IMPACT OF GOVERNMENT HEALTH EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA FROM 1981 – 2016

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DECLARATION

I hereby declare that this work is the product of my efforts, undertaken under the supervision of Mr. Thaddeaus D. Longduut and has not been presented elsewhere for the award of a degree. All sources used have been duly acknowledged.

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CERTIFICATION

This is to certify that this thesis has been examined and approved for the award of Degree in **MASTERS** of **SCIENCES** in **ECONOMICS**.

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This project work is dedicated to God Almighty for His faithfulness, mercy, and the gift of knowledge.

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ABSTRACT

This study empirically examined the relationship between government health expenditure on economic growth in Nigeria using Gross Domestic Product (GDP) as a proxy to economic growth which is the dependent variable and the independent variables are Capital Expenditure on Health (CAPEXP) and Recurrent Expenditure on Health (RECEXP). The Error Correction Mechanism results showed that the system corrects to equilibrium at a speed of 43.40%. The study also employed the OLS regression analysis to estimate the model and the R^2 showed a 94% significant relationship between government health expenditure and economic growth. The regression analysis results showed that the dependent variable (GDP) has; a positive and significant relationship with all the independent variables; every 1% unit increase in CAPEXP and RECEXP will increase economic growth by 140.1217 units and 190.7144 units respectively. Good public health is vital in any country, not only to maintain a healthy populace but also as a matter of national security. Given these findings, to ensure sustainable economic growth, it is recommended that there is the need for the Nigerian government to double its budgetary allocation to the health sector - through the setting up of a good administrative/monitoring team, the utilization of disbursed funds meant for capital projects can be closely monitored, especially in the area of procurement; adequate and equitable distribution of healthcare facilities should involve the interests of all citizens especially those in the rural centres. And to ensure efficient service delivery by the health/medical practitioners or workers, the government should ensure prompt payment of salaries and wages and other benefits of the health workers (doctors, nurses, lab technicians, etc), as this will go a long way in encouraging them to work more efficiently. Thereby, resulting in improved service delivery in the country.

CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Conventional wisdom holds that health is wealth as well as a prerequisite for increased productivity, and overall economic growth; because better health care is a primary human need. People put a high value on health because while money and power provide the means for people to attain material things that may benefit their lives, no one can buy health. Although individuals trade health against other commodities over time and countries of the world do that especially developing countries. In other words, health itself cannot be bought and sold in the marketplace, although health services can be both bought and sold (Keleher & MacDougall, 2011). This means that the preservation of health is, without doubt, the first good and the foundation of all other goods of this life and health is intrinsically tied to people's sense of wellbeing and therefore occupies a higher order of meaning in people's lives. And they further explained in their work that, without good health, nothing is of any use, not even money nor anything else.

Labour is a factor of production which involves the physical and mental wellbeing of an individual that is often employed in developing countries more than capital is been used. As this is due to the fact that capital intensive production (that is high use of machinery) is much more expensive than labour intensive. What more, the increase in the rate of non-healthy individuals in the community increases workforce loss and reduces productivity in developing countries, whose economic growth and economies are based on labour, and creates more significant impacts and losses on the production power as compared to those in the developed countries which mostly employ the use of capital intensive means of production. In this case, developing countries cannot fully take advantage of the cheap labour factor to the extent required. They fall behind even more disadvantaged than an already disadvantageous situation. Therefore, the health status of the society

and the labour markets as well as health expenditures are more important for developing countries. Good health can reinforce economic growth by enabling people to be more productive especially in countries that have little corruption, poor healthcare, this can constrain economic growth because it reduces the quality and quantity of labour. As it applies to all countries, an adequate and effective way of making health expenditure is important for Nigeria, which is a developing country.

Careful consideration of the relationship between economic development and health care spending is rather a new phenomenon in economic literature. It was perceived that health spending just like spending on the environment is not necessary for the development and as such could be postponed. The idea demonstrated above is more prevalent in developing economies where the health status of the population is not important to the government and even to the people themselves. Growth theories suggest that the role of human capital is significant in achieving growth in the economy. The economic view of human capital encompasses education, health, training, migration, and other investments that enhance an individual's productivity. It was at the 58th World Health Assembly held in Geneva, Switzerland on May 16th-25th, 2005, where the attention of both developed and developing countries were drawn towards ensuring universal access and coverage in health services provision. WHO recommended that the total health spending, including both the government and private spending, should amount to at least a minimum of $54 per person (this was expressed in 2005 dollars).

There is a mutual interaction between a population's health level and its level of economic growth and development. Because outcomes from several studies have suggested that there has been a positive correlation between a worker's health status, productivity, and sustainable economic growth. This is also supported by Adeniyi and Abiodun (2011) as they cited Bloom,

Canning, and Sevilla (2001) in their study, who agreed with others on the positive and significant effect of health on economic growth. They, therefore, suggested that a one-year improvement in a population life expectancy contributes to a 4% increase in output. Maintaining a sustainable level of growth and development provides people significantly better nutrition and disease treatment opportunities along with wider access to preventive medical technology.

Sustainable growth and development enable better health conditions which therefore increases the share of the population of healthy individuals. In this way, loss of labour and/or effort does not emerge in such a society, and therefore, the amount of labour increases as well. Health is also a driving force upon which other human capitals such as education and skills rely on. Thus, because healthy individuals are more fit both physically and mentally, and so they are expected to contribute to production more than a sick person and thereby increasing productivity. And this causes a positive impact on economic growth. When a person is healthy, life expectancy increases, and this also promotes his savings and investments and there is also the opportunity for healthy individuals to find better means to benefit from these investments they have made as suggested by (Serdar, 2015). Thus, contributions are made to investments and development of human capital to the aggregate output of an economy. With its multiplier effect, increased health expenditures lead to an increase in total expenditures and aggregate demand.

Apart from that, the health sector constitutes an area of employment in the economy and increased health expenditures lead to a rise in the number of those employed in the sector along with the total income of those employed, which contributes to total expenditures and increases aggregate demand. The wealth and poverty of nations can, and have often been analyzed in terms of the state of health of citizens of the nations. Health is fundamental to economic growth and development and is one of the key determinants of economic performance both at micro and macro

levels. This derives from the fact that health is a form of human capital that increases an individual's capability and a component of human well-being which is a means of identifying with economic development (Bloom & Canning, 2013). This is also supported by Serdar (2015), when he posited that Sustainable growth depends on increased human capital stocks due to a better education, and also supported these assertions is the work of López-Casasnovas, Rivera, and Currais (2005), that sustainable growth also depends on a higher level of health and the new learning-application processes. This explains why governments across the globe are making frantic efforts to achieve good health for all. Thus, following the United Nations' (UN) recommendation of average expenditure on health 8% - 10% percent of the GDP may be considered as a benchmark. And so this study is of the opinion that no amount spent on health by a nation can be too much, as health is wealth to every human being, and has the right to good healthcare, regardless of age and social status.

Analyses of the inter-relationships between health, productivity, and economic growth can be conducted at the individual level, at regional levels within a country, and for aggregate data on countries. In developing countries, there are numerous micro studies in biological and social sciences showing the benefits of better health on productivity. There are several methods of describing the funding of health care systems. These usually consider both the funding and service delivery arrangements of the system. There are essentially four methods of funding health care services; they are general taxation, social health insurance, private health insurance, and direct payments by patients. Different combinations of these exist in practice. However, public health expenditure consists of recurrent and capital spending from government budgets, external borrowings, and grants (including donations from international agencies and NGOs) as well as compulsory health insurance funds (Eneji, Dickson & Onabe, 2013). Total health expenditure is

the sum of public and private health expenditure. It covers the provision of health services (preventive and curative), family planning activities, nutrition activities, and emergency aid designated for health. Healthcare spending in Nigeria is segmented into private and public spending. While public expenditures in Nigeria account for just 20-30% of total health expenditures, private expenditures account for 70-80% of total health expenditure as explained by Soyibo (2004, 2009). The dominant private expenditure is through out-of-pocket, and this accounts for more than 90% of private health expenditures. Sustainable health care systems are built on dependable access to human, capital, and consumable resources; (Essien, 2010) as cited in Kareem, Fagbohun, Oyinkansola, and Arije (2017), in their work about health and economic growth. Health care financing does not stop only with just the raising of sufficient resources to finance health care needs of countries, but it's encompassing – on how to ensure affordability and accessibility of healthcare services by the people which it's meant for, equity in access to medical services as well as guarantee financial risk protection. According to the World Health Organization (WHO, 2005), 50% of economic growth differentials between developed and developing nation is attributable to ill-health and low life expectancy. The effect of health on a worker's productivity suggests a relationship between the health and aggregate output of a country.

In the study by Kareem, Fagbohun, Oyinkansola, and Arije (2017), they explained healthcare as diagnosis, treatment, and prevention of disease, illness, injury, and other physical and mental impairment in human beings. Healthcare is delivered by practitioners in allied health, dentistry, midwifery, medicine, nursing, and other health professions. It refers to the work done in providing primary, secondary, and tertiary care as well as in public health. Healthcare financing has serious implications for the welfare of Nigerians. The outbreak of the global financial crisis in 2008 was a heavy blow to the world economy and its negative impacts are still being felt especially

in developing countries that are import-dependent for health, food, and other necessities like Nigeria (Eneji, Dickson, Onabe, 2013).

The developed nations have long realized the importance of health and other human capital indicators to the economic growth of their nations. As such, no wonder they jealously and carefully expended on all health matters at most times. Also, many researchers, in the developed world, have developed a keen interest in the impact of health on economic development and have therefore come out with many different approaches to better their health systems from time to time. Unlike the developing nations, where inadequacy in funding the health sector has always been the case. Developed countries spend a high percentage of their Gross Domestic Product (GDP) on healthcare because they believe that their resident health can serve as a major driver for economic activities and development. Take the United States for instance, according to the research carried out by Serdar (2015), that the share of health expenditures in the gross domestic product (GDP) in the USA had a gradually increasing trend from 2006 to 2012, but from that same year, 2006 up to 2010, a declining trend that falls to a share of 6.30% is seen in Turkey (which is ranked as one of the developing nations of the world). This is because developed countries spend a higher proportion of their Gross Domestic Products (GDP) in providing healthcare services to their citizens, while some of the developing countries exhibit great variability in healthcare expenditure. Following the reports (WHO, 2005), also show that there exists very great variability in the performance of the health system at each income level and each country. According to the same report, both developed and developing countries were ranked according to the proportion of income spent on healthcare. While Singapore was ranked 6th, Costa Rica was 36th with Colombia, Chile, and Morocco as 22nd, 23rd, and 29th respectively. However, it should be noted that all of

these developing countries ranked higher than the United States. This is an indication that much can be done with relatively modest income.

During the Second Republic, government expenditure on health increased to 10% of total GDP; from then on till 2013 it has dropped to 5.8%, all of which is lower than the agreed 15% of the Abuja declaration. Looking at the trend of government spending on the healthcare from around the 1970s, Bakare and Olubokun (2011), discovered that the capital expenditure of government has been oscillating over the years. This development is occasioned by the fact that the government was more preoccupied with the business of paying workers' salaries with less attention being paid to capital expenditure. In the 1980s, public spending on health was significantly low until 1988, there was a significant rise to N297.96m but the statistic dropped to N137.3m in 1991, down again to N33.72m in 1992. And in the recent past years – 2013 and 2014, N262b and N279b respectively, were allocated to the health sector. But then, just recently in 2016, money amounting to N221.7b was apportioned to healthcare which is lower than that of 2013 and 2014. From the above figures mentioned, the trend of the expenditure on the Nigerian healthcare recently has not been a stable one, rather, it's oscillating.

In April 2001, African leaders (the African union countries) met and pledged to set a target of allocating at least 15% of their annual budget to improve the health sector and urged donor countries to scale up support. Years later, only one African country reached this target. Twenty-six countries had increased the proportion allocated their health sector, eleven have reduced and for the remaining nine countries, there was no obvious trend up or down. The case of Nigeria is perplexing; while the agreement was made in Abuja, Nigeria has remained a perpetual defaulter. The budgetary allocation to the health sector in Nigeria has consistently hovered around the 5% mark at best. Besides defaulting on the 15% budgetary allocation to the health sector, the Nigerian

government is yet to comply with the National Health Act of 2014 on a 1% consolidated revenue fund (CFR) for basic health care provision (Umejei,2016). That is why not much has been achieved yet, as compared to emerging countries like South Africa, Brazil, and India. Recognizing the fact that recent improvement in Nigeria's macroeconomic performance has not translated into a noticeable improvement in the health system and quality of life of Nigerians (Kareem, Fagbohun, Oyinkansola & Arije 2017); thus the curiosity and the motivation of this study.

