

GROWTH IMPLICATIONS OF EDUCATION AND HEALTH EXPENDITURES IN NIGERIA

Johnson Sunday Ojewumi & Akeem Sanusi

Department of Economics, Adeyemi College of Education, Ondo, Ondo State

Email:sunday.ojewumi@yahoo.com +2348032511235

and

Sunday Fatoba Adebayo

Department of Business Education, Adeyemi College of Education, Ondo, Ondo State

Abstract

Education and health are inseparable components of the human capital development hence its pivotal place in nation building. This study examines the impacts of education and health expenditures on economic growth in Nigeria for the period 1980 to 2016. The data obtained from Central Bank of Nigeria (CBN) statistical bulletin and World Development Indicator were analysed using regression analysis. The results revealed that health expenditure positively impact on the economy while education expenditure on the other hand has insignificant negative impact on economic growth of the country. Education sector is seen to be facing various kinds of leakages that blow away its expected impact. This study therefore recommends that, governments at various levels in Nigeria should increase expenditures in the two sectors up to the United Nation's recommendation for enhancement of quality productivity in Nigeria. It also added that high level of corruption and mismanagement of allocated funds in the sectors should be checked by national commissions that are saddled to handle corrupt practices to ensure that funds meant for boosting the sectors are judiciously appropriated for more and vibrant performances in the sectors.

Keywords: Education, health, public expenditure, capital formation, growth, development.

Introduction

Education and health are key components of human capital development hence, the state of these social and community services are of utmost concern to government, policy makers and development planners. Education is a light that illuminates people from primitive ways of doing things to a more refined and appreciable attitude. Health factor also prepares mental and physical functionality of an individual for greater productivity. Todaro (1983) opined that expenditure on health is seen as investment in human capital which in turn boost development as only healthy people can continue to be effective and effective and efficient producers of output in an economy. In the same vein, Hill and King (1991) stated that education is a sound economic investment which raises quality of life, improves health and productivity in the market, increases individual access to paid employment and often facilities social and political participation. In addition, Burneth, Marble and Patrimos (1995) asserted that investment in education raises per capita GNP, reduces poverty and the expansion of knowledge in society. Ekpo (1996) recited that government influences human capital formation through investment in education and health which promote labour productivity. Therefore, growth of health and education sectors in the development process of an economy cannot be over emphasised and underestimated because only well-educated and

healthy people produce optimally and contribute to national output.

The need for increasing public expenditure could be found in various theories of public expenditure. The theories of Wagner, Musgrave theory of increasing state activities, the Keynesian theory of deficit financing (Alakekwu and Obi, 2011), all emphasised the need for government spending in the provision of public goods. Budgetary allocation to key sectors such as education and health can enhance equity, growth and development reduce poverty through its positive effects in human capital formation (Gupta *et al*, 2001). In Nigeria, the decline in the quality of education and health care received at all levels have become a fact of life (Nwankwo, 2012). Indeed, the most significant event in the duo sectors in the recent past has been the continuing crisis besetting the educational system and health care programmes. There is less money to spend on primary, secondary and tertiary education, immunization vaccine, training of health personels in current trends in diagnosing patient etc. The sectors complaining of underfunding while government accuse the sectors of inefficient utilization of available resource provided or donated by World Health Organization (WHO), United Nations Educational, Scientific and Cultural Organization (UNESCO), USAID, etc. into the sectors.

Moreso, there are an increasing complaint about the poor standard of education and health care at a period when globalization demands much move from both the education and health sectors in terms of preparation of skilful and productive labour force. There is now a rampant notion which is generally felt in the Nigeria's education and health sectors. The incessant strikes embarked upon by the Academic Staff Union of Universities (ASUU), College of Education Academic Staff Union (COEASU), Non Academic Staff Union of Universities (NASU), Nigeria Medical Association (NMA) and the likes, which has really affected the duo sectors leading to prolonged academic calendar, untimely death of the innocent patients on the sick beds, inability to meet the emergency cure of diseases/outbreaks, etc. All the aforementioned obstacles and the rest such as inadequate recruitment of personnel and staff, inability to meet the new salary scheme by the government and lukewarm attitude on the part of the existing staffs and personnel in the sectors. This study therefore attempts to examine the nexus between public expenditure on education and health with the view of revealing its implications on the economic growth of the country.

