



Impact of Education and Health Care Expenditure on Economic Growth in Nigeria

¹Odogu, ²Laima Isaac, ³Anderson Pereowei Obalakumo.

^{1,2,3} Department of Accountancy, Bayelsa State Polytechnic, Aleibiri Ekeremor Local Government Area, Bayelsa State, Nigeria

ABSTRACT

The study is conducted to find out the impact of education and health care expenditure on economic growth in Nigeria. In other to determine the objectives, we carry out an extensive review of literature that serves as the ground work for the research and from where justifications for selection of independent and the dependent variables can be provided. To achieve the objective, a deductive approach has been adopted and exploratory research has been carried out. The model employed in this case is a linear regression because there are two dependent variables whereas the independent variable is only one. Regression has been performed using SPSS and two models of simple linear regression have been designed in which each dependent variable is regressed separately against the independent variable. The study concluded that the two models are significant and the study has presented conclusions in the light of the results produced and has given recommendations too.

Keyword: Educational, Health-care, inequality, economic growth

I. INTRODUCTION

The economic development of Nigeria had been poor particularly if the enormous revenues generated from oil are to be considered. Nigeria enjoys huge revenues from their oil sector being the largest producer of oil in Africa and being among top 10 producers of oil in the world (Ranjan & Sharma, 2008), but most of its revenues have been served to the ruling elites to fill their treasure chests rather than being used to fuel the development of people and their quality of lives. As per the estimates of World Bank less than 1% people of Nigeria benefit from 80% of the revenues from oil (Library of Congress, 2018). Such statistics are equally shocking as well as disheartening and point out towards the problem of corruption in Nigeria.

The government expenditure in Nigeria has shown a continuously rising trend due to excessive receipts from production and selling of crude oil along with the rising demand for public goods (utilities) like communication, education, power, health and roads. Other than that, the need to provide both external and internal security for the nation is constantly rising. Statistics show that the overall capital and recurrent expenditure of government as well as its components have showed a constant rising trend for the past three decades which unfortunately has not been able to translate into meaningful development and growth as Nigeria continues to be counted among the poorest countries of the world (Olugbenga, and Owoye, 2017). He further states that many people in Nigeria are still living below the poverty line. This statement in turn supports the claim made by the data set presented by the library of congress. The dilemma does not end here, rather increases when the crumbling infrastructure, especially the power supply and roads are mentioned because the run-down framework led to the collapse of a lot of industries which in turn resulted in high unemployment. Furthermore, the macroeconomic indicators such as import obligations, exchange rate, balance of payments, national savings and inflation reveal that the country has not been able to fare well in the past (Cooray, 2019).

There had been two phases of development in the education sector of Nigeria. In the first phase the sector experienced rapid growth. That phase was broadly located between the periods of 1950 – 1980. In the second phase (1981-2018) the phase underwent a rapid decline in terms of growth. Also the government of Nigeria declared the educational system of the country to be dysfunctional which was attributed to ill-prepared graduates as well as decaying institutions (Library of Congress, 2018). More often in Nigeria, the lower classes which constitute a huge part of the rural class are deprived of educational benefits that one should be able to receive as a result of economic development, reason being that national income being concentrated in a few hands; hands of the ruling class, the elites (Ranjan & Sharma, 2018).

WHO (2016) reveals that about 50% of the differential of economic growth between the developing and developed nations can be attributed to poor health and little life expectancy. In developed countries a greater portion of their GDP is spent on health care for they believe that the health of the residents would eventually be a major driver for development and economic activities. Studies have been conducted by a lot of researchers (Kaufmann, Daniel, AartKraay and Pablo Zoido-Lobaton. 2019; McCarthy and Wolf 2016) along with a lot of others, there have been frantic efforts by the governments in Nigeria also to increase the expenditure on public health. The above-mentioned scenario makes it evident that the expenditure on health care by the government in Nigeria had continuously been increasing. claims by Abu (2015) the following facts should be considered. The infant mortality rate of Nigeria is one of the highest in the world (91/1000 live births). Secondly the rate of mortality for children below the age of five is 192 deaths/1000. Furthermore, the coverage of immunization has fallen below 30%. The figures from the year 2017 state that around 134,000 (which is a huge figure)

women lost their lives to pregnancy complications. Not only that, but also the expectancy ratio has been observed to be declining over the years (WHO, 2018; Yaqub, Ojapinwa & Yussuff, 2019). A point to be noted here is that in spite of all the economic development and increase in public expenditure on health, the health conditions of people stay poor and the contribution of all the economic growth seems to be marginally low. Nigeria enjoys huge revenue from the oil sector being the largest producer of oil in African and being among the top 10 producers of oil in the world (UNDP 2019).

As per the estimate of World Bank less than 1% population of Nigerians benefit from 80% of the revenue from oil (Library of Congress, 2018). Such statistics are really shocking as well as disheartening and point out towards the problem of corruption in Nigeria. Another major challenge associated with economic growth and quality of education and health care in Nigeria is the civil unrest that has ravaged the economy in recent years, as a result of the activities of Boko Haram, banditry and kidnapping which have all contributed their fair share. Owing to this issue of civil unrest, strikes in the educational and health system is a serious damage as the number of out of school children has increased by 13.2 million, making it the largest in the world (UNDP 2019), in line with the World bank (2020) estimates.