Incidentally, Nigeria is among the developing economies with healthcare outcomes and its attendant negative issues. The health status of Nigeria is still considerably low and exists below that of some countries even in West Africa. Such as the health sector losing qualified personnel to more profitable countries depriving citizens of their right to a better service. Nigerian Journal of Clinical Practices report (NJCP), 2015) showed that the only worse place than Nigeria for a child to be born in Angola, among comparative countries. In 2011, Abiodun and Adeniyi, as cited in the work of Philips (2005), that in his reaction, affirmed that over the past 50 years, life expectancy has improved and infant mortality declined continuously in all parts of the world, except sub-Saharan African in the 1990s. Low level of nutrition reduces productivity by damaging physical and mental health; from conception, infant, school age and onwards problems such as low life expectancy, high infant as well as maternal mortality rates, malaria, and many to mention but few, and a whole of other are the characteristic features of the health status in Nigeria. Life expectancy at birth was estimated at 48 in 2007, as compared with 56 in Ghana. Although the global maternal mortality ratio of below 400 in maternal deaths per 100, 000 live births in 2008, that of Nigeria was 1100 per 100,000 live births, which is still on the high as against the figures of 560 and 910 in Ghana and Guinea respectively (Bakare & Olubokun, 2011**)**. The prevalence of HIV/AIDS infection among adults aged 15 and above has contributed to Nigeria's low life expectancy (WHO

2010), which was estimated at 2,886 per 100,000 people, which is above the prevalent rate of 1722 in Ghana but below that of Cameroun of 4580. In 2011, these ECOWAS countries which happen to be less rich than Nigeria in terms of GDP, Sierra Leone, Mali, Niger, Burkina Faso, Senegal, Benin, Togo, Liberia, Ghana, Cape Verde, and the Gambia spent more on health than Nigeria being the 'giant of Africa' and which has more natural resources (for example, crude oil), than all of these countries mentioned. The Federal Government's 7-Point Development Agenda has underscored human capital development as the bedrock of this national agenda with explicit reference to the health sector. Access to quality healthcare and prevention services are therefore considered vital for poverty reduction and economic growth, particularly as Nigeria is lagging in attaining the health-related Sustainable Development Goal (SDGs) over the years (Essien, 2010).

The funding of healthcare in Nigeria has often been described as inadequate with budgetary provision to health hardly exceeding 3% of the nation's total budgetary provisions (Orubuloye and Oni, 1996; Ogunbekun, 1991; Essien, 2010) as these are cited in the work of Abiodun and Adeniyi (2011). The impact of Nigeria's default on the Abuja Declaration is evidenced in the World Health Organisation ranking of the Nigerian health system at 197 out of 200 member States surpassing only DRC, CRA, and Myanmar (Umejei, 2016). Quoting from the Nigerian Medical Association (NMA), over 500 million dollars as cost annually to medical tourism. The Nigerian High Commissioner to India revealed that 80% of the Indian visas granted to Nigerians in 2011 were for medical treatment (Eneji, Dickson & Onabe, 2013). The health care funding system in Nigeria is predominantly from general taxation by the government which is never sufficient for the provision of good health care service delivery in the country, which is presently facing numerous challenges. In Nigeria, health care financing strategies have failed to achieve the expected goals. This is due to the failure of reviewing the existing health strategies to combat the new health

problems and the neglect of the health sector especially the health problems of the youthful segment of the country. This is obvious from the effects of these health problems on the labour, research, and innovations, technological and sustainability capacity of the population, which have constrained the efforts towards economic growth. More so, apart from the threat of human existence, they have led to a ravaging growth in orphanage and dependency ratio in the economy. The health status indicators for Nigeria are among the worst in the world: vaccine-preventable diseases and infectious and parasitic diseases continue to exert their toll on the health and survival of Nigerians, remaining the leading causes of morbidity and mortality. According to the latest WHO data published in 2018, life expectancy in Nigeria: male 54.7, female 55.7, and total life expectancy is 55.2 which gives Nigeria a world life expectancy ranking of 178. Kareen, Fagbohun, Oyinkansola, and Arije (2007), affirmed in their study that Nigeria has the highest number of HIV infected persons in the African continent and the fourth-highest tuberculosis burden in the world and that Nigeria is ranked by World Health Organization the 197th out of 200 countries with the poorest health care system, just right ahead of Angola (WHO, 2000). This of course is not a good report for a country that claims to have the largest economy in Africa. Although the infant mortality rate fell from 140 in the 70s to 87.8 and 80. 4 per 1000 births in 2008 and 2011 respectively, the rate is still higher than the regional average (Sub-Sahara Africa) as cited by Yaqub (2010).

Health service delivery in Nigeria has suffered neglect from time to time, thereby endangering the national productivity and economic growth (GDP) which could have acted as a catalyst to the realization of formulated economic development policies. Hence, reviewing the existing health financing strategies as part of economic growth effort is one of the effective ways in the realization of economically set goals. Thus, the study shall attempt to answer the following questions: What has been the trend of federal government healthcare financing over the years?

What is the relationship between federal government healthcare financing and economic growth with particular reference to the period of study? Providing answers to these questions will allow us to establish the causal link between health care expenditure and economic growth in Nigeria

1.2 STATEMENT OF THE PROBLEMS

National productivity and overall economic growth of any nation is the function of the health of such a nation. The improvement and extension of healthcare delivery in Nigeria have been constrained by gaps in financing, its contribution is still marginally low whereas the extent of its impact on economic growth is undermined and the desired results have not been met. This is particularly worrisome as several questions have been raised on the situation and which, the study intends to answer within its scope and context. What is responsible for this marginal contribution and how can this be addressed, is the thrust of this study.

1.3 RESEARCH QUESTIONS

Arising from our statement of the problem above, questions such as the following have been raised; these are:

i) What is the contribution of public (capital and recurrent) health expenditure to the economic growth of Nigeria?

ii) Is there any relationship between public (capital and recurrent) health expenditure and the rate of growth of the Nigerian economy?

Against this background, this study seeks to examine the trend of government health expenditure in Nigeria and its impact on economic growth.

1.4 OBJECTIVES OF THE STUDY

The overall objective of this study is to empirically evaluate the role of government healthcare expenditure on the rate of growth of the Nigerian economy. The study seeks to:

i) examine the contribution of public (capital and recurrent) expenditure on health and its impact on economic growth in Nigeria

ii) evaluate the long-run relationship between government (public) expenditure on health and economic growth in Nigeria.

1.5 HYPOTHESES OF THE STUDY

This study verifies the null and the alternate hypotheses which are stated as below:

Ho: capital health expenditure and recurrent health expenditure do not contribute to economic growth in Nigeria.

H_1: capital health expenditure and recurrent health expenditure contribute to economic growth in Nigeria.

1.6 SIGNIFICANCE OF THE STUDY

The significance of this study is basically as follows;

i. To provide literature or information for other researchers to use

ii. A document for policymakers and,

iii. To contribute to knowledge

1.7 SCOPE OF THE STUDY

This study is within the scope of the Nigerian national healthcare sector which covers the period of 35years, which is from 1981 – 2016.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

2.1 CONCEPTUAL FRAMEWORK

2.1.1 Concept of Health Expenditure

Health is one of the most fundamental conditions of life. Definitions of basic concepts provide people with a common foundation for understanding and sake of this study, we will look into the basic concepts of health even as they relate to the context of the topic under study. Feeling healthy is core to our everyday lives and this is also reflected in the common greeting, 'How are you? As we relate with people we meet every day. Rarely does a day go by that we don't consider our health, and then inquire about the health of others around us even as we go about our daily economic activities. But of course, people and cultures, as well as groups and societies understand and so try to interpret the concept of health in different ways. Moreover, in Nigeria and around the world, we are seeing rising rates of poor health – rise in diabetes, cancer, high blood pressure, etc. People see health as essential to well-being, but how people define their health varies according to their own social experience, particularly relative to their age, personal knowledge, and social and illness experiences. People put a high value on health because while money and power provide the means for people to attain material things that may benefit their lives, no one can buy health. Health is a dynamic concept with multiple meanings that are dependent on the context in which the term is used and the people who use it. And expenditure on the other hand consists of payment made, especially in cash for a good or service.

Health is a fundamental driver of economic growth and development (Ewurum, Mgbemna, Nwogwugwu & Kalu, 2015). This is so evident in the sense that healthy nations produce more output than unhealthy nations. In the same vein, Grossman (1972), termed health as a durable stock producing healthy time as an output for both market and non-market activities that give utility and income respectively. The WHO Constitution of 1948 defined health as a state of complete

physical, social, and mental well-being, and not merely the absence of disease or infirmity. Health is, therefore, seen as a resource for everyday life, not the objective of living. Barro (1996) defined health is an engine of economic growth and productive capital. A country benefits much more from healthy citizens, the reason being that a healthy population brings about higher growth rates in the economy than the other way round. Furthermore, health is a factor that determines growth potentials in a country. Now, for this study, health is seen as an engine of economic growth and productive asset in the form of human capital which was given by (Barro, 1996).

Health spending measures the final consumption of health care goods and services including personal health care and collective services. Health financing is a critical component of the health system. For it is the synthesis of the financing and spending flows recorded in the operation of a health system, right from funding sources to distribution. Therefore, the concept of health expenditure, as defined by WHO report (2006), is the sum of general government health expenditure and private health expenditure in a given year, calculated in national currency units in current prices. The concept of health expenditure (public), consists of recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds (WHO, 2018). As the most acceptable definition of the concept of health expenditure which is adopted in this study.

2.1.2 Concept of Economic Growth

Generally, the concept of economic growth is semantically the mixture of "economic" and "growth". Economics is the management of the factors of production. And growth is an increase in size, number, value, or strength. But from an economic perspective, "economic" and "growth" are jointly used together to mean a positive change in the standard or quality of life of the people. Balami (2006), postulates growth is a steady process which involves raising the level of output of goods and services in the economy. Jhingan (2003), further explained that growth is related to a quantitative sustained increase in a country's per capita output accompanied by an expansion in manpower and volume of trade. This implies that economic growth is the sustained increase in an economy's output followed by other factors that influence growth such as infrastructural development, technological advancement as well as human capital development

Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time; it is measured as the percentage rate of increase in the real gross domestic product (IMF, 2012). In the same vein the World Bank (1993), identified economic growth as more rapid output and productivity in growth; and by growth, it, therefore, implies the expansion of a country's potential GDP.

Kuznets posited in 1959, that economic growth is a long term rise in a country's capacity to supply increasingly diverse economic goods to its population. This means the growing capacity is based on advancing technology and institutional adjustments it demands.

For the sake of this study t, economic growth is therefore seen as a sustained increase in the output and productivity of a country which implies the expansion of a country's potential GDP (World Bank, 1993).

2.2 THEORETICAL FRAMEWORK

2.2.1 Theory of Healthcare Demand

Some theories have attempted to explain the role of government spending (human capital development) in the growth process. This study will draw the opinions of such theories as to the endogenous and exogenous growth models. But we would first of all look at the theory of healthcare demand and healthcare supply. The theory of demand is based on the assumption that the individual is capable of making a rational choice between alternative bundles of goods and services to maximize his utility. Here, the idea of demand in the health market is different from that of the ordinary market, the consumer's knowledge of his actual state of health and the effect of an alternative treatment on that state is likely to diverge from the conventional assumption of the consumer's theory (theory of demand). The consumer in the health market does not possess the knowledge and freedom that the consumer in the ordinary market exhibits.

Sustainable growth depends on levels of human capital whose stocks increase as a result of better education, improved level of health, and new learning/training procedures.

According to a study by Phelps and Newhouse (1974), who modeled the behavior of utility-maximizing individuals whose expenditure on healthcare is covered by a simple form of insurance. In their analysis of the demand for healthcare, the consumer is covered for a fixed percentage of health care. Thus:

Using CP_u per unit of healthcare

Where C = proportion of the cost of care.

P_u = market prices

They explained that for each unit of healthcare, a consumer requires an input of time (t) valued at an opportunity cost (W) per unit.