Structure and funding of the Nigeria education system

As a matter of fact, the Nigeria education system was initially fashioned along her colonial master i.e. the 6-5-2-3 system (Okojie, 2003). However, over the years, the system had been reviewed to cater for the challenges of the middle man power requirement. In the year 1982, 6-3-3-4 system of education was introduced which was fashioned to produce graduates who would be able to make use of the hands, the head and the heart (the 3Hs of education). The idea was to have six years of primary education, three years of junior secondary education, another three years of either technical education for those who were more interested in learning a trade or three years of senior secondary school for those who were more academically inclined. The last four years of the 6-3-3-4 system is for tertiary education.

Omolewa (1986) stated that the programme was conceived as an instrument of nationality, it was designed to inject functionality into the Nigerian school system and that there had been inputs by various sectors of Nigeria professional community. This system was seen as a laudable programme capable of ushering in an educational revolution in Nigeria; hence step in right direction, towards the technological

development of the nation. There has been a phenomenal growth in the number of persons seeking formal education from primary school level. This increase may not be unconnected with the free and compulsory Universal Primary Education (UPE) formally launched in 1976. However, the fourth republic under General Olusegun Obasanjo re-launched the scheme under a new nomenclature as Universal Basic Education (UBE). As a result of this, Nigeria of today operates a 9-3-4 system. That is, nine years of lower basic education (i.e. from primary one to Junior Secondary three), three years of upper basic education (i.e. Senior Secondary School 1-3) and four years of tertiary education. This first nine years of education is considered necessary for all.

Funding of education in Nigeria is a joint and collaborative venture mostly among the federal, state and local tiers of government and even the private sector. In this study our focus is only on the federal government financial commitments in terms of her percentage of the Gross Domestic Product (GDP) to these sectors. Despite government investment in education, it is yet a far cry considering student's increase. As in the same vein, as the primary education is the gateway to further educations, There has been an unprecedented outburst of primary, secondary and tertiary education enrolment rates with little or no increase in the number of human, physical, financial, material resources in schools. Many schools lack basic infrastructures, suffer from overcrowding, inadequate and non-functional laboratories, ill-equipped libraries, just to mention a few. Total expenditure on education as a percentage of government total expenditure ranges from 5.9%, 7.5%, 4.0%, 7.3%, 7.2%, 9.8% and 9.2% in the year 1980, 1986, 1992, 1998, 2004, 2010 and 2016 respectively. (CBN Statistical Bulletin, 2017). All these fell below the minimum standard of 26.0% of annual budget prescribed by the United Nations Educational Scientific and Cultural Organization (UNESCO).

Governments funding to the sector has not only be infinitesimal but has been fluctuating unexpectedly. The result is that the federal and state governments have found it increasingly difficult to meet recurrent and capital costs required to cater for the rapid expansion in education, thus economic pressures in education have been reflected in declining allocations in education (Okojie 1995). This sector has been afflicted with structural defects, inefficiency and ineffectiveness which today place the country at its low ebb in human capital development and utilization. Therefore, the educational system now produced

more of those who lack job skills for employment than those the economy requires to remain vibrant. The results of inadequate funding in educational sector include decreasing industrial capacity utilization, rising unemployment, rising poverty, threats by social insecurity by ebullient jobless youths and structural imbalance and system configuration (Borishade, 2001 cited in Uwalt 2003).

Nigeria health care and funding structures

Health care implies the provision of conditions for normal, mental and physical development and functioning human beings individually or in a group (Okojie, 2003). The statement that health is wealth is indeed an understatement as no meaningful development can take place in any country of the world without a healthy populace. The health status of every individual is a vital determinant of his or her productivity in the economy of any nation. Consequently, health deterioration is a major factor leading to loss of income, absenteeism, reduced productivity, infant mortality and eventual sluggishness in economic growth.