The following questions were answered in this research work

- What is the impact of quality of Health Care services on GDP in Nigeria?
- What is the effect of the quality of Education on GDP in Nigeria?

To this end, the following research hypotheses were tested:

Ho₁. There is no significant relationship between the quality of Health care services and GDP in Nigeria.

Ho₂. There is no significant relationship between the quality of Education and GDP in Nigeria.

2. LITERATURE REVIEW

Nigeria being a very large country is the 8th largest country in the world, population wise and 32nd largest according to area (Orenstein, 2012). The gross domestic product (GDP) per person in Nigeria was \$ 2000 in 2008. Even after such a figure of GDP which is above average per capita GDP for an African nation; developing one, majority of the Nigerian population is living below the poverty line and suffer from excessive poverty. The rank that Nigeria holds on the human poverty index of United Nations is 158th. There exists an enormous income gap in Nigeria the proof of which is the fact that 50% population of Nigeria are living below \$1 per day (UNDP, 2019).

The economic development of Nigeria had been poor particularly if the enormous revenues generated from oil are to be considered. Nigeria enjoys huge revenues from their oil sector being the largest producer of oil in Africa and being among top 10 producers of oil in the world (Ranjan & Sharma, 2008), but most of its revenues have been served to the ruling elites to fill their treasure chests rather than being used to fuel the development of people and their quality of lives. As per the estimates of World Bank less than 1% people of Nigeria benefit from 80% of the revenues from oil (Library of Congress, 2018). Such statistics are equally shocking as well as disheartening and point out towards the problem of corruption in Nigeria (Igbeng, Beredugo & Adu, 2015).

The government expenditure in Nigeria has shown a continuously rising trend due to excessive receipts from production and selling of crude oil along with the rising demand for public goods (utilities) like communication, education, power, health and roads. Other than that, the need to provide both external and internal security for the nation is constantly rising. Statistics show that the overall capital and recurrent expenditure of government as well as its components have showed a constant rising trend for the past three decades which unfortunately has not been able to translate into meaningful development and growth as Nigeria continues to be counted among the poorest countries of the world (Olugbenga, and Owoye, 2017). He further states that many people in Nigeria are still living below the poverty line. This statement in turn supports the claim made by the data set presented by the library of congress. The dilemma does not end here, rather increases when the crumbling infrastructure, especially the power supply and roads are mentioned because the run-down framework led to the collapse of a lot of industries which in turn resulted in high unemployment. Furthermore, the macroeconomic indicators such as import obligations, exchange rate, balance of payments, national savings and inflation reveal that the country has not been able to fare well in the past (Cooray, 2019)

2.1 Impact of Economic Development on Health

One of the primary needs of human beings is good health care. Bakare, and Olubokun, (2011) have concluded that generally health of people improves when economic growth takes place while infant mortality rate lowers and life expectancy increases. Fahey, Russell, and Whelan. (2018) state that people don't necessarily feel healthy if life expectancy is increased. Improvements in terminologies of science and medical attribute to better treatment and management of ailments like diabetes, but a person who has a chronic condition may not label himself as healthy even in periods of economic growth and proper provision of health and medical facilities. Taking into account the afore mentioned fact it could be said that the relationship between economic growth and healthy being of people is rather a complex one and it is much more than just factors of economic growth affecting the health of people.

WHO (2016) reveals that about 50% of the differential of economic growth between the developing and developed nations can be attributed to poor health and little life expectancy. In developed countries a greater portion of their GDP is spent on health care for they believe that the health of the residents would eventually be a major driver for development and economic activities. Studies have been conducted by a lot of researchers (Kaufmann, Daniel, AartKraay and Pablo Zoido-Lobaton. 2019; McCarthy and Wolf 2016)) along with a lot of others, there have been frantic efforts by the governments in Nigeria also to increase the expenditure on public health. The above-mentioned scenario makes it evident that the expenditure on health care by the government in Nigeria had continuously been increasing. claims by Abu (2015) the following facts should be considered. The infant mortality

rate of Nigeria is one of the highest in the world (91/1000 live births). Secondly the rate of mortality for children below the age of five is 192 deaths/1000. Furthermore, the coverage of immunization has fallen below 30%. The figures from the year 2017 state that around 134,000 (which is a huge figure) women lost their lives to pregnancy complications. Not only that, but also the expectancy ratio has been observed to be declining over the years (WHO, (2018), Yaqub, Ojapinwa, & Yussuff, 2019). A point to be noted here is that in spite of all the economic development and increase in public expenditure on health, the health conditions of people stay poor and the contribution of all the economic growth seems to be marginally low.