Therefore, they arrived at the total cost of healthcare as;

$CP_u + W_t$per unit of time and the demand for healthcare is given by;

$Dh = f(CP_u + W_t)$. where;

Dh = demand for health

CP_u = money cost of health care

W_t = time cost of healthcare

Health care demand is concerned with the relationship between the quantity of healthcare demanded and its price. Much of the recent progress in healthcare demand research is due to the theoretical insights of Grossman (1972). Essentially, Grossman's proposition is that the demand for healthcare is a derived demand. He assumed in his work that the level of health of an individual is endogenous which depends on the resources allocated to its production as well as its maintenance. Health is demanded as an argument in the direct utility function of the individual as both a source of utility in itself and as capital or investment good since it determines the amount of time available to the individual for the production of other goods and services. He opined that the demand for health stresses that the shadow price of health depends on many other factors other than price which include; effect of consumer's time and insurance. Generally, the demand for healthcare implies that as there is a reduction in the cost price of healthcare, this will also influence the consumer's demand for healthcare. This means that as the cost of healthcare in an economy decreases overtime, the demand for healthcare by the people of that country will increase beyond the level it was when the cost of healthcare was high. For the more, an economy increases its expenditure on the health of its population, the more the demand for healthcare by the population because of cost reduction through policy implementation.

Grossman (1972), concluded that health is a durable stock that produces an output of a healthy time. This theory is of great importance as it falls in line with the study, as it demonstrates the relevance of government expenditure on health.

2.2.2 Theory of Healthcare Supply

WHO Commission on Macroeconomics and Health (Sachs, 2001) wrote improving the health and longevity of the poor is an end in itself, a fundamental goal of economic development. But it is also a means to achieving the other development goals relating to poverty reduction. The linkages of health to poverty reduction and too long- term economic growth are powerful, much stronger than is generally understood. The burden of disease in some low-income regions, especially sub-Saharan Africa, stands as a stark barrier to economic growth and therefore must be addressed frontally and centrally in any comprehensive development strategy. Public health programs or the provision of "free" health services tend to redistribute resources toward the poor (Caselli &Ventura 1996).

The theory of healthcare supply in its perspective under sees the divergence in the organization and behavior of hospitals which is different from the usual theory of supply. Like in the normal market structure (perfect competition), where both sellers and buyers have complete information about the market or product, in this case, the consumer lacks complete knowledge in the healthcare market which thereby gives the producer the monopoly power in such a market. New House (1970), examined the theory of non-profit making hospital behavior and suggested that non-profit making hospitals maximize both quantity and quality in light of zero profit. And the discovery from the study was that the production is either for pure profit or pure patient welfare motivation. And the conclusion from the study is based on the fact that the decision-makers of the hospitals are assumed to have two major objectives which they aim to achieve: these are the

quantity and quality of healthcare delivered (New House, 1970). Furthermore, that the demand curve for healthcare shifts upwards as the quality rises because quality healthcare is of a greater significance to the consumer, as individual needs the supply of healthcare he can trust and only the non-profit hospitals can provide such services as maintained (Hansmann, 1980 in West 1989).

In the same view with Frank and Salkever (1991), Harrison and Lybecker (2005) and Horwitz and Nichols (2009), posited that non-profit making hospitals compete for public goodwill which is demonstrated in their provision of healthcare to poor or indigent patients. These hospitals show no change in their operation margin even when faced with profit competition; which implies that non-profit hospitals pursue output maximization.

Thus, the non-profit-making hospitals measure the quantity in the number of cases treated but much more concerned about the quality in the type of healthcare given to patients. In that, the operation of non-profit hospitals, quality is an important factor. This implies giving the patient the best treatment which means giving the very best quality of input, especially a doctor committed to having the best interest of the patient at heart.

2.2.3 Endogenous Growth Theory

The word “endogenous” means originating or growing or produce from within. The basic improvement of this growth theory over the previous growth models is that it explicitly tries to model technology rather than assuming it to be exogenous. Mostly, economic growth comes from technological progress which is essentially the ability of an economic organization to utilize its productive resources more effectively over time. Much of this ability comes from the process of learning to operate newly created production facilities more productively, or more generally from

learning to cope with rapid changes in the structure of production which industrial progress must imply (Verbeck, 2000)

Lucas (1988) and Romer (1990) tried to model technology rather than assuming it to be exogenous; they created technological changes as an explanatory variable in their growth model. They proposed that technical progress constitutes the cornerstone of growth and that this technological progress is endogenously determined. They also focused on the factors that cause technical progress; not only the technology but human capital also determines growth. Thus, Romer (1990), saw human capital as a factor that stimulates economic growth. Lucas (1988), assumed that non-decreasing marginal return of human capital creates endogenous growth but to Romer, it is caused by accumulating technology. Romer took an approach in accounting which led to aggregate production function as expressed below:

$$Y = K\alpha(AL)1-\alpha$$

Where, Y = output; k = capital stock; α = share of capital in output; AL = effective labor; $1-\alpha$ = share of effective labour in output.

The model assumed that research creates technological knowledge. Which is expressed in a simpler form as; $dA/dt = \delta HAA$

Where; HA = human capital of research worker

δ = is a parameter.

This equation simply shows that the rate of technical progress is determined by the rate of the human capital of the research worker. The fact that δ is positive shows that an economy with a larger total stock of human capital will grow much faster.

Furthermore, they believed that financing health services by the public sector not only increases the utilization of health services in developing countries but also increases health care accessibility by the poor, implying that financing of health through government spending according to the endogenous growth theory, is a key element of human capital that will promote aggregate economic growth. And so this theory, therefore, becomes of great relevance to this study.

2.2.4 The Keynesian Theory

John Maynard Keynes (1936), in his theory, believes that expenditure can contribute positively to economic growth; Keynes discussed the relation between public expenditures and economic growth, he regarded public expenditures as an exogenous factor that can be utilized as a policy instrument to promote economic growth. From the Keynesian thought, public expenditure can contribute positively to economic growth. Hence, an increase in government consumption is likely to lead to an increase in employment, profitability, and investment through multiplier effects on aggregate demand. As a result, government expenditure augments the aggregate demand, which provokes an increased output depending on expenditure multipliers. Keynes postulates that:

1. the extension of the functions of the state leads to an increase in public expenditure on administration and regulation of the economy;
2. the development of modern industrial society would give rise to increasing political pressure for social progress and call for increased allowance for social consideration;
3. the rise in public expenditure will bring about more than proportional increase in the national income (income elastic wart) and thus results in a relative expansion of the public sector

2.2.5 Musgrave and Rostow's Development Model

The economist, Musgrave (1969), and the economic historian, Rostow (1971), (separately) suggested that the growth of public expenditure might be related to the pattern of economic growth and development in societies. Three stages in the development process could be distinguished: The early development stage where considerable expenditure is required on education and the infrastructure of the economy (also known as social overhead capital) and where private saving is inadequate to finance this necessary expenditure (in this stage, government expenditure must thus be a high proportion of total output); The phase of rapid growth in which there are large increases in private saving and public investment falls proportionately; and High-income societies with increased demand for private goods which need complementary public investment (e.g. the motor car and urbanization). The increasing need in high-income societies for skilled labor leads education to become increasingly an investment good for society as a whole. Increased population movements lead to the development of urban slums. Such factors and others lead once again to an increase in public expenditure in relation to total output.

2.2.6 The Wagner's Law/ Theory of Increasing State Activities

Adolf Wagner (1883) formulated the "Law of the increasing extension of state activity". He asserted that there is a long-run propensity for the scope government to increase with higher levels of economic development. Wagner's hypothesis deals with the growing relative importance of government activity and has come to be known as Wagner's law.

According to Wagner, there are three reasons to expect an expanding scope of public activity; first, as nations develop, there is increased complexity of legal relations and communication along with greater urbanization and population density and it forces the government to produce the regulatory framework that will accompany the greater intricacy of the relationships among economic agents.

Second; as income increases, societies demand more education, entertainment, more equitable distribution of income, and generally more public services. Finally, the technological needs of an industrialized society require a larger amount of capital infrastructure than are forthcoming from the private sector, hence the need for government to step in to fill in the gap. Wagner's law has been tested empirically for various countries and the result differs considerably. Musgrave (1959), in support of Wagner's law, opined that as progressive nations industrialize, the share of the public sector in the national economy grows continually. In the work of Chude and Izuchukwu (2013), Wagner's law postulated that;

i. Extension of the function of the state leads to an increase in public expenditure on administration and regulation
ii. The development of modern industrial society would give rise to increasing political pressure for social progress and calls for increased allowance for social consideration in the conduct of industry.
iii. The rise in public expenditure will be more than a proportional increase in the national income and will thus result in the expansion of the public sector.

From the above, it implies that the more government increases its investment especially in the health sector in the Nigerian economy, the healthier will be the population which increases the productivity of a healthy workforce hence, economic growth. Therefore, the study adopted the Keynes theory as the working theory for this study.

2.3 EMPIRICAL FRAMEWORK

The study of the relationship between healthcare spending and economic growth is rather a new phenomenon in economic literature and so far it has received a lot of attention in recent times. Health as human capital affects growth directly through, for instance, its effect on labor

productivity and the economic burden of illness. The indirect effect of health on economic growth can be represented in a two-period utility maximization problem. While the direct effect enters the production function as labour augmenting factor along with schooling (Finlay, 2007). To isolate the role of health from experience Bloom, Canning, and Sevilla (2004), control for workforce experience and show that life expectancy as a proxy for health has a significant positive effect on economic growth. Their results indicated that there is a real productivity effect of health on economic growth.

Foster and Rosenzweig (1999), considered another measure of investment in children's human capital, namely child survival. They argued that technological growth in the village increases the returns from investing in boys' health, while technological growth outside the village, but in the potential "marriage market", increases the returns to investing in girls (because better educated and healthier women will fetch a higher price in regions with higher technological progress). Their results indeed suggested that the gap in boys'/girls' mortality rates increases with technological change in the village, but decreases with technological change in the labor market.

Lustig (2006), observed that health is responsible for approximately one-third of long term economic growth. He used Mexico over 1970-1975 data and life expectancy and mortality rates for different age groups as health indicators, he considered health to be an asset with essential value as well as instrumental value. Good health according to him is a source of well-being and highly valued throughout the world. Scheffler (2004), identified three mechanisms by which health has become important in what is called the demographic transformation. The link of health and economic growth, Hh tried to link the decrease in infant mortality with the attitude of people in developing countries with large families because of high infant mortality. With a better-educated population, they tend to become healthier and more resources are expended on fewer families

rather than on a multitude. Another fact is that ill-health is a major cause of poverty and not the reverse. When one is sick there is a high tendency for the person to become poorer if the sickness persists.

Scheffler (2004), argued that health may not be treated as output (life expectancy, adult survival rate, etc.) rather it needs to be treated as input (health expenditure). In doing this, Scheffler observed that elasticity of health care spending with respect to GDP is greater than one, meaning that if GDP increases by 10% then healthcare spending goes up by more than 10%. Consequently, this study shows that developed countries spend more on health as compared to developing countries (Ogundipe & Lawal, 2011). Furthermore, Gallup, Sachs, and Mellinger (1998), supported the positive relationship between health and economic growth. They find a strong relationship between initial levels of health and economic growth, using life expectancy at birth as their basic measure of the overall health of the population. They conclude that improved health is associated with faster economic growth. Baldacci (2004), explored the role played by health expenditures and found that spending on health within a period affects growth within that same period.

Bloom, Canning, and Sevilla (2004) focused on the labor productivity effects of health on economic growth, where improvements in health will lead to an increase in per capita income. Their main result is that health has a positive and significant effect on economic development. But they found life expectancy to be weakly related to economic growth. Empirically, a high level of public health goes hand-in-hand with a high level of economic development. In line with this, Taban (2006), examined the relationship between economic growth and life expectancy at birth, bed numbers of medical institutions, the number of medical institutions, and the number of persons

per medical staff in Turkey. The test results did not yield any evidence of causality between the number of health institutions and real GDP and indicated bidirectional causality with others. But Turan (2009), using the ordinary least squares test found a weak positive relationship between life expectancy and labour force participation for females, but no relationship among males. Results suggest that in sub-Saharan Africa, an increase in life expectancy will have a positive impact on economic growth through fertility and education but the effect will be small.

Finlay (2007), concluded that health plays a role in economic development through education incentive effects. He said that people who are healthy live longer and so are encouraged in investing more in education as returns to education in form of higher-skilled wages.

Riman and Akpan (2012), investigated the causal direction and long-run relationship between government health expenditure, poverty, and health status, in Nigeria. They employed the Granger causality test and Vector Error Correction Model (VECM) in establishing a strong causal bi-directional relationship running between life expectancy and poverty in Nigeria. Their study also reported the existence of a long-run relationship between poverty and health status. However, they found a non- significant long-run relationship between health status and government health expenditure. They concluded that policies that would improve health status should be such as would promote adult literacy level, reduce the poverty and income disparity since, increasing budgetary allocation to funding the health sector alone without reducing the poverty level, would not be sufficient to improve the health status of the country. Even though some authors, Abu and Abdullahi (2010), established a negative relationship between increased government expenditure and economic growth; others, Bakare and Olubokun (2011), still found that the relationship is

unidirectional that government expenditure impact very little on growth and that growth has no impact on government expenditures.