According to Anyanwu *et al* (1997), health care is structured into three basic levels. These include; the primary, the secondary and the tertiary health care. The Primary Healthcare (PHC) as the name implies, is the first element continuing health care process (Monekosso, 1992). The primary Health Care Centers are the closest to the people and its intended to offer free or at highly subsidized medical services. Unlike the PHC, the Secondary Health Care (SHC) is established to provide general and specialised medical services to the people particularly cases beyond the scope of primary Health Care such as surgery operations, diagnostic and physiotherapy issues, etc. SHC is normally a centre for referral cases from the PHC. Whereas the Tertiary Health Care (THC) is established to provide high level research, training and provision of specialises services, these centres are mainly teaching and/or specialised medical research centres. Bloom and Canning (2003) described how healthy populations trends to have higher productivity due to their greater physical energy and mental clearness. According to them, healthier individual might affect the economy in four ways:

1. They might be more productive at work and so earn higher income.
2. They may spend more time in the labour force, as less healthy people take sickness absence or retire early.

3. They may invest more in their own education, which will increase their productivity.
4. They may save more on expectation of long life, for example, for retirement-increasing the funds available for investment in the economy. Health is so important as both a source of human welfare and a determinant of overall economic growth.

Health care financing in Nigeria

Health care financing refers to the collection of funds from various sources (government, household, business, and donor), pooling them to share financial risk across larger population groups and using them to pay for services from public and private health care providers. The objectives of health care financing are to make funding available, ensure appropriate choice and purchase of cost-effective interventions, give appropriate financing incentives to providers and ensure that essential health care goods and services are adequately provided for, ensure that the money spent wisely so that the millennium development goals (MDGs) could be achieved (Uzochukwu, 2013, Soyibo *et al*, 2005). The funding of health care in Nigeria includes the following: Public funding, Personal income or output of pocket, Employer sources, Special health tax, Community contributions, Health insurance scheme (Public <NHIS> and private schemes). The major source of finance for the health sector in Nigeria is public funding through the three tiers of government (Federal, state and Local Government). Public general revenue are accumulated through various forms of taxation, the health insurance institutions (private and public), the private sector (Firm and Households), donor and mutual health Organizations (Soyibo *et al* 2005).

Nigeria as a country has developed several policies and strategies to ensure that health care sector is adequately financed (Uzochukwu, 2013). These policies are to serve as guide to the way government allocate and effectively manage fund in the health care sector. According to him, the Nigerian policies and plans for addressing health care financing includes: The National Health Policy, Health Financing Policy, National Health Bill and The National Strategies Health Development plan (National Health Plan) 2010-2015.

The main objective of the National Health Plan is to strengthen the national health system such that it would be able to provide "effective, efficient, quality, accessible and affordable health services" that will

improve the health status of Nigerians. It prescribes the development of National Health Financing policy, as one of the means of achieving accessible, sustainable, affordable, equitable and efficient health care delivery (Federal Republic of Nigeria (FRN), 2006). Emphasis is laid within the preview of public funding of health care that the duty of the state is to ensure adequate health care of its citizenry and provide access to quality health facilities that can guarantee the highest attainable standard of physical and mental wellbeing. But a quick perusal of the public health care funding as shown in federal government budget estimates over the years reveal that not much attention is given to the sector in Nigeria. For instance, total health care expenditure as a percentage of the federal government total expenditure ranged from 1.2% in 1980 to 3.25% in 1986, 1.97% in 1992 to 3.26% 1998, 4.59% in 2004, 15.03% in 2010 and 16.7% in 2016 (CBN Statistical Bulletin, 2016).

The reflection of Federal government capital and recurrent expenditures to the health sector between 2003 and 2007 was not good enough. The federal government capital expenditure on health were #6.4 billion (2.6%) in 2003, #18.2 billion (5.2%) in 2004, #21.8 billion (4.2%) in 2005, #32.2 billion (5.8%) in 2006 and #41.8 billion (5.5%) in 2007, a clear downward trend. The health sector total capital expenditure in the period 2003-2007 was 5.2% compared allocation to agriculture (13.7%), education (6.5%), administration (33.1%), economic services (47.9%). Funding to health sector got to its peak in 2006 after which it started to decline in subsequent years (Obansa and Orimisan, 2013). The federal government annual recurrent expenditure on health were at #33.3 billion (3.4%) in 2003, #34.2 billion (3.0%) in 2007 respectively. The average percentage of recurrent expenditure in the period 2003-2007 stood at 4.3% compared with education (7.5%). Also, the total government health expenditure as a proportion of total health expenditure was estimated as 18.6% in 2003, 26.4% in 2004 and 26.02% in 2005 (Soyibo, Olaniyan and Lawansa, 2009). Remarkably, the federal budgetary component of health expenditure has increased over the years. It increased from 1.7% in 1991 to 7.2% in 2007 (WHO, 2009; Nigeria Health System, 2011).

