maximum. This concept is used to demonstrate the balance between population and available resources. The standard of living or the people is said to be highest.

A country is said to be under-populated when the population size is small relative to the available resource. In this case the country needs more people to exploit its natural resources, if its standard a using is to increase.

A country is said to be over-populated when there are more people relative to the available resources. The people trace to complete for more resources if their standard of living are very low.

The optimum population is therefore a concept to demonstrate under and over-population over time, the calculation of optimum population varies from country to country and from time to time because the techniques of production and the structure of population vary from country to country Eva Udu (1989).

2.1.8 THE PESSIMISTIC VIEW (NEW-MALTHUSIANS)

According to world bank development report (1932) rapid population growth (at rate above 270 common in most developing countries) as at a brake

accommodated in the past managed to raise average income even as their population grow rapidly in that strict sense, population growth has been accommodated but the goal of development accommodation of an even larger population, it has to approve people's lives.

Kelley (1988) says that it prevents environment enhancement. This approach to population growths as a major threat to world economy, environment and political stability. Population control is the conscious regulation of population size by the society, according P. Sari (1995) which they argued strongly.

2.1.9 THE NEUTRAL VIEW

The group argues that population growth is neither strongly positive nor negative, rather environmental problem have other social, political and economic causes. Population is not seen largely and entirely responsible for low growth rather in the economy, but as a factor which hinders economic development and also many other factors which contribute in retarding growth.

According to P. Sarre (1995), population growth is not solely responsible for high growth rates or rapid economic development in a country but other factors like social, political and economical jointly contributes to rapid growth and development in a country.

2.10 CONCLUSION

The theory of demographic transition is the most acceptable theory of population growth. It does not lay emphasis on food supply like the Malthusian theory nor does it develop a pessimistic outlook towards population growth. It is also superior to the optimum theory which lays an exclusive emphasis on the increase in per capital income for the growth of population and neglects the other factors which influence it. The biological theories are also outside because they study the problem of population growth simply from the biological angle.

The demographic transition theory it is superior to all the theories of population because it is based on actual population growth trends of the developed countries of Europe. Almost all the European countries have passed through the first three stages of this theory and are now in the fourth stage. Not only is this theory equally applicable to the developing countries of the world. Very backward countries in some Africa states (Nigeria) are still in the first stage where as the other countries are either in the second or in the third stage. It is on the basis of this theory that economists have developed economic demographic models so that developing countries should either the fourth stage and attain the stage of self sustained growth. One such model is the coal-however model for India which has also been extended to other developing countries. Thus this theory has universal applicability M.I Shingan (1998).

2.2.1 DETERMINES OF POPULATION GROWTH

The size and rate of growth of any country population and determined by two major factors namely;

1. Natural change due to birth rate and death rate.
2. Migration across regional or international boundaries J. Havvey (1983).

Demographic relate the number of births to 1,000 people living that area. In every defined area, children are being born to families each day and in each month of the year. The birth rate is the significant factor in the determination of population growth, E. Udu (1989).

Factors that affect the birth-rate include:

1. **Early marriage:** tends to promote a higher birth-rate while post-panement of marriages because of educational aspirations lowers birth rate.
2. Increases in government and to families in the form of relief and subsidies, promotes population increase, Ewa (1989).
3. Increase in material well being of families may encourage people to have large families and thus, increase the birth rate.
4. Improved medical services have insured move successful births, and therefore, induce a higher birth rate.

5. Great economic prosperity promotes a population growth, when people are generally will off, they give little though to the number of children they have and how to bring them up.

To determine the rate of increase in population through natural causes, economists compare the birth rate to arrive at a net result of population changes for there to be an increase in population; the birth-rate should be greater than the death-rate Ewa (1989).

Migration is another factor that affects population growth of a country is migration. It can occur in two ways immigration and emigration.

The term “immigration” means an inward movement of nationals of other countries into a particular country.

Ewa (1989) while according to J. Harvey (1989) immigration means inwards.

Emigration, therefore is define as the outwards movement from one’s country to another country.

Ewa (1989), while Harvey (1983) defines emigration as outwards, the inflow and outflow of people in any country helps to determine the population in that country. Summarizing, if immigration is greater than immigration, it leads to a decrease in population, Ewa (1989).

Factors that induce population movement include:

1. Government's officials move in response to postings or as national representatives.
2. Nationals do abandon their homelands because of instability and political unrest.
3. Scientist and experts in advanced technologies may travel to places where their knowledge and skills are required, Ewa (1989).