2.2 Impact of Economic Growth on Education

Various studies have been carried out to study the relationship between economic growth and education. Many of them had been cross country analysis. The methods adopted in the work already done are three stages least squares (Barro 2019). Ordinary least squares (Geol, 2014; Barro, 2019, Barro and Lee 2017; Abbas 2011; Lin, 2013), granger causality (Self and Grabowski 2016) and co-integration (Babatunde and Adefabi, 2015). These studies have produced mixed results but the nature of relationship determined by all of them had been positive (the relation between economic growth and education). Earlier studies however (Lucas 2018; Romer 2019) had made analysis of importance of human capital development and education in the process of growth, Barro (2019) was the first one to shed light on the link between economic growth and educational expenditures. He found out that the relationship between per capita output and human capital was positive and that it leads to increased enrolment in schools. He recommended that the gap between developing and developed countries could be closed if countries started investing more in human capital development.

Ramirez, Ranis and Stewart, (2017) made use of cross-country data to investigate the channels through which economic growth effects human capital development and vice versa. The basic argument presented in this study was that educational development is not directly related to economic development rather there's a channel in between which is the human capital development. And human capital development may cause economic growth or it could be the other way round too. Loening (2015) analyzed the relationship between economic growth and human capital development employing data from Guatemala and concluded that an educated work force impacts growth output positively. Dorian (2017) using a neoclassical framework approximated a structural growth model in which he used two explanatory variables; health and education. Positive relationship between health and economic growth was found whereas there was no evidence of a significant relationship between economic growth and education.

Babatunde and Adefabi (2015) carried out an in-depth analysis about the relationship between economic growth and education in the long run in Nigeria and the approach employed was the Johansen co- integration framework of analysis. The co integrating technique predicted a long-run relationship between output per worker and school enrolments in all years of education (primary as well as tertiary). The conclusions presented by the study stated that growth is affected positively through evolution of total factor productivity as well as factor accumulation if the labour force is well educated. Aighokhan et al (2015) examined the impact of expenditures (education) on human capital development. Historical data was used in the study to formulate correlation between human capital and education expenditure in Nigeria and acclaimed that uncertain and insufficient allocations of budget resulted in destruction of its effect on human capital development. Low percentages of annual budgets were allocated to be spent on education and they were unstable also. Ordinary least squares method had been used by Omotor (2019) to analyze the determinants of federal government expenditures in the field of education in Nigeria. Instability in government expenditure was predicted through that study because the study revealed inconsistency in expenditure of government in the education sector in Nigeria. The only significant determinant of education expenditures was found to be government revenue.

There had been two phases of development in the education sector of Nigeria. In the first phase the sector experienced rapid growth. That phase was broadly located between the period of 1950 – 1980. In the second phase (1981-2018) the phase underwent a rapid decline in terms of growth. Also the government of Nigeria declared the educational system of the country to be dysfunctional which was attributed to ill-prepared graduates as well as decaying institutions (Library of Congress, 2018). More often in Nigeria, the lower classes which constitute a huge part of the rural class are deprived of educational benefits that one should be able to receive as a result of economic development, reason being that national income being concentrated in a few hands; hands of the ruling class, the elites (Ranjan & Sharma, 2018).

2.3 Economic Growth and Inequality

When there is disparity in the incentives to production factors, it is called income inequality. Income inequality may also be defined as the position whereby monetary benefits received in a certain period of time usually in terms of payment for a job, or interest earned on different sizes of investments, or circumstances are ranked in a different and unfair way (Bakare, 2011). According to Graham (2020) income inequality is a line between poor and rich. The higher income group is characterized by proper literacy/attainment of education and appropriate health care facilities whereas the low-income group is characterized by sheer deprivation of everything from the right to health care, to job to eliminated poverty as well as the right to education. The placement of the middle-income group is somewhere between both of the aforementioned groups. In Aigbokhans's (2018) opinion, the decline in poverty (if any) resulted by economic growth would be of much greater magnitude if reduction in inequality takes place or is achieved simultaneously. Galor, (2020) are of the opinion that their income inequality may subsequently rise after getting declined under certain conditions. This may occur above same threshold of income. Galor and Tsiddon (2016) are of the opinion that inequality is the essential of growth at early stages but it eventually subsides when the prosperity sets in and benefits start pouring in. Galor (2020) examined that their inequality may be directly proportional to economic growth when development is achieved through accumulation of physical capital, whereas the change in approach of development alters the scenario by 180 degrees. It implies that inequality is reduced when the prime engine of growth is human capital accumulation rather than the former. The work of Aghion and Bolton (2017) relied on imperfections of the capital market imperfections in which poor are initially prevented from investing but later with the growth in economy they can also make their moves.

Social inequality results from a society organized by hierarchies of class, race, and gender that unequally distributes access to resources and rights (Ashley, 2020). It can manifest in a variety of ways, like income and wealth inequality, unequal access to education and cultural resources, and differential treatment

by the police and judicial system, among others. Social inequality goes hand in hand with social stratification. Overview: Social inequality is characterized by the existence of unequal opportunities and rewards for different social positions or statuses within a group or society. It contains structured and recurrent patterns of unequal distributions of goods, wealth, opportunities, rewards, and punishments. Racism, for example, is understood to be a phenomenon whereby access to rights and resources is unfairly distributed across racial lines. In the context of the United States, people of colour typically experience racism, which benefits white people by conferring on them white privilege, which allows them greater access to rights and resources than other Americans.