Nevertheless, the budgetary allocation for health is still below the 15% signed by the Nigerian government in Abuja declaration (WHO, 2009). Nigeria's health expenditure is relatively low, even when compared with other African countries. The total health expenditure (THE) as percentage of the Gross

Domestic Product (GDP) from 1998 to 2000 was less than 5%, falling behind THE/GDP ratio in other developing countries such as Kenya (5.3%), Zambia (6.2%), Tanzania (6.8%), Malar, (7.2%) and South Africa (7.5%), (Soyibo, 2005).

Empirical literature

Several studies on health care in developing countries evoked several arguments. Basically, the health status of the population is a major preoccupation as it determines the level of the labour force and contributes to growth as well as poverty reduction (Bloom *et al*; 2004; Carstensen and Gundlach 2006; Weil, 2007). Okojie (2003) asserted that the issue in human capital formation in a society through which education and health services depend to a large extent on the twin ideas that human being are productive agents and are improved by investment in these services. This study inferred that health services, in relation to education can be in part of individual, a part of his effectiveness in various functional areas in an economy such as productive and service sectors. Ordinarily, a well-educated person would want to maintain a good health status in term of the food he/she takes, high level of hygiene, live in a better life style.

In corroborating the above link between education and health, the work of Cutter and Lieras-Muney (2007) come to play when they examined the relationship between education and health using data from the National Health Interview Survey (NHIS) in the United State of America (USA) of respondents on health outcomes and behaviours of people who are at least twenty-five years old or older most of whom have completed their education. Their findings showed that educated people have lower morbidity from the most common acute and chronic diseases, have tendencies for higher life expectancy rates occasioned by better health behaviour and have likely to report ill-health cases.

Another justification for the nexus between education and health lies in the facts that there is a relationship between poor education and illiteracy and poverty. The World Bank (1996) observed that those without education account for most of the poor and overwhelming large fraction of the extreme poor. To have access to quality health care is finance and this factor makes many poor vulnerable. Education is considered the most direct avenue to rescue a substantial number of people of poverty since there is likely to be more employment opportunities and higher

wages for skilled workers (Babatunde *et al.*, 2005). Again, the World Bank Annual Report (1996) stated that education contributed to more than double of household incomes in developing countries. Without better health care services, good diets and living in more decent and cleaner environments by implication affect the productive life of the people. This assertion was reaffirmed at United Nations Millennium Declaration known as Millennium Development Goals (MDGs) where three out of the eight objectives (MDGs 3, 4 and 5) are directly centred on health i.e. Child mortality reduction, improve maternal health and fight against HIV/AIDS, malaria and other diseases. Authors have empirically investigated how public spending on education and health activities affect economic growth. For instance, Bratti *et al.* (2004) estimated a model of economic growth and human capital accumulation based on a sample of countries at a different stage of development. Their result revealed that the increase in the primary and secondary level of education contributes to an increase in productivity. Loening (2002) investigated the impact of human capital on economic growth in Guatemala through the application of an error correction methodology. He examined two different channels by which human capital is expected to influence growth. The result revealed that a better-educated labour force appears to have a positive and significant impact on economic growth both via factor accumulation as well as on the evolution of total factor productivity. Consequently, with economic development new technology is applied to production, which results in an increase in the demand for workers and better education.

Barro (1996) following a Ramsey scheme, developed a growth model to include physical capital inputs, level of education, health capital, and the quantity of hours worked. By obtaining first order conditions, he found an increase in health indicators raises the incentives to invest in education and a rise in health capital lowers the rate of depreciation of health, adding that there are diminishing marginal returns to investment in health (FRN,2000). Bloom *et al.* (2001) followed the Solow model with human capital and found that health capital is a significant variable for economic growth under the two-stage least squares method. Key variables such as capital and schooling are not significant; therefore, the results are questionable. For Latin America, there is a series of technical research documents of public health developed by the Pan American Health Organization which find a strong correlation between economic growth and the regional

health, estimating regressions similar to Barro's (1996) where health is much more robust than schooling.