4. Migrants move to places of greater economic prosperity and better employment opportunities,

5. Government officials move in response to postings or as national representatives.

2.2.2 EMPIRICAL LITERATURE

In this sector, some observers attracted attributed nearly all of the words maladies to excessive population growth; emphasis will be kid on empirical; literature on the implication of population growth in Nigeria and other countries.

Hodder's (1980) in his study view that a high density of population is a necessary precondition for economic growth in many tropical countries. Bloom and Willianison (1998) adjust a neo-classical growth model to show that the second phase of the demographic transition is associated with particularly high

growth, while the first phase (in which Uganda is currently in a "demographic burden" and the second phase labour of human gift"). Also Gbosi (1996) says it is the contemporary wealth of nations, according to Louise (1996) human beings are the centres of concern for sustainable development and they are the most important and variable resources of nation.

Further more, a large body of demographic literature document is the incidence of population growth in Nigeria (Sec, for example, Olusanya and Purcell, 1981, Feyisetan and Ainsworth, 1996, Fraroog 1985, Anyimue and Okojie, 1978, National population commission, 2002 and federal republic of Nigeria 2004). These documents argue that is growth in population should not become for concern since in certain circumstances, a large population could be to the advantage of the country in terms of the sheer size of its domestic market, better division of labour, increased productivity through improvement in the ratio of labour force to its political and military power. A large population also diversities the demand for product and services and promotes the tendency to increasing return to scale, thereby raising economic development and growth (Tersna, 2000) Kelly and Schmidt (1994) conclude that a statistically and quantitatively important negative impact of population growth and the rate of per capital output growth appear to have emerged in the 1980's, whether this

represent a new trend or whether the 190's will witness a return to the pattern of the previous two decades of no observed correlation is uncertain.

According to Tadaro 91982), one of major factors of economic growth in a society is population. Also from his analysis of the theory of demographic transition, growth occurs only after a country will have undergone different levels of population growth to arrive at an optimum which will naturally lead to growth. In Aerbinson's (1963) own view, he posits that human being are the active agents who accumulate capital, exploit natural resource, build social economic and political organization and thus carry forward national development. All implies that for the growth of population to yield economic growth the population must be productive and not dominate by dependent individuals.

Summon (1995) argued that population growth far from being a cause of economic and environmental problems, is in-fact a positive stimulus to innovations and problem solving. At his strongest, he argues that the more people the better.

In conclusion, economists believes that a rapidly growing population creates a steadily expanding demand for goods that provides ample opportunity for the investment of savings which will in turn, stimulate a high level that a slow rate of population growth or a static population growth limits the opportunity for investment and causes economic stagnation and under employment. It must be

noted that this contradict the fact that population growth without increase income will not compulsorily lead to economic growth.

2.2.3 IMPLICATION OF RAPID POPULATION GROWTH IN NIGERIA

At independence and in recent years the large size of Nigeria's population was considered as an asset. However in relation to her current resources, the rapid growth of population was a source of concern. The result of this rapid population growth has brought about negative effect to the economy as in unemployment, very high standard of living, environmental damage, income disparities between Nigeria and developed countries, international migration, retards formation and very low per capital income..

Nigeria is the most populous country in Africa and the earth in the world. Although there have been wide discrepancies in estimates of the total.

The UN population is 11.9m with a growth rate of 2.6%, while the World Bank estimates for 2000 is 126.9 with a growth of 2.4%. There has not been census conducted since 1991, probably because an accurate count is both logically challenging and politically sensitive. The size the population is contentious because of its implication for ethnic balance, electoral revenue to the states. As a most populous country in Africa, Nigeria accounts for approximately 50% of least

24 cities have population of more than 100,000, the variety of customs languages and tradition among cultural diversity.

According to the major demographic features as obtained from two major sources, viz; 1991 census and the PRBS world population Data sheet. In the final figures of 1991 census, the population of Nigeria at that time was 88.92million. projection of the population, using a 3.0 percent growth rate, shows the population of Nigeria could b about 106 million in 1991.

The population reference bureaus estimated total population of the country in 1991 has about 113.8million.