There are two main ways to measure social inequality: Inequality of conditions: Inequality of opportunities: Inequality of conditions refers to the unequal distribution of income, wealth, and material goods. Housing, for example, is inequality of conditions with the homeless and those living in housing projects sitting at the bottom of the hierarchy while those living in multi-million-dollar mansions sit at the top. Another example is at the level of whole communities, where some are poor, unstable, and plagued by violence, while others are invested in by businesses and government so that they thrive and provide safe, secure, and happy conditions for their inhabitants. Inequality of opportunities refers to the unequal distribution of life chances across individuals. This is reflected in measures such as level of education, health status, and treatment by the criminal justice system. For example, studies have shown that college and university professors are more likely to ignore emails from women and people of colour than they are to ignore those from white men. Discrimination of an individual, community, and institutional levels is a major part of the process of reproducing social inequalities of race, class, gender, and sexuality. For example, women are systematically paid less than men for doing the same work.

There are two main views of social inequality within sociology. One view aligns with the functionalist theory, and the other aligns with conflict theory. Functionalist theorists believe that inequality is inevitable and desirable and plays an important function in society. Important positions in society require more training and thus should receive more rewards. Social inequality and social stratification, according to this view, lead to a meritocracy based on ability. Conflict theorists, on the other hand, view inequality as resulting from groups with power dominating less powerful groups. They believe that social inequality prevents and hinders societal progress as those in power repress the powerless people to maintain the status quo. In today's world, this work of domination is achieved primarily through the power of ideology, our thoughts, values, beliefs, worldviews, norms, and expectations, through a process known as cultural hegemony. Sociologically, social inequality can be studied as a social problem that encompasses three dimensions: structural conditions, ideological supports, and social reforms.

2.4 Empirical Review

Osberg (2018) in an article titled Comparisons of Trends in GDP and Economic Well-being – the Impact of Social Capital. This paper discusses the connection between social capital and trends in economic well-being. Although arguments for the growth-enhancing aspects of social capital are concerned with the impacts of social capital on well-being, in practice research has focused on the relationship between social capital and trends in GDP per capita. However, there are severe disadvantages to using GDP per capita as an indicator of trends in economic well-being. Sections 2 to 4 develop an index of economic well-being for selected OECD countries for the period 1980 to 1996 and compare trends in economic well-being to trends in GDP. We argue that the economic well-being of a society depends on: (1) effective per capita consumption flows, which includes consumption of marketed goods and services, unmarked goods and services, and changes in life span and in leisure; (2) net societal accumulation of stocks of productive resources, including tangible capital and housing stocks, human capital and R&D investment, environmental costs, and net change in level of foreign indebtedness; (3) income distribution, (as indicated by the Gini index of inequality, and depth and incidence of poverty); and (4) economic security (from unemployment, ill health, single parent poverty and poverty in old age). Estimates of the overall index and the sub-components are presented for 1980-1996 for the USA, UK, Canada, Australia, Norway and Sweden. In every case, growth in GDP per capita exceeds growth in economic well-being, although to different degrees in different countries. Section 5 then discusses why the connection between social capital and trends in economic well-being might be stronger than the relationship between social capital and GDP per person.

Frantisek (2018) in a research paper titled: Does Economic Growth Improve Quality of Life? One of the directions in research of quality of life is examining the impact of economic growth on quality of life, which presents a fundamental axiological change in quality of life if this correlation is positive. In the classical approach, based on Easterling's paradox, there is no correlation between economic growth, manifested by the growth in prosperity and growth of satisfaction of population with their lives. In contrary with this conception other scientists use correlations documented by the link between the growth of wealth and quality of life and refer to the Easterling's paradox as to the Easterling's illusion. We base verification of answers to the question raised in title of the article on statement that subjective dimension of quality of life (well-being) overweighs an objective dimension. GDP per capita measure by purchase power parity and suicide rate in OECD countries

Idowu (2019) in his paper examines the impacts of health on Economic growth in Nigeria. The cointegration and granger causality techniques were used in analysing Quarterly time series data of Nigeria for the period of 1995-2009. The study finds that GDP is positively influenced by health indicators in the long run and health indicators cause the per capita GDP. It reveals that health indicators have a long run impact on economic growth. Thus, the impact of health is a long run phenomenon.

Easterling and Angelicum (2018) in their article titled: to what extent are improvements in quality of life (material living levels, health, education, political and civil rights, happiness, and the like) associated with economic growth? International comparisons of quality of life (QoL) conditions almost always point to a strong positive association with real GDP per capita. Historical experience, however, frequently belies the results of these comparisons. More often than not the timing of various improvements in QoL, material living levels excepted, is different from that in real GDP per capita - some indicators preceding, others following. Moreover, the sequence of improvements in various aspects of QoL is not always the same from one part of the world to another. And sometimes, as in the case of happiness and life satisfaction, QoL indicators remain unchanged despite a doubling or more of real GDP per capita. In contrast to the results of simple international point-of-time comparisons, history suggests that improvements in many realms of life are not an automatic result of economic growth.