Eneji, Dickson, and Onabe (2013) cited the work of Berger and Messer (2002), as they view health as a form of capital such that it is a consumption good that yields direct satisfaction and an investment good that yields direct utility through increased productivity, fewer sick days and higher wages.

Bakare and Olubokun (2011), examined health care expenditures and economic growth in Nigeria using ordinary least squares multiple regression analysis methods and employed data covering 1970 to 2008. Their study showed a significant and positive relationship between health care expenditures and economic growth in Nigeria. In the same vein, Odior (2011), investigated the potential impact of the increase in government expenditure on health in Nigeria using the computable general equilibrium (CGE) model and discovered that government health expenditure is significant in explaining economic growth in Nigeria and concluded that more resources should be channeled to the health sector to provide quality of health to its citizens.

Owolabi and Okwu (2010), observed in their study that human resource development is an important variable in the economic growth bracket in Nigeria and they recommended among other things that the government should boost revenue allocation to health and education sector of the economy for steady and sustainable growth.

Grimard and Harling (2004), conducted panel data analysis covering 91 countries, using an augmented Solow growth model and notification data of tuberculosis incidence from 1981 to 2000, finds that countries with a lower burden of tuberculosis grew faster than those which were more heavily afflicted. They found a persistent effect of between 0.2 and 0.4 percent lower growth

for every 10 percent higher incidences of tuberculosis, which corresponds to an annual loss of between US$ 1.4 and 2.8 billion in economic growth worldwide.

Badir (2006), conducted a study on the relationship between health expenditure (HEXP) and income (INC) growth in developing countries. He used the panel data for 16 developing countries and found out that there is rising health expenditure per capita in all countries in the panel. The results also revealed that health expenditure per capita grows rapidly than the capita income growth rate for these countries. The causality test showed that in Europe, Middle East, and African countries no causality found whereas, two-way causality is found for Czech and Russia, one-way causality exists from HEXP to INC and is found for Hungary and South Africa. A one-way causality exists form INC to HEXP for Greece, Poland, UAE, and Indonesia. Empirically, the result indicated income, to a great extent explained the variation of health expenditure in the countries under study. Therefore, it is evident that the role played by health expenditure in Nigeria has not been given proper attention.

Oni (2014), concluded using regression analysis that gross capital formation, total health expenditure, and labour force productivity are important determinants of economic growth in Nigeria. The result showed that public health expenditure has a vital relationship with the growth and development of any nation. In summary, all the studies on the nexus between the health expenditure and economic growth reviewed suggest a positive and significant effect of health care expenditure on economic growth. The extent of the impact, however, depends on the magnitude of the public budgetary allocation to the health sector. It is revealed from the review that developed nations have a stronger robust impact than the developing nations, which implies that the amount of funds allocated to the health sector by the developing countries does not meet the benchmark and standard set by WHO.

2.4 RESEARCH GAP

Health is a great wealth that its roles in stimulating economic growth cannot be overemphasized, and so in consequence, this research work seeks for the role that the variables of health play in the growth of an economy. Therefore, from the relevant literature reviewed, it has been noticed that the line of investigation that relates to Nigeria has focused mostly on growth theories without considering health theories that serve as the basis for assessing the impact of health expenditure on Nigerian economic growth. Also observed from the reviewed literature, is the period of study.

Hence, this study seeks to close the gap by including health theories and as well as expanding the period under study by looking at the role of government health expenditure on economic growth from the period of 1981 to 2016, with a specific focus on two independent variables which are; capital health expenditure and recurrent health expenditure, and GDP as the dependent variable.

CHAPTER THREE
OVERVIEW OF THE NIGERIAN HEALTH SECTOR, ITS CHALLENGES AND WAY FORWARD.

3.1 NIGERIAN HEALTH SECTOR

The conventional wisdom says health is wealth, therefore; the health sector is critically paramount to social and economic development with ample evidence linking productivity to the quality of healthcare in every country. The Nigerian health sector has remained underdeveloped and the quality of life of the average citizen has worsened significantly with a growing number of citizens live below the poverty level. What then is healthcare? The concept of health care does not lend itself to a generally accepted definition. The concept is viewed differently from person to person and from one discipline to the other. Health care could, therefore, be defined in this work to mean the diagnosis, treatment, and prevention of diseases, illnesses, injury, and other physical and mental impairments in human beings. It is simply "the identification of the health problems and needs of the people, and providing solutions to them with the requisite medical care''. Health care is delivered by practitioners in allied health, dentistry, midwifery, medicine, nursing, pharmacy, psychology, and other health care providers.

Nigeria was ranked 153 out of 187 countries with a human development index (HDI) of 0.471 in 2012 (USAID, 2012). In many parts of Nigeria, the afflictive conditions in which people live are enough to induce mental breakdown in many as there are in Nigeria. But as large as Nigeria is, there are but eight regional psychiatric centers and psychiatric departments and medical schools of twelve major Universities. The Nigerian health sector has remained underdeveloped and the quality of life of the average citizen has worsened significantly with a growing number of citizens live below the poverty level. The health status of Nigeria is still considerably low and exists below that of some countries in West Africa. Low life expectancy at birth, high infant and maternal mortality rates, malaria, and tuberculosis afflictions are some of the characteristics features of Nigeria`s health status. Life expectancy at birth in Nigeria was estimated at only 48 around 2007 and this

is complemented by the high numbers of women who die of complications during pregnancy or childbirth. Although the global maternal mortality ratio of below 400 maternal deaths per 100 000 live births in 2008, the maternal mortality ratio for Nigeria was 1100 per 100 000 live births, still on the high when compared to 560 and 910 in Ghana and Guinea respectively. The prevalence of HIV/AIDS among adults aged 15 and above infection has contributed significantly to Nigeria's low life expectancy (WHO, 2010). It was estimated at 2,886 per 100,000 people. It is above the Prevalence rate in Ghana (1722), but below that of Cameroun (4580). Also, the per capita income in Nigeria is low, with more than half of the population leaving below the poverty line. Thus, the provision of adequate funding for health care either by the household or the government remains difficult.

3.1.1 Healthcare Delivery System in Nigeria

The goal of the National Health Policy is to bring about a comprehensive health care system, based on primary health as clearly stated by the Federal Ministry of health is protective, preventive, restorative, and rehabilitative to every citizen of the country within the available resources so that individuals and communities are assured of productivity, social well-being and enjoyment of living. The objectives of the Nigerian health sector, therefore, include reducing mortality, morbidity, and fertility through the promotion of health care, and increasing access to health care services. The government policy is also directed at affordable and efficient health care service which can be accessed by all people

Health services are provided by the private and public sectors. From the private sector, there is a non-governmental organization, private for-profit providers, community-based organizations, and religious and traditional caregivers. The government assumes the responsibility for health service provision in the public sector. That is to say, at the federal level most specifically,

the Federal Ministry of Health (FMOH), is responsible for policy and technical support to the overall health system, international relations on health matters, the national health management information system, and the provision of health services through the tertiary and teaching hospitals and national laboratories. The Nigerian health system is in principle decentralized into a three-tier structure with responsibilities at the federal, state, and local government levels. In addition to public health care, the informal private – traditional healers remain an important source of care that should not be forgotten especially in the rural areas of the country. Going by the statistics, about 47.8 percent and 70.9 percent have health access in rural and urban areas respectively while 9.1 percent and 4.6 percent consulted traditional healers in both the rural and urban areas respectively (Adeniyi & Abiodun, 2011).

At the primary level, the local government is responsible for health services delivery at this level, services are at the doorstep of communities where preventive, curative; primitive, and pre-referral care are provided. Medical personnel that provides such services are nurses, community health officers, community health extension workers (CHEWs), and environmental health officers. There is a variety of types of basic care facilities especially in the rural area's group by various names like dispensaries, health centers, and health posts.

At the secondary level, there are general hospitals to provide medical, laboratory, and specialized health services, namely, surgery, obstetrics, pediatrics, gynecology, and so on. Major health workers that are at the secondary level are doctors, nurses, midwives, laboratory scientists, and pharmacists. The typical facility use is general hospitals.

The tertiary level of health service provision is the highest health care in the country. The facilities include specialist and teaching hospitals, and federal medical centres. They are equipped

with high technology for special health services and serve as resource centres for knowledge generation.

Traditional African medicine is a holistic discipline involving indigenous herbalism and Africa spiritually, typically involving diviners, midwives, and herbalists. Practitioners of traditional African medicine claim to be able to cure various and diverse conditions such as cancers, psychiatric disorders, high blood pressure, cholera, most venereal diseases, epilepsy, asthma, eczema, fever, anxiety, depression, benign prostatic hyperplasia, urinary tract infections, gout, and healing of wounds and burns (Helwig, 2010). Diagnosis is reached through spiritual means and a treatment is prescribed, usually consisting of a herbal remedy that has not only healing abilities but symbolic and spiritual significance. Traditional African medicine, with its belief that illness is not derived from the chance occurrence, but through spiritual or social imbalance, differs greatly from Western medicine, which is technically and analytically based.

However, the presence of facilities does not always guarantee their utilization. The utilization of health services can be viewed as a type of individual behavior. In general, the behavioral sciences have attempted to explain individual behavior as a function of characteristics of the individual himself, characteristics of the environment in which he lives, and or some interaction of these individual and societal forces (Moore, 1969) in Andersen and Newman, (1973). Thus, the health care utilization of a population is dependent on their health-seeking behavior which has many determinants: physical, political, socioeconomic, and sociocultural. Studies identify different reasons affecting the utilization of health services between developed and developing countries. Therefore, according to Shaikh and Hatcher, (2004), the utilization of a health care system, public or private, formal (Orthodox) or non-formal (traditional care), may depend on socio-demographic factors, social structures, level of education, cultural beliefs, and

practices, gender discrimination, status of women, economic and political system, environmental conditions, and the disease pattern and health care service itself.

3.1.2 Development of the Nigerian Health Sector at Various Periods

Nigeria is made up of at least 250 linguistic groups (which some describe as ethnic groups), of which 3 are major groups comprising over 60% of the total population. Although all of these groups share common major macro-culture and macro-traditions, each evolved its micro-culture and micro-traditions in response to prevailing environmental circumstances. Traditional medicine and healing constituted part of the 'microcultural' evolution. In pre-explorers and pre-western trader's Nigeria, traditional medicine was the system of health care delivery. Traditional healing and medical practices included herbalists, divine healers, soothsayers, midwives, spiritualists, bone-setters, mental health therapists, and surgeons. Despite more than 150 years of introduction of Western-style medicine to Nigeria, traditional healing and medical practices remain a viable part of the complex health care system in Nigeria today.

It would seem from available accounts that the earliest form of Western-style health care in Nigeria was provided by doctors brought by explorers and traders to cater for their well-being. The services were not available to the indigenous. It was the church missionaries that first established health care services for the people. In this regard, tribute must be paid to the Roman Catholic mission, the Church Missionary Society (Anglican), and the American Baptist Mission. It is stated that the first health care facility in the county was a dispensary opened in 1880 by the Church Missionary Society in Obosi, followed by others in Onitsha and Ibadan in 1886.

However, the first hospital in Nigeria was the Sacred Heart Hospital in Abeokuta, built by the Roman Catholic Mission in 1885. There are several anecdotal reports of practices within these missionary health care facilities to suggest that they were primarily used as tools for winning

converts and expanding their followership. Consequently, these facilities were competitive rather than complementary. Despite this fact, they were of such high quality that, by Independence in 1960, Mission-owned hospitals were more than Government-owned hospitals (118: 101). This high quality is also evidenced by the fact that the Seventh Day Adventist Hospital in Ilesha as well as the Wesley Guild Hospital in Ile-Ife became the nucleus of the teaching Hospital complex of a major university in Nigeria. Even today in Nigeria, the Baptist Hospitals in Ogbomosho and Eku function as referral centers in the health care delivery matrix. Because of the evangelical functions of these health care facilities, it was left for the government to organize and develop policies for general health care. It is well known that towards the end of the 19th century, European powers were at war with each other for ownership of the vast rich land of Africa. They established frontiers needed to be secure and so there was a powerful British military presence in Nigeria. For the military, which was located in Lokoja, the British for therefore established medical services there. Under the Governor, Lord Lugard, Lokoja was the military headquarters in 1900. Aside from military health services, civilian services were also established and it is known that the first government hospital for civilians, St. Margaret's Hospital, was built in Calabarin 1889.