Obviously, tile population of Nigeria is large which makes it a giant relative to the other African countries. The large population implies a large market as good and services as well as large pool of human resources for development. However, the impact of population on development depends not only on the absolute size but also on its quantity. Population growth is influenced by the interplay of the three main demographic processes of fertility, mortality and migration. There is a crude bit rate of about 44 per 1000. This yield annual growth of Nigeria population is believed to have risen steadily from an estimated 2.8 percent in the 1960 to around 3.3 percent annual suggest a population doubling time of 22 years. The reality of this scenario might not necessarily be with the absolute size of the

population but more importantly with the implication of the growth rate for the future size of the population and the ability of the economy to grow commensurably with and therefore cope with the increase in population size.

The relatively low mortality of about 13 to 14 percent 1000 (crude rate) and a declining infant mortality rate, as well as the increasing life expectancy in life population all suggest higher survival chances and also a sell in the size of future population. The major factor responsible for the country is relatively.

High fertility level as portrayed by a total fertility rate of about 6.0 live-births per woman in the 1990's. The Nigeria fertility survey during 1982 put the average number of child birth per woman (i.e total fertility rate) at 6.4, although the data have suggested a slight decline, the level is still relatively high. It seems as appreciable fall in fertility level, in the country which would depend on achieving a significant change in the cultural, social psychological and economic attitude of Nigerians towards children.

A frontal approach was taken in pursuance of this goal where in 1988, Nigeria adopted a national policy which seeks to reduce population growth rate through voluntary fertility regulation and to promote the health and welfare of mothers and children to improve the quantity of life Nigerian. The main thrust of couple not to have more than four children per family (or per woman and to attain

a reduction of the population of woman bearing more than four children by 80 percent by the year 2000.

Population density in the various states was a major importance to planner, the large difference in the land area of states is clearly reflected in the size disparities between the densities of the states. Thus, for example not all the state with large populations spread over relatively large expanse of land areas hence their empirical population densities are very low, while states like Lagos, Anambra, Imo, Abia have high population density. In terms of age distribution in the population of Nigeria is very young, about 44 percent of the population are children under 10 years, and about 45 percent are under 15 years. The distribution is identical half the population. (53 percent) is in the active group of 15-64 years. There are more in the active group of (32,337, 193, percent) than males (33,4as, 7at, 53 percent). Ageing has not become an important feature of the Nigeria population only. 3.6 percent of male and 3.0 percent of females are aged i.e above 64 years. In some developed countries examples, United State of America, the orderly population represents 13% (United Nations, 1992).

In terms of literacy, over (66.9 percent) is literate (i.e can read and write with understanding in any languages, local or foreign. Literacy rate is higher among males (72.3 percent) than among females (62.4%) both are gotten from 2006 census as of the year 2007 3.1 percent are HIV/AIDS adult prevalence rate.

2.6 million peoples are living with HIV/AIDS in the year 2011 while 170,000 died with the disease in the year 2012. Nigeria, which is Africa most populous country is composed of more than 250 ethnic groups, the following are the most populous and political influential.

Hausa and Fulani 29%, Yoruba 121%, Igbo 18%, Ijaw 6.5%, Ibibio 4.5, Kanuri 4%, Annang 3.5%, Tiv at 5% Efik 2%.

These percentages are estimates based on the settlements including the number of towns, villages, hamlets and cities with information supplied by the Nigeria postal services. Although, these estimates have come under opposition by those who believe the ethnic group population counts have been tampered with for ethnic numerical superiority.

Changing population age distribution across the demographic transition are also explicitly considered (Bloom and freedom, Willianson and Higgins 1997, Bloom and Canning 2010, Kelly and Schmidt 2011). Fertility decline raises the support ration for 40 to 60 years in the middle of transition, giving a transitory boost to per capital income growth, called the (first) demographic physical capital and human capital as may be have happened in East at Asia (Mason 1987, Willianson and Higius 1997, Kelly and Schmidt 2009; Bloom and Willianson; lee et al). Meanwhile, a new concern with ":casual analysis" swept through economics, transforming empirical analysis and standards for evidence.

Disillusionment with traditional econometric methods led to a search for natural experiments (Moffit 2009) not surprisingly, the new casual approach has plenty of problems of its own (Moffit 2009) (Roseuzweig and Wolpin 2011).

Aceoghi and Johnson 2012 used a natural experiment to find that more rapid population growth led to slower due to mortality decline. The set up was some what peculiar, however (Bloom et al 2011).