Baldacci (2004) explored the role played by health expenditures. He constructed a panel data set for one hundred and twenty developing countries from 1975-2000 and found that spending on health within a period of time affects growth within that same period while lagged health expenditures appear to have no effect on growth. He inferred from this result that the direct effect of health expenditure on growth is a flow and not a stock effect. Bloom *et al.* (2004) estimated a production function of aggregate economic growth as a function of capital stock, labour and human capital (education, experience and health). Their main result is that health has positive, statistically significant effects on economic growth.

On the other hand, Kouton (2018) considered the case of Côte d'Ivoire in the relationship between education expenditure and economic growth for the period 1970 to 2015. He applied the Pesaran *et al.* (2001) bounds testing approach, estimated an ARDL model and found the existence of a negative and significant long term effect of government education expenditure on economic growth but a non-significant positive effect of government education expenditure on economic growth in the short term. Other studies such as Greiner (2005), Agenor (2007), Strauss and Thomas (1998) and Martins (2005) conducted for other countries all emphasized that health expenditure is positively related to economic growth. What differ from one country to another is the extent and magnitude of its contributions. But that of education is divergent.

In Nigeria case, Odusola (1998) examined the nexus between investment in human capital and growth of economic activities. Using Nigerian data, he estimated three models. It was discovered from the results of the three models that human capital formation is a crucial determinants of the growth process. Adams (2000) descriptively analysed the adequacy of the levels and composition of public expenditures and concluded that education and health expenditures have faced lesser cuts than external debt services and defence, but allocations to education and health sectors are inadequate when related to the benchmark and the performance of other countries. In another dimension, Isola and Alani (2012) examined the impact of government commitment to education and health through her budgetary allocations using descriptive and ordinary least square regression techniques. The result established that little attention was paid to health sector (2.7% in the year 1980s to 5.6% in 2006)

compared to education (8.7% in 2006), which was still less than 26% of the total budget recommended by UNESCO for developing countries like Nigeria. The empirical findings showed that education, measured by adult literacy rate and measured by life expectancy had positive relationship with economic growth in the country.

Akintunde and Satope (2013) used the vector error correction model to investigate the effect of health investment on economic growth in Nigeria, from 1977 to 2010. The study revealed that there is a long run positive relationship between health expenditure and economic growth but that in the short run, the impact of health expenditure on the economic growth did not converge to the long run growth. Similarly, Oni (2014) adopted multiple regression analysis to evaluate the impact of health expenditure on economic growth in Nigeria and found that gross capital formation, total health expenditures and the labour force productivity are important determinants of economic growth in Nigeria while life expectancy rate has negative impact on growth for the period covered by the study.

Matthew, Adegboye and Fasina (2015) on the other hand, made use of the Johansen Co-integration and the Vector Error Correction Model (VECM) econometric technique to examine the long-run relationship between public spending on health and health outcomes in Nigeria and found that public spending on health has a significant relationship with health outcomes in the country. Ese (2013) also investigated the direct and indirect effects of both public recurrent and capital expenditure on education and economic growth in Nigeria from 1970 to 2010. He applied Instrumental Variable Two Stage Least Squares (IV2SLS) estimation technique and found that public education expenditure has both direct and indirect effects on economic growth. Capital education expenditure has greater effects on education while recurrent education expenditure has greater effect on economic growth. In the same vein, Aigbedion, Iyakwari and Gyang (2017) conducted an impact analysis of education sector on economic growth in Nigeria with the use of ordinary least squares and found that the education sector has a positive impact on economic growth in the country. In another study, Aigbedion and Anyanwu (2016) investigated the impact of public education expenditure on inclusive growth in Nigeria. The study showed that government education expenditure has a strong and positive impact and relationship with inclusive growth in Nigeria. However, Irughe (2013) considered the impact of educational expenditure on economic growth

in Nigeria from 1977 to 2009, using an error correction modelling technique. The study revealed that education expenditure followed a dwindling pattern and had significantly negative effect on growth.

Ayuba (2014) applied the Vector Error Correction (VEC) Model Based Causality to examine the causal relationship between public social expenditure and economic growth in Nigeria for the period of 1990 to 2009 and discovered that causality runs from economic growth to education and aggregate social expenditure. The study concludes that public social expenditure amplify economic growth at bivariate (aggregated) levels. Obi and Obi (2014) also analyzed the relationship between recurrent education expenditure and socio-economic changes in Nigeria using time series data from 1981 to 2012. They found that though a positive relationship subsists between education expenditure and economic growth, but a long run relationship does not exist over the period under study.