Kemi and Dayo (2019) in an article titled Unemployment and Economic Growth in Nigeria. They stated that, the rate of unemployment has risen in the last decade in most of the sub-Saharan African countries. The situation in Nigeria is rapid population growth with low level of employment rate. The theoretical proposition of the Okun's law is that a negative relationship exists between unemployment rate and economic growth. This study intends to test the validity of Okun's law in Nigeria. In order to examine the relationship between unemployment rate and economic growth, Error Correction Model (ECM) and Johansen cointegration test were employed to determine both the short run and long run relationships among the variables employed in the study. Empirical findings show that there is both the short and the long run relationship between unemployment rate and output growth in Nigeria. Hence, there is need to incorporate fiscal measures and increase the attraction of foreign direct investment (FDI) to reduce the high rate of unemployment in the country.

Study from Tolulope (2019) shows that the study was carried out in Nigeria between the period of 1986 and 2008. The data were analyzed using the ordinary least square approach. This paper also employed the techniques of stationary test, co-integration test, and error correction model to estimate the dynamic relationship between dependent and the independent or explanatory variables. The result of the Co-integration test shows the presence of long run relationship between employed labour and growth. This result corroborates the fact that unemployment rate retards Nigeria's economic growth thus, one percent increase in unemployment rate led to about 11.56 percent decreases in Gross Domestic Product. It was also found that job vacancies have a negative relationship with growth. Based on the finding, it is recommended that the Nigerian government has to be involved as major players in the establishment and management of economic and other forms of enterprises in order to promote job employment, and growth.

Nwankwo and Ifejiolor (2020) in a study titled Impact of Unemployment on Nigerian Economic Development: A Study of Selected Local Government Area in Anambra State, Nigeria. The problem of unemployment in Nigeria is a national issue that should be handled with care. The rate of unemployment in Nigeria since 1973 has been growing in a geometric progression. Its source could be traced to the diversification of Nigeria economy into oil sector that only provides less than 10% employment opportunity to its labour force. The purpose of this study was to find out the causes of unemployment in Nigeria and how it has impeded the economic development. These and others form the researcher's reason for this study. Descriptive research design was adopted. The population includes all the unemployed youth from the three selected Local Government Council (Oyi, Idemili North and South) which its figure is estimated to be about 2.3 million youth (NPC, 2006). 30 youths were drawn from each of the Local Government Council. Convenience sampling technique was applied. Both primary and secondary data source was used. Pearson correlation test was used for the test of hypotheses. The results of the test hypotheses revealed that unemployment impedes the economic growth and development of Nigeria. Government programmes have in many ways helped in tackling the problems of unemployment in Nigeria. There are possible ways that could be put forward in ensuring the reduction of unemployment level in Nigeria. Furthermore, the paper recommends that the federal government should hasten the power sector reforms and re-stabilize the power sector to end the looming energy crisis in Nigeria. In order to encourage entrepreneurial activities which are believed to be the remote cause of unemployment problem in Nigeria.

Keghter, Eze and Ogbonna (2020) state that, Institutional quality is considered to be a determining factor in enhancing the growth of any economy. This paper examines the role of institutional quality in growth enhancement and the precise role it plays through the channel of health expenditure. The ARDL model was employed between the period of 1984 and 2019 to ascertain the link between the variables in question. The paper provides evidence that the long-run effects of health expenditure and institutional quality on economic growth are both surprisingly negative, but with only institutional quality having a statistically significant relationship. Further findings reveal that the institutional quality moderates the effect of health expenditure on growth. Specifically, when institutional quality is maintained at a threshold of 0.52 level, growth will be at least positive. This means that, with institutional quality at less than the threshold level, the economic growth will become negative. However, with the right policies in place as recommended, there could be a turn in events.

Onwuka (2021) empirically examined the relationship between poverty, income inequality and economic growth in Nigeria. The study used time series data from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN) Statistical Bulletin between the periods from 1981 to 2019. The study employed the use of Augmented Dickey Fuller test, Co integration test and Error Correction technique. The unit root test results indicated that all the variables were stationary at first difference and co-integration test confirmed a long run relationship among the variables. The error correction model shows that about 96 percent of the discrepancy between the actual and the equilibrium value of economic growth is corrected or eliminated each year. The coefficient of determination (R^2) is 0.68 which shows that about 68 percent variations in the economic growth were explained by the independent variables. Similarly, the findings also revealed that poverty and income inequality has an insignificant effect on economic growth in Nigeria.

3. METHODOLOGY

The data is collected for the selected variables for the period of 2011 to 2020 that covers the time span of ten years. The secondary sources of data collection were employed. The resources used in the study include journals, internet, websites of trading economics, World Bank data on world economic indicators, National Bureau of Statistics, Nigeria. GDP as the dependent variable of the study. Measures for quality of life in Nigeria consist of quality of health services, quality of education, as the independent variables of the study, collected from the websites of World Bank and Trading Economics. The study uses descriptive statistics for analysing the basic characteristics of Nigerian economy and expenditure on health and education. The study presents the values of mean, median and standard deviations by using SPSS. The linear relationship among the variables is analyzed by using correlation analysis. The correlation analysis will help determine the significance of relationship among the variables selected for the study. Regression analysis is used for the empirical examination of impact of GDP on education and health care expenditure.