Long term outcomes from the Matlab experiment provide some of the strongest evidence for these various points, and also show better health outcomes for both mothers and children (Joshi and Schultz 2011).

2.2.4 LIMITATIONS OF PREVIOUS STUDIES

A major short-fall in the literature reviewed is that none of then studied the relationship that exists between population growth and economic development. Their focus was on the relationship between population growth and economic growth. However this study will attempt to contribute significantly to the existing knowledge in this area of study by analyzing the relationship that exists between population growth and economic development in Nigeria with the view of making appropriate generalization that will be useful to other countries.

CHAPTER THREE

3.1 RESEARCH METHODOLOGY

The study follows an econometric research methodology. The kind of econometric tool we are going to apply is the ordinary least square (OLS) method. It is the estimating the relationship between population and economic development and other variables. The choice of this method is base on the "BULE" properties that is the best linear unbiased estimator. This is also based on the fact that it helps to ascertain quantitatively the impact of certain factors on a given phenomenon under study. In our own contest therefore, the only way to determine the effects of population on economic development rates and other variables that will be specified in our model.

3.2 MODEL SPECIFICATION

It is of paramount importance at this stage to specify the model of to be used in the regression. Koustsyiannis (1997) deems it fit that in attempting to study any relationship between variables, it is very important to express the relationship in mathematically as follows:

GDP = f (pop) - - - - equ(1)

Where

GDP = Gross Domestic Product representing the economic development

Pop = Population size

Assuming an approximately linear relationship between the dependent variable economic development (gross domestic product) and independent variable population. With that our equation becomes

GDP = b0 + B, pop - - - - equ (2)

However, our econometric model is not yet complete without adding the stochastic term (ii). Thus, our model in equation (2) becomes.

$GDP = B_0 + B_1 pop + B_1, -$ - - - equ (3)

Now, since there are some other factors in Nigeria, we can include them in our mathematical function. Then we have,

GDP = f(pop), or Fdi) -- - - - - equ (3.1)

Where FDI = Foreign Direct Investment

Expressing it in linear form, we have

$Gdp = B_0 + B_1$, pop $+ B_2$ Nexpt $+ B_3$ or $+ B_4$ FDI $+ u_1$ ……equ (3.2)

The model can be re-arranged in different logarithms to rest estimates of the variables due to stationary. Where B0 is the intercept depicting gross domestic product when the explanatory variables are equal to zero, B1, B2, B3 and B4 are co-efficient attached to the explanatory variable detailing their impacts on the

dependents variable. The inclusion of U1 into the model is to capture the influence of other variable not included in the model.

3.2.1 GRANGER: CAUSALITY TEST:

Although regression analysis deals with the dependence of one variable on the other variables. It does not necessarily imply causation. In other words, the existence of a relationship, between variable does not prone causality or the direction of influence. Therefore, we will test the direction of causation between population growth and economic growth in Nigeria. Explaining the granger test: Is it economic growth (GDP) that causes population growth pop (GDP→POP) where the arrow points to the direction of causality. The granger causality test assumes that the information relevant to the prediction of the respective variables. GDP and POP is contained solely in the time beries data on these variable. The test involves estimating the following pair of regressions.

$$GDP_t = \sum_{i=1}^{n} \alpha i\ pop_{t}\text{-}i + \sum_{j=1}^{n} \beta i\ GDP_{t}\text{-}i + \mu_{1t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$POP_t = \sum_{j=1}^{n} \lambda i\ pop_{t}\text{-}i + \sum_{j=1}^{n} \alpha_j\ GDPt - j + \mu_{2t} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where it is assumed that the disturbances U_{1t} and U_{2t} are uncorrected. In passing, note that since we have two variables, we are dealing with bilateral causality.

Equation (1) postulates that current GDP (economic growth) past values of itself as well as that of pop, and equation (2) postulates a similar behavior for pop. Note that these regressions can be cast in growth forms, GDP and Pop, where a dot over a variables indicates its growth rate.

3.3 MODEL ESTIMATION

The ordinary least square method of classical linear regression model is the econometric techniques adopted in the study, which covers a period of (1980-2008).

In evaluating the result of the regression, the economic test first order statistical test and second order econometric test.

3.4 ECONOMIC TEST (PRIOR CRITERIA)

The economic test involves examining the economic meaningfulness of the equation with regards to meeting, the prior expected signs. Theoretical “a prior” evaluation of the sign of the parameters will be employed as determined by the

principles of economic theory. The theoretical of prior expected signs of the macro economic variables used in the model are stated below.