The various empirical studies on the relationships between government expenditure on education and health sectors and economic growth have shown varied results. The duo (expenditure on education and health) was also considered separately by many researchers, whereas they are interdependent. This study therefore disaggregates government spending and provides recent empirical evidence of the impacts of education and health expenditures on the growth of Nigerian economy.

Methodology

This study employs an econometric methodology of multiple regression statistics in analysing the time series data sourced from Central Bank of Nigeria (CBN) statistical bulletin and World Development Indicator. The Ordinary Least Square (OLS) technique of estimation is used in estimating the specified model.

Model specification

In order to promote economic growth, factors of production such as capital and labour are significantly used. But the efficient use of labour and capital resources for greater productivity requires that the workers are well trained, skilful and healthy. The training and skills acquisition are mainly accumulated through functional education and better health care services are received through the functional health centres locally or internationally. The duo (education and health) are regarded as economic good. Therefore, economists regard education and better health care as both consumer and capital goods

because they both offer utility to a consumer receiving them and also serve as input in the production of other goods and services because a well-trained and healthy person contributes more into the production process. In view of this assertion, education and health play a major role in the development of human

capital formation necessary for economic and social transformation.

The model of this study is therefore built around the neo-classical growth model, where economic growth is a function of capital accumulation, expansion of labour force and technology. That is

$$Y_t = (K_t, A_t, L_t) \dots\dots\dots (1)$$

Where

Y = Aggregate real output

K = Capital stock

A = Efficiency factor

t = Time

L = Labour

More specifically, the endogenous growth model which was developed by Romer (1990), demonstrated the critical nature of human capital in the growth

process by decomposing capital stock into physical and human capital. A simplified form of the model can be expressed as:

$$Y_t = K_t^\alpha H^\beta (A_t, L_t) \dots\dots\dots (2)$$

Where

Y_t = long run growth

K = physical capital

H = human capital

A = Technological progress

t = time

α and β are elasticities.

Describing this in an explicit form where education and health are shown as measurable components of the

human capital formation. The equation above can be presented in a model as follows:

$$GDP = f(EDUEXP, HEXP, SEER, KST, INF, M_2) \dots\dots\dots (3)$$

Introducing two control variables which are inflation rate and money supply, the model is finally specified as below:

$$GDP = f(EDUEXP, HEXP, SEER, KST, INF, M_2) \dots\dots\dots (4)$$

The model in its explicit functional and econometric form is expressed as:

$$Y_t = f(\alpha_0 + \alpha_1 EDUEXP_t + \alpha_2 HEXP_t + \alpha_3 SEER_t + \alpha_4 KST_t + \alpha_5 M_{2t} - \alpha_6 INF_t + U_t) \dots\dots\dots(5)$$

- Y_t = GDP to measure economic growth
- HEXP = Health expenditure
- EDUEXP = Education expenditure
- SEER = Secondary school enrolment rate as a proxy for human capital
- KST = Capital stock which is taken to be gross capital formation
- M_2 = Money supply
- INF = Inflation rate
- U = Stochastic disturbance or error term

Result and discussion

The time series property of the variables used in the model was examined before the actual model in equation 4 was estimated for the long run impacts of education and health expenditures on economic growth of the country for the period under review. The stationarity test conducted by the application of unit root test revealed that all the variables tested were non-stationary at their levels, except for the log of GDP. However, stationarity was induced after first differencing. Johansen co-integration test was

conducted to examine if there exist a long-run relationships among the included variables. The results revealed that at least three co-integrating vectors exist among the variables in the model. This implies that the variables are co-integrated, meaning that there is presence of long run feedback effects on the short run dynamism of the model. The regression was thereafter conducted to examine the impacts of education and health expenditures on the economic growth of Nigeria and the result is presented below.