The study proposes the following regression model for testing the hypotheses

$$\text{Quality of Health Services} = f(\text{GDP})$$

Quality of Education = f (GDP)

The above-mentioned functional equations can be expressed in general terms. The general expressions of the above equations are stated as follows.

Quality of health service= $C + \beta_1 \text{GDP} + \varepsilon$

Quality of Education= $C + \beta_2 \text{GDP} + \varepsilon$

Where: GDP is dependent variable in all the models; C is the intercept; ε is error term and

β_1 (coefficient of GDP with Quality of health services); β_2 (coefficient of GDP with variable Quality of Education); included in the model. Nevertheless, the model was tested using the diagnostic tests of heteroskedasticity, serial correlation, normality, and misspecification (Gujarati and Porter, 2019; Asterious and Hall, 2017). For the stationarity of data, Augmented Dickey-Fuller was used in the study.

4. PRESENTATION OF DATA

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GDP	11	6766	52264	2.47E4	16221.706
QOE	11	612	1098	905.86	138.704
QOH	11	648	1153	950.61	144.491
Valid N (listwise)	11				

Descriptive statistic table, shows that gross domestic product of Nigeria has a minimum value of US \$ 6766 billion and maximum value of US \$ 52264 in the time frame of ten years. The mean value of gross domestic product for Nigerian economy is US \$ 24721.8 billion and this value has a US \$ 16221.706 deviation from mean value in the selected economy. The descriptive of education expenditure of Nigeria reveals that the economy has shown US \$ 1098 as highest level of capital in terms of GDP. The lowest value of education expenditure during the time period of 2011 to 2020 is US \$ 612. The mean value of education expenditure of Nigeria is US \$ 905. However, this value has shown a standard deviation of US \$138.704 from the mean. The descriptive statistics of health-care expenditure in Nigeria shows that the minimum level that the economy has shown US \$ in Nigeria is 648. This value is found to be increase to US \$ 1153 maximum, and on the average US \$ 950.61, and standard deviation US \$ 144.491 from the mean.

4.1 Correlation Analysis

The results of correlation of quality of health services, quality of education, are dependent variables of the study and independent variable as GDP are calculated in SPSS by using pair wise Pearson correlation analysis. These results are tabulated in Table 1 as a symmetrical matrix showing the relationship among the variables selected for the study.

Table 1: Correlation Analysis of Education and Health Care Expenditure on Economic Growth

		GDP	QHS	QOE
GDP	Pearson Correlation	1	.892**	.910**
	Sig. (2-tailed)		.000	.000
	N	11	11	11
QHS	Pearson Correlation	.892**	1	.972**
	Sig. (2-tailed)	.000		.000
	N	11	11	11
QOE	Pearson Correlation	.910**	.972**	1
	Sig. (2-tailed)	.000	.000	
	N	11	11	11
N		11	11	11

** . Correlation is significant at the 0.01 level (2-tailed).

The results of Pearson pair wise correlation calculated for GDP in Nigeria shows that gross domestic product of Nigerian economy holds a significant and positive relationship with the variables. The positive value of 0.892 shows that the GDP is strongly and positively correlated with the quality of health services in economy. This relationship is significant at 0.01 level of significance. Increase in growth of economy is associated with an increase in quality of health services of individuals residing in the Nigerian Economy. The value of .910 with the significance level of 0.01 also shows a strong and positive

correlation among the GDP and quality of education. The values shows that growth in an economy leads to increase in quality of educational conditions of Nigerian populace.

4.2 Regression Analysis

The simple linear regression analysis was done for the models explained above of the current study. As discussed earlier, the gross domestic product calculated in terms of US \$ billion is used in the regression model as an independent variable. The set of dependent variables include Quality of health services and Quality of education, at the time expressed in percentages. Simple linear regression analysis was employed for testing the hypothesis proposed for the study. The data collected from the World Bank and trading economics for the year 2011 to 2020 was used in estimating the role of economic growth on the quality education and health in Nigeria.

The following tables presents the SPSS generated values of the estimated coefficients and overall model statistics with the dependent variable.

Table 2: The regression model with Quality of education and health as a dependent variable

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	48.538	.370		131.093	.000
	GDP	8.367E-5	.000	.910	6.590	.000

a. Dependent; Variable Quality of education and health.

Table 3 Overall Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910 ^a	.828	.809	.651

Predictors: (Constant), GDP

Table 4. ANOVAs summary

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.420	1	18.420	43.422	.000 ^a
	Residual	3.818	9	.424		
	Total	22.238	10			

a. Predictors: (Constant), GDP

b. Dependent Variable: Quality of health and education

The model of the impact of economic growth on the dependent variable quality of health and education in Nigeria shows that R square of the model is 0.828. the value of R square tabulated in table 3 shows that 82.8% of variations in the dependent variable that is quality of education and health in Nigeria is explained by the independent variable selected for the model. The remaining 14.3% of the variations in the results of model are unexplained by the gross domestic product in relation to the Nigerian economy. These remaining variations of 14.3% could be attributed to the error term of the model. The values of F- Statistics presented in the table 4 shows that F- statistics is 43.42 with significance at 0.000 or 1% level of significance. These estimated significant values of F- Statistics confirm the stability as well as reliability of the model presented for Nigeria.