VARIABLES	**DEFINITIONS**	**EXPECTED SIGNS**
Gross Domestic Product	The value of total income of the economy	This is our dependent variable. It has no sign
POPULATION	The total number of people or persons living in a country or geographical area. An increase in the population at a slow rate will result to an increase in the gross domestic product.	Positive
NET EXPORTS	This is surplus of export over imports. A favourable balance of trade or increase in the volume of net exports will increase the value of the gross domestic product.	Positive
FOREIGN DIRECT INVESTMENT	The value of the net capital flow of foreign investment in the economy. An increase in foreign direct investment will result to an increase in the gross domestic product.	Positive
OIL REVENUE	The revenue derives from the sale of oil exports. An increase in oil revenue will result to an increase in the gross domestic product.	Positive

3.5 STATISTICAL TEST (FIRST ODER + - TEST)

These are determined by statistical theory and aim at evaluating the statistical reliability of the statistical reliability of the estimates of the parameters of the model. In this investigation, co-efficient of determination (R2) will be used to capture how well the regression fits the data.

The student t-test will be used in testing the significance of each regression co-efficient at 5% level of significance with (n-k) degree of freedom.

Where N = sample size

K = Total number of estimated parameters

Our hypothesis is stated below

H: B1 = 0 (1 = 0,1,2,3,4,……)

The t- value is estimated by dividing the B1 by its standard error as stated below of – value where = B1/se (B1) (1 = 1……4)

Se = Standard error

B1 = parameter estimator

The F – test (f ratio) will be used to test all the over all significance of the regression model. The f – value of f at 5% level of significance value with (V_1V_2) degrees of freedom.

3.6 ECONOMIC TEST (SECOND ORDER TEST)

- **Auto correlation test:**

We will use the Durbu Watson of statistic to test the randomness of the residuals or more specifically for testing the presence of auto-correlation in the error-term normality test.

- **Normality Test:**

  This can be used to know whether the residual are normally distributed. The normality test adopted in this research work is the Jacque Bera (JB) statistics which follow the chi-square distribution.

- Hypothesis

H0: $\delta 1 = 0$ (The error term follows a normal distribution

H1: $\delta 1 \neq 0$ (the error term does not follow a normal distribution)

- **Heteroscedasticity test:**

  A third assumption about the random variable U: is the assumption of homoscedasticity or constant variance of U_5 that is, the probability distribution remains constant over all observation of X. it has a constant variance 6^2. The presence of heteroscedasticity violates. This assumption such that the variance is not constant 6^2 Ui, meaning that the conditional variance of the independent variable varies.

- **Multicolinearity Test**

The basis for the test being the correlation matrix result, using the correlation co-efficient between pairs of regressions.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.1 PRESENTATION OF RESULT

The estimated regression result is presented below:

Table 4.1: Presentation of Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-97339.97	84610.42	-1.150449	0.2597
POP	3248.614	869.4743	3.736297	0.0008
FDI	0.011319	0.007030	1.610261	0.1186
OILRV	0.040764	0.012239	3.330568	0.0024
R-squared	0.899053	Mean dependent var		350975.7
Adjusted R-squared	0.888238	S.D. dependent var		216482.7
S.E. of regression	72372.03	Akaike info criterion		25.33350
Sum squared resid	1.47E+11	Schwarz criterion		25.51671
Log likelihood	-401.3359	F-statistic		83.12487
Durbin-Watson stat	1.705936	Prob(F-statistic)		0.000000

4.2 INTERPRETATION OF RESULTS.

4.2.1 EVALUATION OF REGRESSION RESULT:

Constant: The value of the constant is -97339.97. This implies that if all independent variables are held constant, the value of the real gross domestic product will be -97339.97.

Population (POP): Population has a positive coefficient of 3248.614, which means that, with a unit change in POP, the real gross domestic product will increase by 3248.614 units.

Foreign direct investment (FDI): Foreign direct investment has a positive coefficient of 0.011319, which implies that a unit change in FDI will result to a 0.011319 increase in the real gross domestic product.

Oil revenue (OILRV): The coefficient of oil revenue has a positive value of 0.040764, meaning that when there is a unit change in oil revenue, the value of the real gross domestic product will increase by 0.040764 units.