Regression results

Dependent Variable: RDGP
 Method: Least Squares
 Sample: 1981 – 2016
 Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HEXP	342.4783	64.26219	5.329390	0.0000
EDUEXP	-26.97567	19.04613	-1.416333	0.1677
SEER	65.73377	54.93584	1.196555	0.2415
M2	-1.758082	0.786327	-2.235815	0.0335
INF	-36.05387	27.38130	-1.316734	0.1986
KST	-0.520993	0.375122	-1.388863	0.1758
C	-19324.00	5455.591	-3.542054	0.0014
R-squared	0.980999	Mean dependent var		30723.60
Adjusted R-squared	0.976927	S.D. dependent var		17308.63
S.E. of regression	2629.153	Akaike info criterion		18.76357
Sum squared resid	1.94E+08	Schwarz criterion		19.07464
Log likelihood	-321.3624	Hannan-Quinn criter.		18.87095
F-statistic	240.9293	Durbin-Watson stat		0.437646
Prob(F-statistic)	0.000000			

From the table above, it could be seen that the R^2 and the adjusted R^2 , which measure the goodness of fit of the regression line indicates that about 98% of variation that occur in RGDP is explained by the

explanatory variables EDUEXP, HEXP, KST, SEER, M_2 considered in the study while 2% of the remaining variation were caused by other variables that are not included which is the error term.

The result shows that apriori estimate of the coefficient of the explanatory variables i.e. the parameter greater than zero, indicating that there are positive relationship between Health expenditure and secondary school enrolment on the dependent variable (RGDP), this could be as a result of the fact that better health care services reduce infant mortality rate and thereby put pressure on the social demand for better education in order to acquire knowledge and skills needed to participate productively in the economy.

The result reflects an insignificant negative relationship between education expenditure and economic growth for the period under review i.e an increase in government expenditure on education gives decline in the economic growth. This may be as a result of various factors militating against the education sector such as corruption, mismanagement, incessant strike, inconsistent policy change, etc which make government commitments to education through increase in spending yields little or none on economic growth. As those who are willing get set back through prolonged academic school calendar, the educated graduates get no job which makes them contribute less to the economy. Original modern facilities that could have enhanced innovations and discoveries through expenditure on education are not available or underutilized due to deficiency in knowledge and skills acquisition and these have greatly affected the rate of capital formation in Nigeria. Increased secondary school enrolment that would have produced more competent and effective labour force has been marred with poor management and inappropriate allocation in the educational sector.

All these inhibit the sector to provide labour force with adequate and necessary equipment and facilities that would have brought about news thinking, methods, discoveries and innovations. This now impact negatively on capital formation necessary for the growth of the economy. The results also reveal that money supply has positive and significant impact on economic growth of the nation at ten percent significance level. Whereas inflation rate has negative relationship with the nation's economic growth because it reduces investible fund for capital formation.

Conclusion

This study adopted econometrics technique to investigate the effect of government spending on health and education sectors on Nigeria economic growth. The findings of the study showed that health expenditure impacted positively and significantly on economic growth in Nigeria for the period under review. This shows that as governments at various levels are increasing their budgetary allocations to this sector in order to meet United Nation's requirement of 26% of her annual budget to the sector, productivity in the economy is thereby boosted. This could be seen from increase in welfare official's remuneration, purchase of modern medical equipment and facilities, renovation of the old and re-building of new hospital to cater for the teeming population in the country. Nevertheless, the sectors also face challenges of people, particularly political office holders, taking medical leaves abroad which serve as leakages of the nation resources.

The findings also revealed that education expenditure produced negative relationship with economic growth. This is contrary to the apriori expectation because government spending on education is expected to boost economic growth through improvement of skills of labour force. The negative relationship in the result could be traced to high corruption prevalent in the educational sector because finances meant for education especially capital expenditure in the sector are not judiciously appropriated in most government owned schools in Nigeria. Infrastructures in our educational institutions are on a sorry state with most of them with inadequate and unqualified teachers/personnel, insufficient teaching aids and materials to cater for the rapidly increasing secondary school enrolment that resulted from government policies on education to ensure all and sundry acquire education. In addition, the problem of unemployment in the country which makes some educated youth unable to get job. This has served as a disconnection between education and economic growth.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Government at all levels as a matter of urgency should rapidly increase budgetary allocation to this duo sectors and ensure appropriate monitoring and supervision of the usage of fund approved for both recurrent and capital finances.