At the time World War I (1914- 1918) was ending, present-day Nigeria was being born by the amalgamation of the Northern and Southern regions. This war produced a lot of military activities in Nigeria, leading to the establishment of several military health care facilities, some of which were left to function as civilian hospitals after the war. With time, several government-owned health care facilities were established, ranging from rural health centers to general hospitals. At the turn of the century, medical services, as is the case with some other services, in the Gambia, Sierra Leone, Ghana (then Gold Coast), and Nigeria were merged and controlled by the Colonial Office in London. This was the first centralization of control of health services in West Africa.

The Colonial Office determined the services that were available and provided the manpower. As health care management became more complex, the central administration of health care services became regionalized, while maintaining some common West African facilities such as the West African Council for Medical Research, which came into being in February 1954. In Nigeria specifically, medical services developed and expanded with industrialization. Most medical doctors were civil servants, except those working for missionary hospitals, who combined evangelical work with healing. Among the civil service doctors, one was appointed the Chief Medical Officer, who became the principal executor of health care policies in Nigeria. Along with his several other junior colleagues (Senior Medical Officers and Medical Officers), they formed the nucleus of the Ministry of Health in Lagos. The details of centralized administration of health services up to this point are complex and they reflect the complex political transformations of the whole region.

Between 1952 and 1954, the control of medical services was transferred to the Regional governments, as was the control of other services. Consequently, each of the three regions (eastern, western, and northern) set up their Ministries of Health, in addition to the Federal Ministry of Health. Although the federal government was responsible for most of the health budget of the States, the state governments were free to allocate the health care budget as they deemed fit. The health care services in Nigeria have been characterized by short-term planning, as is the case with the planning of most aspects of Nigerian life. The major national development plans are as follows:

1. The First Colonial Development plan from 1945- 1955 (Decade of Development)
2. The Second Colonial Development plan from 1956- 1962
3. The First National Development Plan from 1962- 1968
4. The Second National Development Plan from 1970- 1975

5. The Third National Development Plan from 1975- 1980
6. The Fourth National Development Plan from 1981- 1985
7. Nigeria's five years Strategic Plan from 2004 - 2008 All of these plans formulated goals for national health care services.

The overall national policy for Nationwide Health Care Services was clearly stated in a 1954 Eastern Nigeria government report on "Policy for Medical and Health Services." This report stated that the aim was to provide national health services for ALL. The report emphasized that since urban services were well developed (by our standards then), the government intended to expand rural services. These rural services would be in the form of rural hospitals of 20- 24 beds, supervised by a medical officer, who would also supervise dispensaries, maternal and child welfare clinics, and preventive work (such as sanitation workers). The policy made local governments contribute to the cost of developing and maintaining such rural services, with grants-in-aid from the regional government. This report was extensive and detailed in its description of the services envisaged. This was the policy before and during Independence. After independence in 1960, the same basic health care policy was pursued.

By the time the Third National Development Plan was produced in 1975, more than 20 years after the report mentioned above, not much had been done to achieve the goals of the Nationwide Health Care Services policy. This plan, which was described by the then Head of the Military Government (General Yakubu Gowon), as "A Monument to Progress", stated, "Development trends in the health sector have not been marked by any spectacular achievement during the past decade". This development plan appeared to have focused attention on trying to improve the numerical strength of existing facilities rather than evolving a clear health care policy.

The Fourth National Development plan (1981-1985) addressed the issue of preventive health services for the first time. The policy statement contained in this plan called for the implementation of the Basic Health Services Scheme (BHSS), which provides for the establishment of three levels of health care facilities; namely 1) Comprehensive Health Centers (CHC) to serve communities of more than 20, 000 people; 2) Primary Health Centers (PHC) to serve communities of 5000 to 20, 000 persons; and 3) Health Clinics (HC) to serve 2000 to 5000 persons. Thus, a CHC would have at least 1 PHC in its catchment area (ideally 4) and a PHC would have at least 1 HC in its catchment area (ideally 2). These institutions were to be built and operated by state and local governments with financial aid from the federal government. By this policy, the provision of health services would be the joint responsibility of the federal, state, and local governments. In its outlook, this policy is not different from the one published in 1954 by the Eastern Nigerian Government previously mentioned.

On the last day of 1983, a new Military Government came into being in Nigeria and one of the reasons it gave for the Military intervention was the state of health services, declaring "our teaching hospitals have been reduced to mere consulting clinics." One of the government's first efforts was to revise the Fourth National Development Plan. The health strategy under this revised plan gradually shifted emphasis to primary health care. Although this has always been the ultimate goal of the plan, the political will did not seem to exist for its implementation. The adoption of the WHO target of Health for All by the Year 2000 by the federal government was marked by shifts in emphasis and structural changes in health care administration.

At the federal level, the Directorate of National Health planning had the function of coordination and implementation of the national health policy. It also had the function of developing plans for national health. At the state level, where state health advisory councils whose

function it was to give general advice to the Commissioner of Health in the performance of his functions. At the local government level, the State Ministry of Local Government in consultation with the State Ministry of Health established Local Government Health Committees covering their area of the authority to formulate policies for providing health services to the communities. At the community level, several small communities had evolved small community primary health care services with active community participation.

The record shows that in 1979, there were 562 General Hospitals, 16 Maternity and Pediatric Hospitals, 11 Armed Forces Hospitals, 6 Teaching Hospitals, and 3 prison Hospitals and they all accounted for 44, 600 hospital beds. In addition to these, there were an estimated 600 Health Centres, 2740 General clinics, 930 Maternity Homes, and 1240 Maternity Health Centres. By 1985, 13% of the hospital beds were provided by 84 Federal Institutions while 47% of the hospital beds were provided by 3, 023 hospitals owned by the State Governments. The rest of the beds were provided by 6331 health facilities owned by Local governments (11% of the beds) and 1,436 private hospitals (14%ofthebeds).

Nigeria is currently made up of 36 states and over 500 local government areas. Each local government area (LGA) is made up of between 150, 000 to 250, 000 people. By the scheme proposed in the Fourth National Development Plan, each LGA would have a minimum of 7 PHCs and 30 HCs with at least one CHC at the apex of the health care services. The larger LGAs would each have, at least 12 PHCs and 50 HCs feeding into one or more CHC. Nigeria has not come close to achieving this lofty objective. Services that existed were deteriorating hopelessly, leading to various industrial actions by all classes of doctors in the '80s. This has continued even today.

In more recent Nigeria, this lofty goal has not been achieved. The capacities of the facilities

that emerged from previous efforts have been stretched and infrastructure is broken beyond repair. Primary health care services now exist only in name. The common man has reverted to the herbalist and traditional healers for care because of access and affordability issues. The elites have perfected medical tourism to India, Singapore, South Africa, and even Ghana. This is in the face of rapidly changing disease patterns in which infectious diseases have been replaced by behavioural, environmental, and poverty-related diseases.

3.1.3 Sources of Healthcare Financing in Nigeria

Healthcare financing involves those strategies that are used by a country in generating, allocating, and utilizing funds for healthcare purposes. A critical determinant of universal coverage is the strategy used by a country in financing her healthcare system. This is because whether healthcare services are affordable or not to those who need them is a function of the country's health care financing. The health care financing mechanism ideally, should provide adequate financial protection so that no household is impoverished because of the need to use health services (Uzochukwu, et.al, 2015). Healthcare financing has its functions to include; collecting generated revenues, pooling resources, and purchasing health services. In Nigeria, the most common mechanisms used in financing healthcare are tax-based financing, out-of-pocket payments, donor funding, and health insurance (social and private). However, healthcare financing represents a major transfer of funds from households to healthcare providers in Nigeria. The various means of health financing in Nigeria are hereby discussed below;

Tax Revenue

A healthcare financing system where government revenue dominates other financing mechanisms is referred to as the tax-based system. Funds are usually generated through taxation

or other government revenues. Although the Nigerian government generates revenue through taxation, the bulk of the revenue is derived from the sale of oil and gas. The health system is generally funded from the federation account to the states and local governments, both of which generate about 20% internal revenue from taxes, levies, and rates. However, the federally generated revenue which is shared according to a formula fixed by the Revenue Mobilization and Fiscal Commission (RMFC) forms the majority of the funds for the other tiers of government (World Bank, 2003).

The World Bank (2003) also explained that the RMFC formula assigns 48.5% to the federal government, 24% to the states, and 20% to local governments while 7.5% is set aside by the federal government for solely federally determined projects. Since states and local governments are closer to Primary Health Care (PHC), they are expected to provide adequate funding for PHC but owing to their low internal revenue generation capacities, most of them still largely depends on the allocation from the federal government. States and local governments are not required to provide budget and expenditure reports to the federal government; this shows that the federal government does not play a supervisory role in ensuring that healthcare funds are properly expended in states and local governments for the purpose they are meant.

The revenue allocation to the health sector by the Nigerian government is very low even when compared with less endowed African countries. For example, in 2005 Uganda allocated 11% of her total budget to healthcare, while Nigeria in 2006 budgeted 5.6%. Despite the high prevalence of HIV among her citizens, Uganda was ranked 149 out of 191 countries and came 39 steps ahead of Nigeria (WHO, 2010).

Out-of-pocket payments

Out-of-pocket expenditure refers to payment for health services at the point of seeking care. In 2007 out-of-pocket expenditure as a percentage of private health expenditure increased from 92.5% to 95.9% and this is regarded as one of the highest in the world (Onwujekwe, et al 2010). This shows that out-of-pocket expenditure is the dominant means of financing health care services in Nigeria.

Furthermore, out-of-pocket spending on healthcare has become a policy concern for three reasons; first; households may be made poor as a result of out-of-pocket payment for healthcare at the point of service, second; households facing these health expenses may cut back on other essential household needs such as food and clothing, third; households may choose to forego necessary healthcare services rather than face the unfavourable financial consequences, thus, creating a vicious cycle of ill health, disability, and poverty Elgazzara, et.al., (2010).

Most studies in Nigeria have shown that out-of-pocket expenditure really does exert an impoverishing effect on households and also intensify the poverty situation of already poor households, while others as a result of paying out-of-pocket for healthcare prefer not to seek care at all since they cannot afford the cost and Moving away from out-of-pocket healthcare payments to prepayments mechanisms is the key to reducing financial catastrophe.

Donor Funding

This refers to financial assistance given by the developed countries or rich non-governmental organizations to developing countries to support socio-economic and health development. Donor funding had not lived up to expectations in Nigeria. This is because the contribution of development aid to healthcare financing in Nigeria was estimated as N27.87 billion (4% of THE) in 2003. This increased by 29% to N36.04 billion (4.6% of THE) in 2004 and by just 1% to N36.30 billion (4% of THE) in 2005 (Olakunle, 2012). This is to say that donor agencies'

assistance to the Nigerian health system as a percentage of total health expenditure has been declining.

The World Health Organization (2009), identified the major challenges to donor funding as coordination of the funds and tracking donor resource flow. The National Planning Commission has the statutory responsibility of coordinating the use of external development assistance at all levels of government (Federal, State, and Local government). At the state level, the Ministry of Finance, Economic Development, and Planning form the pivot for coordinating external assistance to the state and local government areas. The capacity to coordinate however varies greatly among states. Other challenges with donor funding in Nigeria include the following: cost of technical assistance, donor-driven approach to aid delivery, the proliferation of aid agencies, uneven spread of donors' activities, institutional weaknesses, and the problem of counterpart funding. Assistance from donor agencies had always been received with suspicion of ulterior motives on the part of the donors; nevertheless, it is an important source of financing healthcare in developing countries such as Nigeria.