4.2.2 ECONOMIC TEST:

The economic test examines the economic meaningfulness of the equation with regards to meeting the a priori expected signs. The table below summarizes the result.

Table 4.2: Economic test

Variable	Expected sign	Observed sign	conclusion
POP	+	+	Conforms
FDI	+	+	Conforms
OILRV	+	+	Conforms

Thus, all variables conform to economic theory.

4.2.3 STATISTICAL CRITERIA (FIRST-ORDER TEST)

1. **COEFFICIENT OF DETERMINATION (R^2):**

This tells by how much variation in the dependent variable is explained by the independent variables. From our regression result, about 89.91% of the total variation in the real gross domestic product is explained by population, foreign direct investment, and oil revenue.

2. THE T-TEST:

This is used to compare the estimated t-statistic with their tabulated in order to determine how strong the individual regressors impact on the regression.

Hypothesis:

H_o: $\beta_1 = 0$ (the estimated parameters are statically insignificant)

$\alpha = 0.05$

Decision Rule:

Reject H_o if (t call > t_{tab}) otherwise do not reject H_o.

The conclusions are summarized in the table below:

Table 4.3: t-test

Variables	t-statistics	t-tab	Conclusion
C	-1.150449	±2.0484	Statistically insignificant
POP	3.736297	±2.0484	Statistically significant
FDI	1.610261	±2.0484	Statistically insignificant
OILRV	3.330568	±2.0484	Statistically significant

From the conclusion, it is evident that only population and oil revenue have strong influence on the real gross domestic product. The constant and foreign direct investment was found to be insignificant.

Hypothesis testing:

H_0: There is no significant relationship between population growth and economic development in Nigeria.

The result revealed that population has a positive relationship with the RGDP, and the t-test showed that it had a significant relationship on the RGDP. Thus we reject

the null hypothesis and conclude that there is a significant relationship between population and economic development in Nigeria.

3. The F-test:

This measures the overall significance of the mode.

Hypothesis:

H_o: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ (model is insignificant)

H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ (model is significant)

$\alpha = 0.05$ with (k-1)/(n-k) degrees of freedom.

Decision Rule:

Reject H_o if $F_{cal} > F_{tab}$, and accept if otherwise.

n-k = 32 - 4 = 28.

Therefore,

$F_{cal} = 83.12487$, while $F_{tab} = 2.95$

Conclusion:

Since $F_{cal} = 83.12487 > F_{tab}\,(4/27) = 2.95$, we reject H_o and conclude that the model is statistically significantly different from zero.

4.2.4 ECONOMTRIC CRITERION (SECOND ORDER TEST):

a. **Test for Normality:**

This test is carried out to ascertain if the error term is normally distributed or not. Jarque-Bera (JB) statistic test is adopted.

Hypothesis:

H_o: The residuals are normally distributed

H_1: The residuals are not normally distributed.

$\alpha = 0.05$ at 1 degree of freedom.

Decision rule:

Reject H_o if $(X^2_{cal} > X^2_{tab})$ at 1 degree of freedom, otherwise accept H_o.

$X^2_{cal} = 65.06833$, while $X^2_{tab} = 3.841$

Conclusion:

Since $X^2_{cal} = 65.06833 > X^2_{tab} = 3.841$, we reject H_o and conclude that error term does not follow normal distribution.

b. **Test for Heteroscedasticity:**

The test adopted is the white's General Heteroscedasticity (no cross terms). The test follows the chi-square distribution asymptotically.

Hypothesis:

H_o: $\beta_1 = \beta_2 = \beta_3 \ldots\ldots = \beta_n = 0$ (Homoscedasticity)

H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \ldots\ldots\ldots \neq \beta_n \neq 0$

$\alpha = 0.05$ at 1 degree of freedom.

Decision Rule:

Reject H_o if $X^2_{cal} > X^2_{tab}$, accept H_o if otherwise.