2. Government should ensure adequate provision of health and medical facilities, provision of qualitative education, promote the welfare of the education and health workers, organise seminars and workshops to develop workers' intellectual capacity and capability.
3. Since total expenditure on health, education, gross fixed capital formation and labour force productivity are theoretically shown to enhance the level of economic growth, hence, government should boost per capita income of citizens to encourage savings and investment in the economy, increase expenditures on health provisions and induce the level of labour productivity.
4. National Commissions saddled with the responsibilities of checkmating the allocation of finances and its implementation should be empowered by government and be made more independent to curb the prevailing level of corruption in the Nigerian economy.
5. Government should promote laws that ensure harsh treatment of the corrupt people irrespective of their political, academic or economic status.
6. Corruption cases should be fast-tracked by the judiciary to prevent abandonment of such cases. Special courts could be established for corruption cases that involve education and health sectors.
7. Governments and all stakeholders should be sensitive to the issue of insecurity to lives and properties, promote the rate of social and infrastructural development, create job opportunities, control the rate of inflation, and encourage social and religious tolerance.

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Dataset for the study

YEAR	RDGP	SEER	M ₂	INF	HEXP	GCF	EDUEXP
1981	15258	17.01	14.47	9.972262	110.7	133.2	242.56
1982	14985.08	20.91	15.79	20.812822	113.28	103.3	248.22
1983	13849.73	25.04047	17.69	7.697747	115.87	67.8	253.88
1984	13779.26	28.68492	20.11	23.212332	118.45	43.4	259.55
1985	14953.91	29.17356	22.3	17.820534	121.04	40.9	265.21
1986	15237.99	27.08303	23.81	7.435345	123.62	35.5	270.88
1987	15263.93	27.07259	27.57	5.7171516	126.21	27.2	276.54
1988	16215.37	25.4	38.36	11.290322	128.79	28.4	282.2
1989	17294.68	24.13202	45.9	54.511227	131.38	28.9	287.87
1990	19305.63	24.59582	52.86	50.466686	133.96	40.1	293.53
1991	19199.06	25.6	75.4	7.3644	135.38	40	296.64
1992	19620.19	24.8	111.11	13.006973	139.28	38.8	305.17
1993	19927.99	23.1	165.34	44.588844	143.31	45	314.01
1994	19979.12	22.6	230.29	57.16525	145.35	40.4	318.49
1995	20353.2	22.6	289.09	57.03171	145.27	29.8	318.3
1996	21177.92	23.1	345.85	72.8355	149.47	35.2	327.52
1997	21789.1	23.7	413.28	29.268293	152.06	38.3	333.18
1998	22332.87	23.8	488.15	8.529874	154.64	36.4	338.84
1999	22449.41	23.41556	628.95	9.996378	157.23	35.3	344.51
2000	23688.28	24.45991	878.46	6.618373	159.81	41.3	350.17
2001	25267.54	26.8612	1269.32	6.933292	162.4	6.3	355.83
2002	28957.71	29.42101	1505.96	18.873646	163.7	7.9	383.83
2003	31709.45	32.5	1952.92	12.87658	167.04	13	410.83
2004	35020.55	34.75204	2131.82	14.031784	185.17	44.4	455.4
2005	37474.95	34.69912	2637.91	14.998034	203.68	39.8	503.44
2006	39995.5	34.1874	3797.91	17.863493	224.72	63.4	557.67
2007	42922.41	31.61383	5127.4	8.239527	247.97	89.9	617.78
2008	46012.52	35.09796	8008.2	5.3822236	273.61	89.2	684.31
2009	49856.1	38.90452	9411.11	11.577984	300.99	120.3	752.79
2010	54612.26	43.83671	11034.94	11.537673	330.96	142.3	826.67
2011	57511.04	45.15109	12172.49	13.720201	374.12	126.9	1087.67
2012	59929.89	46.76083	13895.39	10.840793	390.3	101.7	1105.9
2013	63218.72	55.70422	15160.29	12.217008	427.72	9320.35	1278.41
2014	67152.79	52.57336	17679.29	8.475827	472.63	10571.74	1391.95
2015	69023.93	53.039236	18901.3	8.057383	484.34	10636.22	1498.71
2016	67931.24	53.41269	19349.51	8.179264	493.75	14113.17	1527.38

Source: Central Bank of Nigeria Statistical Bulletin (2016)