5. CONCLUSION AND RECOMMENDATION

The results of the correlation analysis show a strong, significant and positive relationship between GDP, quality of health services and quality of education. To analyse the impact of education and health care expenditure and the economic growth in Nigeria, simple linear regression models were introduced. The models include quality of health services and GD model, quality of education and GDP model, The results of these two variables and GDP rejects the hypothesis proposed for the study as the models confirms a significant and positive association between GDP and the variables in Nigeria.

In the light of the findings, it is recommended that Nigerian government must revise polices of health and on mechanism of distribution of wealth. It is need of the time to create more job opportunities in an economy for having stability in economic growth and a rise in the living standard of Nigerian people. The study on the basis of its findings also seeks to make some recommendations to the Nigerian government as well. For ensuring the contribution

of people in economic growth, the revision and redesign of health policies is recommended. The Government of Nigeria must focus on raising the income level by creating jobs for its people and increasing its productivity through effective utilization of human skills. The measures of accountability are required to be implemented for reducing the corruption level and poverty in Nigeria.

References

- Abbas, Q. (2017). Endogenous Growth and Human Capital: A Comparative study of Pakistan and Sri Lanka. *The Pakistan Development Review*, 40 Vol. (4): pp.987 – 1007.
- Abu, N. (2015). Government expenditure and economic growth in Nigeria, 1970-2008: A disaggregated analysis.
- Aghion, P., Bolton, P. (2017): "A theory of Trickle down Growth and Development". *Review of Economic Studies*, C4 (2), April, pp 151-172.
- Aigbokhan, B.E. (2018) Growth, Inequality and Poverty in Nigeria UNECA ACGS/ MPAMS Discussion paper No 3. Addis Ababa At: <http://uneca.org/acgd/mdgs/GrowthInequalityPoverty.pdf>
- Babatunde, M.A and Adefabi, R.A., (2015). Long-Run relationship between Education and Economic growth in Nigeria: Evidence from Johannes's cointegration Approach. Paper presented at the Regional conference on education in West Africa: constraints and opportunities. Dakar Senegal Nov. 1st – 2nd 2006.
- Bakare, A.S. (2011): "Measuring the Income Inequality in Nigeria"; the Lorenz Cur Bakare, A. S., and Olubokun, S. (2011). Health care expenditure and economic growth in Nigeria: an empirical study. *Journal of Emerging Trends in Economics and Management Sciences*, 2(2), 83-87.
- Barro, R.J. and Lee Jong – Wha (2019): "International Comparisons of Educational Attainment". *Journal of Monetary Economics* Vol.32 (3): pp. 263 – 394.
- Barro, R.J. (2019). Human Capital and Economic Growth. *American Economic Review*. Vol.91 (2), pp.12-17.
- Cooray A, (2019). Government Expenditure, Governance and Economic Growth. *Comparative Economic Studies*, 51(3): 401-418. [<http://www.ingentaconnect.com/content/pal/ces;jsessionid=q1g8lqkzfvms.alice>]
- Dorian, S.K. (2017). Education and Health in an Effective – Labour Empirical Growth Model. *The Economic Record*. Vol.73: pp.314 – 328
- Easterling R & Angelescu L (2018) Modern Economic Growth and Quality of Life: Cross Sectional and Time Series Evidence SSRN Electronic Journal DOI:10.2139/ssrn.980354
- Fahey, T., Russell, H., & Whelan, C. T. (Eds.). (2018). *Quality of life in Ireland: Social impact of economic boom* (Vol. 32). Springer Science & Business Media.
- Frantisek, M. (2018) Does Economic Growth Improve Quality Of Life? Conference: 15th International Multidisciplinary Scientific Geo Conference SGEM 2018. Ecology, Economics, Education and Legislation. At: Albena, Bulgaria Volume: III.
- Galor, O.D. and D.Isiddon (2016) "Income Distribution and Growth"; the Kuznets Hypothesis Revisted" *Economica* 63(250), Supplement, pp 103-117.
- Galor, O. (2020): "Income Distribution and the process of Development" *European Economic Review*, 44(4-6) May, pp. 706-712.
- Geol, S.C. (2014), "Education and Economic Growth in India. *Comparative Education* Vol.10 (2): pp.147 – 158.
- Graham (2020): Poverty and Health Risks; Issues and Concept Idowu O, (2019). The Impact of Health on Economic Growth in Nigeria *International Journal of Innovation and Sustainable Development* 5(19):159 - 166
- Igbeng, E. I., Beredugo, S. B. & Adu, V. A. (2015). Evaluation of Public Accountability and Tax Culture among Tax Payers in Nigeria. *International Journal of Management Science and Business Administration*, 1(9), 7 – 13
- Ilo (2019). Decent Work and Protection for all in Africa. Report of the Director-General, 90th African Regional Meeting, December. ILO, Geneva
- Kaufmann, D., A. and Pablo Zoido-Lobaton (2019). "Governance Matters". World Bank Policy Research Department Working Paper No. 2196. Washington, D.C. [www.worldbank.org/wbi/governance]
- Keghter K, Eze A, and Ogbonna O, (2020) Health Expenditure And Economic Growth Nexus In Nigeria: Does Institutional Quality Matter? *Journal of Economics and Allied Research* 4(4), 21-32
- Kemi F. A, and Dayo B. O. (2019) Unemployment and Economic Growth in Nigeria. *International Journal of African and Asian Studies*. 11(1), 12-21.
- Land, K. (2016). Social indicators and the quality-of-life: Where do we stand in the mid-1990s? *Social Indicators Network News (Sinet)* 45: 5–8.
- Land, K. C., Michalos, A. C., & Sirgy, M. J. (Eds.). (2011). *Handbook of social indicators and quality of life research*. Springer Science & Business Media.
- Loening, J.L. (2015). Effects of Primary, Secondary and Tertiary Education: Evidence from Guatemala Policy Research Working Paper (3610). Library of Congress. (2018). [www.lcweb2.loc.gov](http://lcweb2.loc.gov). County profile: Nigeria. Retrieved from <http://lcweb2.loc.gov/frd/cs/profiles/Nigeria.pdf>
- Lin, T.C. (2013), Education, Technical Progress and Economic Growth. *The Case of Taiwan*. *Economic of Education Review*. Vol.22 (2), pp.213- 220).