$X^2_{cal} = 0.221973$ while $X^2_{tab} = 3.841$

Conclusion:

Since $X^2_{cal} = 0.221973 < X^2_{tab} = 3.841$, we conclude that the variance of the error term is constant, thereby accepting the null hypothesis.

c. TEST FOR AUTOCORRELATION:

The Durbin-Watson d* statistics would be used to test for the presence of autocorrelation. The decision rule is given below:

Table 4.4: Decision Rule

NULL HYPOTHESIS	DECISION	IF
No positive autocorrelation	Reject	$0 < d^* < d_L$
No positive autocorrelation	No decision	$d_L \leq d^* \leq d_U$
No negative autocorrelation	Reject	$4\text{-}d_L < d^* < 4$
No negative autocorrelation	No decision	$4\text{-}d_L \leq d^* \leq 4\text{-}d_L$
No autocorrelation positive or negative	Do not reject	$d_U < d^* < 4\text{-}d_U$

Given:

d* = Durbin-Watson Statistic = 1.705936

d_L = Lower boundary = 1.30932

d_U = Upper boundary = 1.57358

At 0.05 significance level

The decision falls under $d_U < d^* < 4-d_U$ (i.e. 1.57358 < 1.705936 < 2.42642). Thus, we will not reject the null hypothesis, but conclude that there is neither positive nor negative autocorrelation in the residuals.

d. Test for multicollinearity:

The basis for this test is the correlation matrix. A rule of tumb is used to search for correlation coefficient which is in excess of 0.8 between any two variables.

The result of the correlation matrix is summarized below:

Table 4.5: Summary of correlation matrix

Variables	**Correlation coefficient**	**Conclusion**
POP & RGDP	0.888920	Multicollinearity
FDI & RGDP	0.749085	No multicollinearity
FDI & POP	0.608361	No multicollinearity
OILRV & RGDP	0.918083	Multicollinearity
OILRV & POP	0.840541	Multicollinearity
OILRV & FDI	0.761982	No multicollinearity

From the table 4.3 above, it is clear that multicollinearity exists between the pair-wise POP & RGDP, OILRV & RGDP, and OILRV & POP.

e. Granger-causality test:

The result from the granger-causality test is presented in the table below.

Table 4.6: Result for granger-causality.

Lags: 2

Null hypothesis	**Obs**	**F-statistic**	**Probability**
POP does not granger cause RGDP	30	1.06222	0.36078
RDGP does not granger-cause POP		0.01894	0.98125

The results of Granger causality are contained in table 4.6. The results revealed that there is no causation between population and the real gross domestic product in Nigeria. The F-statistics values are all less than 2 which indicate acceptance of the two hypotheses of no causation between the variables. The probability values also confirmed that given their high values.

From our research hypothesis in chapter one, we accept the null hypothesis concluding that there is no direction of causality between population growth and economic development in Nigeria.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 SUMMARY OF FINDINGS

- Population was found to have a positive relationship with the real gross domestic product (RGDP), its observed sign conforms to economic theory while the T-test result reviews that population has significant impact on the real gross domestic product (RGDP).

- Foreign direct investment (FDI) has a positive relationship with real gross domestic product (RGDP), its observed sign conforms to economic theory while the individual significant test T-test shows it has insignificant impact on the real gross domestic product (RGDP).

- Oil revenue was found to have a positive relationship with the real gross domestic product (RGDP); its observed sign conforms to economic theory. Its T-test reveals that it has a significant impact on real gross domestic product (RGDP).

- The coefficient of determination as found to be 89.91% which means that the total variation in the real gross domestic product (RGDP) is explained by the independent variables to the tune of 89.91%.
- The overall model was found to be significant using the F-test.

5.2 recommendations

- The Nigerian government should improvise means of controlling the population size so as to reduce the rate of over-population in Nigeria. This would help promote economic growth and development in the Nigerian economy.
- Policy makers should formulate and implement effective fiscal and monetary policies that will promote foreign direct investment in Nigeria, which would help improve the terms of trade and sustain equilibrium in the Nigerian balance of payments.
- The oil revenue earned by the Nigerian government should be used efficiently. Instead of squandering the oil revenue the government should spend it on providing social amenities and public goods for the people, which would enable the level of poverty in Nigeria to be minimized.

- Tax evasion by Nigerian citizens and corruption by political officials must be drastically reduced so as to give the government and policy-makers a good chance to perform their duties effectively and maintain law and order.

5.3 Conclusion

From the conduct of this research work, this analysis has shown that there is a positive relationship between population growth and economic development in Nigeria. This work has revealed that population is not a curse to the society rather a blessing in disguise especially when it is being utilized by productive and efficient labour force. Adequate efforts and measures should be undertaken on how best use this large labour force to bring about development in Nigeria.

Since the relationship is positive, government should not overlook the population growth rates but rather monitor constantly and consciously where there is increase in population so as to tackle it with right policies when difficulties arise.

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