Social Health Insurance

In Nigeria, the NHIS is supposed to guarantee easy access to healthcare for the working population. The NHIS was established to facilitate pooling of resources and management of health risks, however, the current level of participation is very poor as only the formal sector scheme was launched covering only federal civil servants. Participation in the program involves a contributor registering with NHIS approved Health Maintenance Organization (HMO) which are limited liability companies that may be formed by private or public establishments registered by the scheme to facilitate the provision of healthcare benefits to the contributors. The contributors are expected to register with a primary healthcare provider of their choice (private or public) from an

NHIS approved a list of providers. The HMO will make payments for services rendered by the healthcare providers. Under the NHIS scheme, 15% of workers' basic salaries are expected to be deducted for health needs. Of the total contribution of 15%, the employer is expected to contribute 10% and the employee 5% (NHIS, 2005). This is to say that only persons registered with the NHIS will have easy access to healthcare services since their resources are being pooled overtime. Hence, the health risk is reduced in the case of eventualities. The NHIS is subdivided into the following social health insurance programmes (SHIPs) as indicated in NHIS, (2005):

- Formal Sector
- Urban Self-employed
- Rural Community
- Children Under-Five
- Permanently Disabled Persons
- Prison Inmates
- Tertiary Institutions and Voluntary Participants
- Armed Forces
- Police and other Uniformed Services

It is only the formal sector that is operational so far. Registration for membership is mandatory for federal government employees and about 90% coverage has been achieved so far. This shows that those in the states and informal sectors are largely left out. The NPC, (2013) explains that the practice of purchasing health insurance is urban-centered and is more common among those living in the South West and North Central than among those residing in the other zones. Health insurance coverage is also more common among better-educated women and men and those in the highest wealth quintile.

Fig. 1. Average OECD (Organisation for Economic and Co-operative Development) of Health expenditure growth rates in real terms, 2000-2010, public and local.

Source: njcponline.com

The above diagram clearly shows that of the various financing sources for health in Nigeria, out-of-pocket payments by Nigerian households remain the major financing source for health in Nigeria.

3.2 CHALLENGES AND PROSPECTS OF THE NIGERIAN HEALTH SECTOR

The Nigerian Health System was rated by the WHO to be 197th out of its 200 member states surpassing only DRC, CRA, and Myanmar (Umejei, 2016). Primary health care which constitutes the bedrock of the national health systems is in a prostrate state because of poor political will, gross underfunding, and lack of capacity at the local government level, (NSHDP, 2009). The Nigerian health sector is one of the biggest social sectors in the country, but in contrast, the performance of the health sector in Nigeria has been very slow resulting from issues such as high rate of poverty, weak policies, poor management, inadequate funding, limited coverage, lack of planning, policy disconnection, outdated technology, severe political and economic stress (El-Rufai, 2015). Good public health is vital in any country, not only to maintain a healthy populace but also as a matter of national security.

The Healthcare system in Nigeria began to deteriorate in the 1980s when our medical experts and other medical personnel left the country in droves in search of the proverbial greener pasture abroad. That was when our hospitals were no better than glorified consulting rooms. Two reasons accounted for this exodus; one was a lack of tools for the doctors to work and second, we could not match the mouthwatering offers being made to them abroad. Since there was no job satisfaction, it was only a matter of time for us to lose many of our consultants in the health sector to the countries where their services were better appreciated. Despite having some of the very best healthcare professionals in the world, the lack of development of the public healthcare system has eroded the little confidence the general population has in the Nigerian healthcare system. Even the leaders who ought to lead by example are guiltiest of this lack of faith the in the Nigerian healthcare system, which is why they excel at flying themselves and their cronies to other countries with highly developed healthcare

Among the myriad of problems facing the health sector in Nigeria is poor implementation of health policies. The absence of modern facilities in many public hospitals is linked to the failure of successive governments to pay adequate attention to the health sector. This results in poor service delivery by different health workers. Nigerian Health system has been characterized by lack of coordination, fragmentation, the dearth of resources including drugs and supplies, inadequate and decaying infrastructure, inequality in resource distribution and access to care, and very deplorable quality of care. It is only when the government ensures health as the right of its citizens that the health sector will recuperate.

The federal allocation for the health sector is laughable in a country with no infrastructure to carry the most necessities such as steady power for hospital equipment (where available), good roads to transport patients to and from the hospitals, emergency medical service, and personnel, or even good water supply for proper sanitation. The wards in some of the hospitals are so run down and they look like they would be sources for new outbreaks of new diseases. To worsen the situation, allocation of funds never makes it through intact as the greedy leader's cart away some of the money meant to be utilized for the welfare of the people. While the United State of America will spend about $7million per prisoner in Guantanamo Bay in 2017, Nigeria will spend N1688 on the health of each citizen in the year. An unrealistic figure it hopes will magically tackle numerous health issues in the country. Have you ever wondered why Nigeria is yet to find solutions to most of the health challenges in the country like the incessant outbreaks of Lassa fever, high maternal and child deaths, poor primary health facilities, lack of functioning machines, malnutrition, poor health emergency responses, among others? Wonder no further. Ifijeh reported in Thisday Newspaper (2017), that the Nigerian government does not allocate enough funds for health interventions. He said it is not their priority because, on health care alone, the United States

this year, will spend at least $7000 per citizen, which is about N3.5million using a forex rate of N495 to a dollar. Switzerland will this year spend $6000 which is about a N3million. This, when compared to Nigeria's N1688 per head for a whole year, suggest why the country still grappling with poor health indices and the poor mortality rate for a country that prides itself as the giant of Africa. The Nigerian economy has not experienced the necessary changes that would enable sustainable growth to improve the minimum living standard of its citizens in the country because health care financing has serious implications for the welfare of Nigerians. The health status of Nigeria is still considerably low and exists below that of some countries in West Africa. The expenditure pattern shows that only a few amounts are spent on health in Nigeria. In 1997, 4.6% of gross domestic product (GDP) is accounted to have been spent on health care (Onisanwa, 2014). The figure rose to 6.6% in 2005and later fell to 5.8 in 2009. The actual total expenditure for 1997, 2001, 2005 and 2009 stood at 134, 522,256, 283, 972, 921 and 1,596, 573 (in million naira), respectively. The figure is an indication of the poor commitment of the nation to improved health provisions and deliveries. In the total expenditure on health (THE), the available data shows that out of pocket expenditure constitutes a higher proportion. Public expenditure on health (PHE) was 36.7% of the total health expenditure in 2011. While out of pocket expenditure accounts for 60.4% of the total expenditure.

Most of the Nigerian healthcare institutions, especially the primary and secondary health centres, are far from life-saving centres, but they have now become more of consulting clinics or centres and have remained so for over 30 years. Indeed, poor healthcare services in the country have contributed to an increase in mortality rate in the country. This is the reason why doctors, nurses, and healthcare workers in these institutions are paid a mere pittance not commensurate with the high level of stress and daily exposure to the diseases in the high level of stress and daily

exposure to the diseases in the health centres. Some of them do not get paid for months at a time when they are the frontline workers in the healthcare system as it is in Nigeria today.

Also, the inadequacy of the Nigerian health system is ascribed to the demographics of the Nigerian population mostly living in rural areas. Lack of basic amenities in the rural areas where the majority of Nigerians are living has driven some to the urban areas. Probably deluded by this migration, the government ended up situating many of her infrastructures in the urban areas. This, therefore, resulted in a spatial inequality concerning situating health care facilities, thus abandoning a vast majority of those who must still live in these rural places with little or no medical presence. Remote areas and rural communities are almost relegated to the background and have to fend for themselves. Some of these areas are not even connected to the national grid, and so have no power whatsoever. The federal government has no say in how states utilize their allocations, and cannot mandate them to spend a certain amount on healthcare, making it difficult to gauge the effectiveness of any campaign for improvement on a cohesive nation-wide level. Consider that the Federal Ministry of health usually spends about 70% of its budget in urban areas where only a shabby 30% of the population resides, what an existential irony (Innocent, 2014).

Although the public health service is organized into primary, secondary, and tertiary levels, the Constitution is silent on the roles of the different levels of government in health services provision, the National Health Policy ascribed the responsibilities of primary healthcare to the local governments, secondary care to states and tertiary care to the federal level. At the same time, several parastatals based at the federal level, for example, National Primary Health Care Development Agency (NPHCDA) are currently engaged in primary healthcare services, development and provisions; the latter is part of its mandate. This situation has been further compounded by a lack of clarity of roles and responsibilities among the different levels of

government (Awosika, 2005). Although national policies formulated by the Federal Ministry of Health provide some level of standardization, each level is largely independent in financing and management of health services under its jurisdiction (NSHDP, 2009).

While the agitation for more funds is very signed relevant, many also posited that even when conceded that very little gets appropriated to the health sector than understand by desired, the budgetary allocation for this sector hardly gets to the target layers envisaged during budget implementation. Most of these funds get embezzled by corrupt officials and their collaborating suppliers and contractors.

Human resources challenges – one of the major challenges in Nigeria is how to ensure the continuous availability of an adequate pool of skilled human resources for health. The Nigerian health sector is facing major human resources for health crisis with mal-distribution of the available workforce, and the increasing brain drain resulting in a shortage of critically needed health professionals - understaffing, lack of trained staff, lack of staff satisfaction, poor working conditions, and staff grievances are severely limiting the capacity of health care organizations and professionals to meet the needs of Nigeria's populace.

Another area of health care challenge is the role of the National Health Insurance Scheme (NHIS) plays. The NHIS established in 2005, was targeted at improving Nigerian healthcare financing with social health insurance scheme as the financing mechanism. This scheme, good as it has been planned to be, benefited mainly those in the formal sector with the vast majority of the people in the formal sector left out of the scheme. To date, less than 5% of the populace had been keyed into the scheme, and that percentage comprises mostly federal government employees; very few state employees and organized private-sector employees have signed on. The rest of the populace is not involved and there are no signs in view that there will be a radical change soon.

Even the Presidency /MDGs office's NHIS free Medicare programme initiated two years ago for pregnant women and under-five children in some local council in 12 states is already faltering due to paucity of fund. For the health insurance scheme, this balance sheet screams failure and not a crawling success as the operators of the scheme and the profiteers from it would want the populace to believe.

Furthermore, lack of medical intelligence nullifies any effort to identify sectors with disease outbreaks promptly, to contain and treat incidences of infectious disease outbreaks, (for example like during the outbreak of the Ebola fever) and reduce the frequent occurrence of such in the country. The manner of drug supply is also a cause for concern. Most of the pharmacies in the country are not regulated, and even the tomato seller could also sell medication like pain killers, multivitamins, tetracycline, antibiotics, and so on. A complete overhauling of the healthcare sector is long overdue and will help alleviate the suffering of the masses.

The National Population Commission (NPC, 2013) reported immunization coverage to be just 25%; only 12% of the under-five sleep under Insecticide Treated Net (ITNs), about 20% of children in urban areas and 14% of residents in rural areas with fevers are appropriately treated with antimalarial at home and just 38% of women deliver under the supervision of qualified attendants. This was far lower in the three states of Jigawa (7.6%), Kano (13.7%), and Bauchi (16.3%). Health indicators have also been shown to vary with regions in Nigeria. Wide regional variations exist in infant and maternal mortality across zones, infant mortality and child mortality in the northwest and northeast zones of the country are in general, twice the rate in the southern zones, while maternal mortality in the northwest and northeast is 6 times and 9 times respectively the rate of 165 to 100,000 recorded in the southwest (NSHDP, 2013). These are consequences of inequality in access to healthcare services in Nigeria.

3.3 THE WAY FORWARD

A healthy country is a wealthy country; with a thriving human resource, the country can invest more and move the nation to greater heights. The government in partnership with the citizenry must rise to the current challenges facing the health sector. Failure to do so will only result in such disastrous consequences in the future. Presently, the Nigerian resident doctors are on strike for some unpaid salaries and arrears and what have you. We have the basic and best human resources required in the health sector. We have all the necessary resources. What the health sector needs is an improvement in the structure-through good policy implementation.

The Government of Nigeria should set up machinery in motion with the responsibility of ensuring full implementation of government health policies. And the knowledge of experts such as medical doctors, pharmacists, radiographers, and other health specialists should be utilized effectively by stakeholders in the sector. This will achieve efficiency in terms of the formulation and implementation of health care policies in Nigeria. Other health policies and programmes should be properly monitored by government officials for effective implementation. This is because the success of health care policies and programmes depend greatly on continuous monitoring and evaluation.

The National Health Insurance Scheme (NHIS) which is only formulated to cover all sectors of the society but is implemented for Federal Civil and Public Servants in Nigeria should cover the rural dwellers and the unemployed in the society. This will help greatly in solving the health challenges of the poor Nigerian masses.

From available statistics, many of our doctors out there are doing quite fine, which therefore clearly shows that the problem is not actually with them but with the environment. This

is far better than merely lamenting the situation. The government should make the environment attractive; our hospitals need to be upgraded, with state-of-the-art facilities provided; the doctors and other workers in the health sector need to be motivated, not only to retain those still in the country but also to make those abroad start to feel nostalgic.