- Lucas, R.E. (2018). "On the Mechanics of Economic Development". *Journal of Monetary Economics*. Vol.22: pp.3 – 42
- McCarthy, F. Desmond and Wolf, Holger C., (2016) Comparative Life Expectancy in Africa.
World Bank Policy Research Working Paper No. 2668. Available at SSRN: <http://ssrn.com/abstract=632736>
- Michalos, A.C. (2016). Conceptual and philosophical foundations. In: Sirgy, M.J., Michalos, A.C., Ferriss, A.L., Easterlin, R.A., Patrick, D., and Pavot, W. The quality-of-life (QOL) research movement: Past, present, and future. *Social Indicators Research* 76: 343–466.
- Nwankwo, C. A, and Ifejiofor, A. P (2020) Impact of Unemployment on Nigerian Economic Development: A Study of Selected Local Government Area in Anambra State, *European Journal of Business and Management* www.iiste.org ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol.6, No.35.
- Olugbenga AO, Owoye O, (2017). Public Expenditure and Economic Growth: New Evidence from OECD Countries. [http://iaes.confex.com/iaes/Rome_67/techprogram/S1888.HTM]
- Omotor, D. G. (2019). "An Analysis of Federal Government Expenditure in the Education Sector of Nigeria: Implications for National Development. *Journal of Social Sciences*.Vol.9(2): pp.105-110 Ramirez, A, Ranis, G.And Stewart, (2017).Economic Growth and Human development. Center Discussion Paper No 787.
- Onwuka C E (2021) Poverty, Income Inequality and Economic Growth in Nigeria (1981-2019) DOI:10.21203/rs.3.rs-965034/v1
- Orenstein. M. A. (2017). Nigeria Cmparative National Systems. Retrieved from <http://www.mitchellorenstein.com/wp-content/uploads/2012/07/Nigeria.pdf>
- Osberg L, (2018) Comparisons of Trends in GDP and Economic Well-being – the Impact of Social Capital, Dalhousie University, 6214 University Avenue, Halifax, Nova Scotia B3H 3J5, 902-494-6988, fax 902-494-6917, osberg@is.dal.ca.
- Ramirez, A, Ranis, G.And Stewart, (2017).Economic Growth and Human development. Center Discussion Paper No 787.
- Ranjan KD, Sharma C, (2018). Government Expenditure and Economic Growth: Evidence from India. *The ICAFI University Journal of Public Finance*, 6(3): 60-69. [<http://ssrn.com/abstract=1216242>]
- Romer, P.M. (2019), Technical Change.*Journal of Political Economy*. Vol.98: pp.571 – 5102
- Self, S. And Grabowski, R. (2016). Does Education at all levels cause growth? India, a case study.*Economics of Education Review*.Vol.23: pp.47 – 55.
- Tolulope, E. O (2019) Unemployment and its Effect on the Growth of Nigeria Economy.
Journal of Economics Management and Trade DOI:10.9734/jemt/v23i230129
- The World Bank (2020).World Development Indicators. Retrieved March 28, 2015 from <http://www.worldbank.org>.
- UNDP. (2019). www.undp.org.Human Development Index. Retrieved from <http://hdr.undp.org/en/data> World Bank. (2020). <https://openknowledge.worldbank.org>.Nigeria economic report. <https://openknowledge.worldbank.org/bitstream/handle/10986/16568/776840WP0Niger0Box0342041B00PUBLIC0.pdf?sequence=1>
- World Health Organization. (2018). World health statistics 2018.World Health Organization.
- Yaqub, J. O., Ojapinwa, T. V., &Yussuff, R. O. (2012). Public Health Expenditure and Health Outcome in Nigeria: The Impact of Governance.*European Scientific Journal*, 8(13).