CHAPTER FOUR
METHODOLOGY

4.1 RESEARCH DESIGN

A research design is a basic plan which guides the data collection and analysis, as well as the phases of the research project. De Vaus (2001) and Trochim (2006), opined that research design refers to the overall strategy that you choose to integrate the different components of the

study coherently and logically; it constitutes the blueprint for the collection, measurement, and analysis of data.

The function of research design as explained by Gorard (2013) and Leedy and Jeanne (2013), is to ensure that the evidence obtained enables the researcher to effectively address the research problem logically and as unambiguously as possible. In social sciences research, obtaining information relevant to the research problem generally entails specifying the type of evidence needed to test a theory, to evaluate a program, or to accurately describe and assess meaning related to an observable phenomenon (Vogt, Gardner & Haeffele, 2012).

4.2 TYPES AND SOURCES OF DATA

Data collection is a standout amongst the most essential stages in carrying on research work. Data collection is a challenging work that needs exhaustive planning, determination, diligence, and more to have the capacity to complete research work effectively.

Normally, data can be gathered from two sources; primary and secondary. The gathering or collection of data through the use of a survey, interview, direct observation, or questionnaire review in a characteristic setting which are obtained in an uncontrolled situation can be referred to a primary data. Primary data is the original research that is obtained through first-hand investigation. It can be quantitative (that is, focused on numbers and measurements) or qualitative (that is, when attitudes or opinions are collected and studied.

While secondary data involves the collection of information/data from other party sources such as journals, reports, books, documents, magazines, etc. Therefore, secondary data is the major data used in this research work. This study utilized the annual time series regression techniques and this is used to determine the relationship between the dependent variable and independent

variables as well as test of hypothesis for efficient findings. Spanning from the period of 1981-2016, the required materials and necessary information were obtained from the CBN Statistical Bulletin (2016) and the National Bureau of Statistics (NBS, 2017) data was used.

4.3 MODEL SPECIFICATION

Regression is a powerful tool in economic analysis that helps in providing specific models that express the relationship between two or more variables. For this research work, the functional model is thus stated as:

GDP= f (CAPEXP, RECEXP)

The above is therefore converted into a stochastic model as:

$GDP= \beta_{0 +} \beta_1 CAPEXP + \beta_2 RECEXP + \varepsilon$

Where:

GDP = Gross Domestic Product

CAPEXP = Capital Expenditure on Health

RECEXP = Recurrent Expenditure on Health

β_o = Constant Term of the Model

β_1 and β_2 = slope and the coefficients of the Independent Variables

ε = Error Term

Apriori Expectation – at the end of the estimation, it is expected that the result will show a positive relationship between the dependent variable (GDP) and the two independent variables, which are, $\beta_{0,}$ β_1 and β_2. That is positive economic growth is expected at zero value of CAPEXP and RECEXP

4.4 DESCRIPTION OF VARIABLES

GDP: Gross Domestic Product at Constant is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, expressed in base-year prices, and is also referred to as 'constant-price' or 'inflation-corrected' GDP. Economic growth is proxied by real GDP

CAPEXP: Capital Expenditure on Health is primarily expenditure on the creation of fixed assets and the acquisition of lands, buildings and intangible assets for health

RECEXP: Recurrent Expenditure on Health refers mainly to expenditure on operations, wages and salaries, purchases of goods and services, and current grants and subsidies to the health sector

4.5 TECHNIQUE OF ANALYSIS

An analytical technique is a procedure or a method for the analysis of some problem**,** status, or a fact. Analytical techniques are usually time-limited and task-limited. They are used once to solve a specific issue. The technique of analysis involves the collecting and organizing of data so

that a researcher can conclude. There are two methods of data analysis in economics that can be applied in research such as this, which are: qualitative and quantitative.

Qualitative research revolves around describing characteristics. It does not use numbers. A good way to remember qualitative research is to think of quality.

Quantitative research is the opposite of qualitative research because its prime focus is numbers. Quantitative research is all about quantity.

The techniques adopted in this study is the ordinary least squares (OLS) technique to estimate the relationship between government health expenditure and economic growth. The model expressed Gross Domestic Product as a function of Capital Expenditure on Health (CAPEXP) and Recurrent Expenditure on Health (RECEXP)

4.5.1 Unit Root Test

Conventionally, the universal assumption in testing economic model is that the variables be stationary, but is not generally true. Therefore, before estimating the model of the research, we shall check for the time-series properties of the data. This is necessary because the Econometricians such as Granger and Newbold, (1974); Engel and Granger, (1987), Dickey and Fuller, (2001) among others, observed that the results emanating from macroeconomics variables are likely to be spurious if the time series is not examined. Hence, the unit root test will be conducted using the Augmented Dickey-Fuller (ADF) test.

4.5.2 Co-integration Tests

The co-integration test will be conducted to reconcile the short-run and the long-run equilibrium. This will give confidence to the researcher for an accurate prediction of the relationship between the variables. In the likelihood ratio trace test, the hypothesis of a most r co-

integrating vector against the full rank r = n. the other test is the maximum Eigen Value Statistics; which tests the null hypothesis of the existence of r co-integrating vector against the alternative of r + 1 co-integrating vectors.

4.6 Error Correction Model (ECM)

ECM model comes into play if it has been discovered that, there exists a long-run relationship between the variables under consideration. This enables us to evaluate the co-integrated series. In a situation where there is no co-integration, ECM is no longer required and we can proceed using the VAR model and conduct Granger Causality directly to establish the causal relationship between the variables in the model.

CHAPTER FIVE
DATA PRESENTATION AND ANALYSIS

This chapter empirically examined the role of government health expenditure on economic growth in Nigeria. This chapter consists of data presentation as well as the analysis and interpretation thereafter. This study employed econometric techniques of regression analysis to explore and also establish the relationship among the variables contained in the model of this study between the periods of 1981 to 2015.

5.1 DATA PRESENTATION

The table for the data used for this study on Capital Expenditure on Health, Recurrent Expenditure on Health, and Gross Domestic Product from 1981 – 2015 is presented in Appendix A.

5.2 PRE-DIAGNOSTIC TESTS

5.2.1 Unit Root Test

The unit root test is conducted to test the validity of the data used for analysis in this study using the Augmented-Dickey Fuller test. To avoid a spurious or misleading result, it is required that variables be stationary before the application of standard econometric techniques (Gujarati, 2004).

Table 1: Augmented-Dickey Fuller Unit Root Results of Variables at First Difference.

Variable	ADF Statistic	Critical Value 5%	Order of Integration	Remarks
GDP	-5.095508	-2.954021	1(1)	Stationary
CAPEXP	-5.373470	-2.954021	1(1)	Stationary

RECEXP	-7.069170	-1.951000	1(1)	Stationary

Source: Author's computation

The unit root test shows none of the variables was stationary at level, however, they all became stationary at first difference. That is, they were integrated at first order. The differencing carried out has made the variables stationary with a short run position. To determine the existence of a long-run relationship between the dependent variables and the independent variables, it is necessary to run a co-integration test.

5.2.2 Co-Integration Test

Johansen Co-Integration Test Result

Table 2: Unrestricted Cointegration Rank Test (Trace) and Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**

None *	0.564340	35.31641	29.79707	0.0104
At most 1	0.184784	7.066035	15.49471	0.5700
At most 2	0.003516	0.119765	3.841466	0.7293

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.564340	28.25038	21.13162	0.0042
At most 1	0.184784	6.946270	14.26460	0.4955
At most 2	0.003516	0.119765	3.841466	0.7293

Source: Results Extract from Eviews 7.0

The co-integration test was conducted to determine the long-run relationship between the dependent and independent variables. The Johansen co-integration trace and maximum Eigenvalue in (table 2) indicate one co-integrating equation at 0.05 level of significance, thus, the null hypothesis of no co-integration which implies that there exists a long-run relationship between economic growth and health expenditure in Nigeria

5.2.3 Error Correction Mechanism (ECM)

The error correction term depicts the speed of adjustment of the dynamic short run to the long-run equation. The purpose of the ECM is to capture the short-run deviation that might have occurred in estimating the long run co-integrating equation. The ECM was estimated concerning the dependent variable real GDP using the ordinary least squares (OLS).

Table 3: ECM Result

Method: Least Squares
Date: 08/21/18 Time: 16:29
Sample (adjusted): 1985 2016
Included observations: 32 after adjustments

	Coefficient	Std. Error	t-Statistic	Prob.
ECM	-0.433952	0.139330	-3.114566	0.0047
DCAPEXP	-29.75571	11.88677	-2.503262	0.0195
DRECEXP	-53.06189	14.15395	-3.748911	0.0010

C	24.35188	170.6717	0.142683	0.8877
R-squared	0.422162	Mean dependent var		-31.94438
Adjusted R-squared	0.253626	S.D. dependent var		1088.776
S.E. of regression	940.6255	Akaike info criterion		16.74329
Sum squared resid	21234632	Schwarz criterion		17.10972
Log likelihood	-259.8926	Hannan-Quinn criter.		16.86475
F-statistic	2.504875	Durbin-Watson stat		1.963400
Prob(F-statistic)	0.043996			

Source: Author's computation using Eviews 7.0

The absolute value of the ECM depicts how equilibrium is restored in the system in the event of a temporary shock. The size of the error term indicates the speed of adjustment of any disequilibrium towards a long-run equilibrium state since the deviation of long-run equilibrium is corrected through a short-run partial dynamics. The coefficient of the ECM (-1) carries the negative sign (-0.433952). The coefficient indicates that 43.40% of the disequilibrium in the system is offset by the short-run annually to restore long-run equilibrium. This implies that the system corrects to equilibrium in the following year at a speed of 43.40%.

5.2.4 Regression Analysis (OLS)

The linear relationship between health expenditure and economic growth is stated thus:

$GDP = \beta_{0+} \beta_1 CAPEXP + \beta_2 RECEXP + \varepsilon$

Table 4: Showing Long-run Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18770.34	971.4920	19.32115	0.0000
CAPEXP	140.1217	39.32273	3.563377	0.0011
RECEXP	190.7144	12.87643	14.81112	0.0000
R-squared	0.940072	Mean dependent var		31757.15
Adjusted R-squared	0.936440	S.D. dependent var		18151.71
S.E. of regression	4576.244	Akaike info criterion		19.77480
Sum squared resid	6.91E+08	Schwarz criterion		19.90676
Log likelihood	-352.9464	Hannan-Quinn criter.		19.82086
F-statistic	258.8310	Durbin-Watson stat		1.528395
Prob(F-statistic)	0.000000			

Source: Eviews 7.0 output.

$GDP = 18770.34 + 140.1217CAPEXP + 190.7144RECEXP + \varepsilon$

The table shows that the model has a good fit as the coefficient of determination (R-Squared) revealed that 94% of the systematic variation in the dependent variable is explained by the independent variables and the remaining 6% is explained by the dummy variable. The value of the slope is positive and significant at 5% level. This is indicated by the value of the coefficient and its probability (β_0= 18770.34, p-value of 0.0000). This means that when all the explanatory variables (CAPEXP and RECEXP) are held constant the economy will grow by 18770.34 units. The Capital Expenditure on Health with a coefficient of (β_1= 140.1217 and p-value of 0.0011)

indicates that there's a positive and significant relationship between government Capital Expenditure on Health and GDP. If the other independent variable is held constant, every 1% unit increase in CAPEXP will increase economic growth by 140.1217 units. This is because the p-value of CAPEXP is less than 5%.

Recurrent Expenditure on Health (RECEXP) impacted positively on GDP. Given that the coefficient and the p-value is 190.7144 and p-value of 0.0000 respectively, this means that there is a positive and significant relationship between RECEXP and GDP. A unit increase in RECEXP will lead to a 190.7144 unit increase in economic growth in Nigeria.

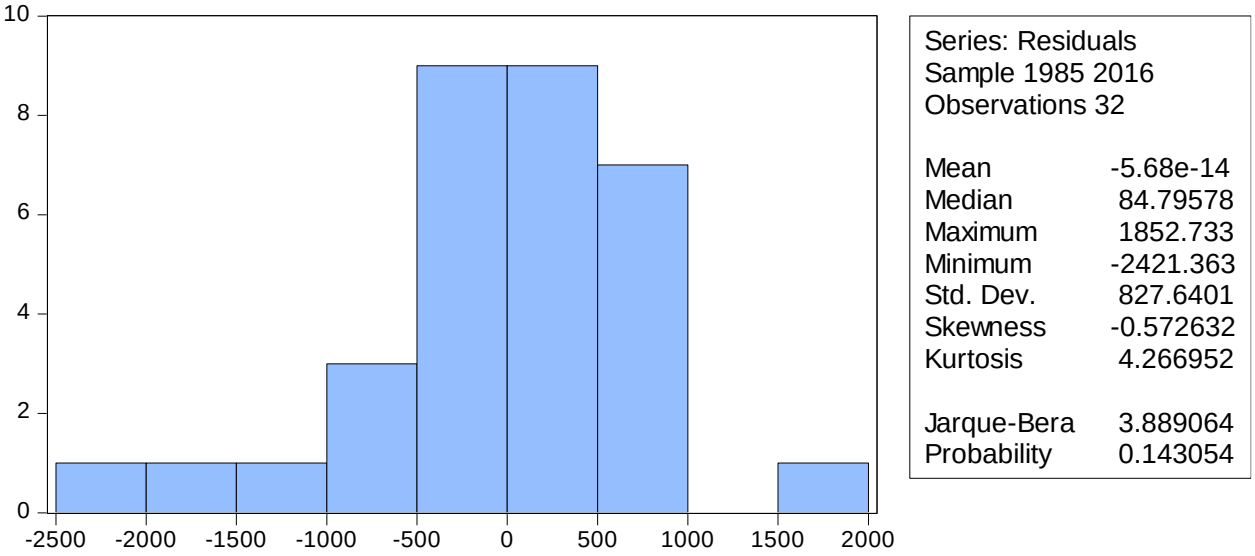
The F-statistic with a value of 258.8310 and a p-value of 0.0000 shows that there is a strong linear dependency existing between the values of the independent variables and economic growth in Nigeria. And the Durbin Watson statistic is 1.528395, indicating that there is no serial correlation among the variables. That means the parameter estimate is efficient and can be relied upon for the forecast of economic growth in Nigeria.

5.3 POST-DIAGNOSTIC TESTS

5.3.1 Normality Test

The normality test was carried out using the Jarque-Bera test. Testing at a 5% level of significance, the Jarque-Bera probability value of 0.14 is greater than 0.05. This implies that the residuals are normally distributed which is a desirable result. The result is presented in the figure below:

Figure 2: Jarque-Bera Normality Test Result



Source: Author's computation using Eview 7

5.3.2 Test for Multicollinearity

Multicollinearity refers to the presence of highly intercorrelated predictor variables in the regression model. Its presence invalidates some of the basic assumptions underlying the mathematical estimation of the model. Variance inflation factors (VIFs) greater than 10 are a sign of multicollinearity. The higher the VIFs, the more severe the problem exists in the model. The result of the multicollinearity test is presented in the table below:

Table 5: Variance Inflation Factors

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
GDP	0.019413	13.94568	13.94568
CAPEXP	0.054736	1.802152	1.784678
RECEXP	141.2954	1.983030	1.982498
C	29128.82	1.053512	NA

Source: author's computation using Eviews 7

From the result in the table above, the VIFs respectively are all less than 10 with exception of GDP which is greater than 10. This indicates the presence of collinearity but not a severe one since the uncentered VIF is equal to the centered VIF.

5.4 DISCUSSION OF FINDINGS

The results show that CAPEXP and RECEXP have a positive and significant impact on the economic growth of Nigeria. This also conformed to the apriori expectation of a positive relationship between health expenditure and economic growth in Nigeria. This is an indication that expenditure on health has been improving but the government needs to increase the allocation to this sector to reach 15% as recommended by the Abuja Declaration. This result is in line with Bakare and Olubokun (2011) who examined health care expenditures and economic growth in Nigeria using ordinary least squares multiple regression analysis methods and employed data covering 1970 to 2008. Their study showed a significant and positive relationship between health care expenditures and economic growth in Nigeria.

The overall significance is measured using the F-statistic. The F-statistic value 258.8310 with a probability value of 0.0000 indicating that there is a strong linear relationship between health expenditure and economic growth in Nigeria within the study period. We, therefore, reject the null hypothesis that there is no significant relationship between healthcare expenditure and economic growth in Nigeria and accept the alternative hypothesis that there is a significant relationship between healthcare expenditure and economic growth in Nigeria.

CHAPTER SIX
SUMMARY, CONCLUSION, AND RECOMMENDATIONS

6.1 SUMMARY

i. This study empirically examined the role of government health expenditure on the economic growth of Nigeria from 1981 through 2016 where the dependent variable is Gross Domestic Product (GDP) and the independent variables are Capital Expenditure on Health (CAPEXP) and Recurrent Expenditure on Health (RECEXP) by the application of the OLS multiple regression analysis. Two objectives were set and two hypotheses were formulated in the study. To validate the data and models used for analysis, the study conducted pre and post-test analyses.

ii. The pre-test analysis showed that none of the variables was stationary at level but all turned out to be stationary at the first difference at a 5% level of significance. And the co-integration result revealed that the variables are co-integrating, which implies that a long-run relationship exists between the variables. From the post-test analysis, the Jarque-Bera normality test showed that the residuals are normally distributed. The value of the Error Correction Mechanism (ECM) indicated that the speed of adjustment back to equilibrium in the system is low at 43.40% in the following year.

iii. The multiple linear regression analysis applied in this study revealed that Capital Expenditure on Health (CAPEXP) and Recurrent Expenditure on Health (RECEXP) have a positive and significant impact on economic growth in Nigeria. The result conformed to the apriori expectation.

6.2 CONCLUSION

The study concludes that there exists a long-run relationship between government health expenditure and economic growth in Nigeria since the variables are co-integrating. The study also concludes that Capital Expenditure on Health (CAPEXP) and Recurrent Expenditure on Health (RECEXP) impact positively on economic growth as every 1% increase in Capital Expenditure on

Health and Recurrent Expenditure on Health will lead to an increase in economic growth by 140.1217 and 190.7144 units respectively. Even though the result conforms to the apriori expectation, there is still a need for the government of Nigeria to increase its allocation to the health sector as recommended by the Abuja Declaration because Nigeria is still lagging as compared to other developing countries in Africa in terms of public health spending. **6.3 RECOMMENDATION**

Good public health is vital in any country, not only to maintain a healthy populace but also as a matter of national security, for an unhealthy human capital base is a deterrent to economic growth. Based on the research findings, the following recommendations were made:

i. To ensure sustainable economic growth, there is a need for the Nigerian government to double its budgetary allocation to the health sector. Through the setting up of good administrative/monitoring team, the Utilization of disbursed funds meant for capital projects can be closely monitored, especially in the area of procurement as this constitutes a major medium through which political office holders and other government appointees connive with government contractors to siphon or embezzling public funds in the country.

ii. To ensure efficient service delivery by the health/medical practitioners or workers, the government should ensure prompt payment of salaries and wages and other benefits of the health workers (doctors, nurses, lab technicians, etc), as this will go a long way in encouraging them to work more efficiently.

iii. Poor sanitation, inefficient health personnel, and obsolete medical equipment are few among other challenges that face the healthcare services in Nigeria. To this effect, to improve the healthcare sector of Nigeria, adequate and equitable distribution of healthcare facilities should involve the interests of all citizens especially those in the rural centres. The provision

of properly functional health care centres especially in remote areas can go a long way in improving the health of Nigerians because those in the rural areas will now be encouraged to visit healthcare centres concerning their health.

6.4 LIMITATIONS OF THE STUDY

The limitations of this study are two which are:

i. Time constraint- this study has been constrained by time due to the short time frame that was given for this study.

ii. Data collection- finding secondary data for the study was a serious constraint as the study initially was meant from 1980 through 2017 but due to the problem of inadequate data, the study had to adjust the period to 1981 – 2016.

6.5 SUGGESTIONS FOR FURTHER STUDY

The following areas are suggested for further study:

i. A comparative analysis could be carried out on the effect of current and capital health expenditure in Nigeria.

ii. An empirical comparative analysis could also be carried between Nigeria and Ghana or any West African country on the relative effect of health expenditure and economic growth to

compare and contrast the dynamism or variations in the different health policies and expenditures between the countries under study.

6.6 CONTRIBUTION TO KNOWLEDGE

The study contributed to knowledge by discovering that there exists a significant relationship between public health expenditure and economic growth in Nigeria under the study years. This is proven by the coefficient of both the Capital Expenditure on Health and Recurrent Expenditure on Health.

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APPENDIX A

The data on Gross Domestic Product (GDP), Capital Expenditure on Health (CAPEXP) and Recurrent Expenditure on Health (RECEXP)

YEAR	GDP	CAPEXP	RECEXP
1981	15,258.00	0.3	0.08
1982	14,985.08	0.12	0.1
1983	13,849.73	0.14	0.08
1984	13,779.26	0.05	0.1
1985	14,953.91	0.06	0.13
1986	15,237.99	0.07	0.13
1987	15,263.93	0.06	0.04
1988	16,215.37	0.16	0.42
1989	17,294.68	0.22	0.58
1990	19,305.63	0.32	0.5

1991	19,199.06	0.15	0.62
1992	19,620.19	0.24	0.15
1993	19,927.99	0.24	3.87
1994	19,979.12	0.75	2.09
1995	20,353.20	1.31	3.32
1996	21,177.92	1.66	3.02
1997	21,789.10	2.62	3.89
1998	22,332.87	8.31	4.74
1999	22,449.41	7.39	16.64
2000	23,688.28	8.87	15.22
2001	25,267.54	20.13	24.52
2002	28,957.71	12.61	40.62
2003	31,709.45	6.43	33.27
2004	35,020.55	18.21	34.2
2005	37,474.95	21.84	55.66
2006	39,995.50	32.2	62.25
2007	42,922.41	96.9	81.91
2008	46,012.52	97.2	98.22
2009	49,856.10	52.5	90.2
2010	54,612.26	35	99.1
2011	57,511.04	39.5	231.8
2012	59,929.89	45	197.9
2013	63,218.72	32.4	197.99
2014	67,152.79	40.7	195.98
2015	69,023.93	30.4	257.72
2016	67,931.24	55.61	202.36

Source: National Bureau of Statistics 2017 and Central Bank of Nigeria Statistical Bulletin 2017

APPENDIX B
AUGMENTED-DICKEY FULLER UNIT ROOT RESULTS OF VARIABLES

Null Hypothesis: D(GDP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.095508	0.0002
Test critical values:	1% level	-3.646342	
	5% level	-2.954021	
	10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDP,3)
Method: Least Squares
Date: 08/21/18 Time: 15:40
Sample (adjusted): 1984 2016
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1),2)	-1.032979	0.202723	-5.095508	0.0000
C	3.435504	192.8845	0.017811	0.9859

R-squared	0.455799	Mean dependent var	-63.67900
Adjusted R-squared	0.438244	S.D. dependent var	1474.909
S.E. of regression	1105.451	Akaike info criterion	16.91259
Sum squared resid	37882648	Schwarz criterion	17.00328
Log likelihood	-277.0577	Hannan-Quinn criter.	16.94310
F-statistic	25.96420	Durbin-Watson stat	1.691724
Prob(F-statistic)	0.000016		

Null Hypothesis: D(CAPEXP) has a unit root
Exogenous: None
Lag Length: 1 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.358400	0.0000
Test critical values:	1% level	-2.636901	
	5% level	-1.951332	
	10% level	-1.610747	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CAPEXP,2)
Method: Least Squares
Date: 08/21/18 Time: 15:47
Sample (adjusted): 1984 2016

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CAPEXP(-1))	-1.219341	0.227557	-5.358400	0.0000
D(CAPEXP(-1),2)	0.398082	0.175579	2.267253	0.0305

R-squared	0.502297	Mean dependent var	0.763333
Adjusted R-squared	0.486242	S.D. dependent var	20.66038
S.E. of regression	14.80873	Akaike info criterion	8.287002
Sum squared resid	6798.252	Schwarz criterion	8.377700
Log likelihood	-134.7355	Hannan-Quinn criter.	8.317519
Durbin-Watson stat	1.873963		

Null Hypothesis: D(RECEXP) has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.069170	0.0000
Test critical values:	1% level	-2.634731	
	5% level	-1.951000	
	10% level	-1.610907	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RECEXP,2)
Method: Least Squares
Date: 08/21/18 Time: 15:45
Sample (adjusted): 1983 2016

Included observations: 34 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RECEXP(-1))	-1.264301	0.178847	-7.069170	0.0000

R-squared	0.601727	Mean dependent var	-1.628824
Adjusted R-squared	0.601727	S.D. dependent var	44.30313
S.E. of regression	27.95920	Akaike info criterion	9.528340
Sum squared resid	25796.66	Schwarz criterion	9.573233
Log likelihood	-160.9818	Hannan-Quinn criter.	9.543650
Durbin-Watson stat	1.972813		