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Social Services Expenditures And Economic Growth Of Nigeria

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ABSTRACT:
This study examined the relationship between social services expenditures and Real Gross Domestic Product (RGDP) in Nigeria. The study objectives were to determine the effect of education and healthcare expenditures on RGDP. Secondary data collected from 1981 to 2020 (40 years) was used, and the statistical tool employed was multiple regression analysis. The hypotheses testresults revealed that education and health expenditures significantly affect Nigeria's Real Gross Domestic Product. Based on the findings, the health sector and education expenditures have proved vital for economic growth since they have a positive relationship with real gross domestic product in Nigeria. Therefore, we recommend that more public expenditures be allocated to improve health facilities and the education sector, as an educated and healthy mind will bea productive asset that would boost economic growthin Nigeria. A productive human capital is a requisite for economic growth and a nation's development. Evidence shows that education develops human capacity, which can drive the nation's economy. Thus, the government should prioritize education expenditure to achieve economic growth. This can be achieved by reviewing the current resources allocated to the education sector in Nigeria. Suppose the government can maintain a policy of constant increase in the budgetary allocation to the health sector; this will translate to a healthy nation and impact on the citizens.

KEYWORDS: *education expenditures, health care expenditures, human capital, Real Gross Domestic Product (RGDP), and Social Services.*

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INTRODUCTION

Economic growth can be enhanced by investment in human capital, especially among the poor,reducing povertyand raising the standard of living in society.Education and healthcare are the two sectors that must be given adequate attention. In most cases, government is the primary service provider. Over four decades now, public expenditure in Nigeria has been an aspect of fiscal policy that focuses on helping to enhance economic growth and, at the same time, maintaining effective distribution of resources to various segments of the economy.The government shouldrenderpublicservices and provide facilities to increase investment and the economy's productive capacity. To sustain economic growth, governments must continue to render

public services that benefit the poor.Sustainable growth is enhanced by public expenditure on social work such as roads, drainages, ports and basic education, health and medical services.As Aneke *et al* (2017) observed, many developing nations lack the energy and power that necessitate economic growth. Therefore, economic growth is constrained, and governments must endeavour to direct their expenditure towards such activities to boost the economy.

There are currently signals of a possible reoccurrence of recession, which citizens and researchers have called for an upward review of government expenditure to end or avert further downturn. Enhanced public expenditure is expected to give way for a positive turn-around of the Nigerianeconomy; hence, the economy has been struggling to exitthe recession. Government spending on socialworkcan increase the economy's productive capacity andimproveeconomic growth. Authors such as Wagner (1977), Keynes (1936) and Musgrave (1988) posit that government expenditure would enhance economic growth. However, they are at variance with empirical findings in Nigeria so far. Based on the above development, this study is set outtoexamine the relationship between expenditures on social services and economic growth in Nigeria.

Many studies have been carried out over the decades using time series and cross-sectional data to determine the relationship between public expenditure and economic growth. However, there exist mixed results from past studies. Investments in education and healthcare are critical in tackling sustainable reduction in poverty and inequality. Successive Government regimes' policies in Nigeria such as Universal Primary Education (UPE) in 1975, National Primary healthcare in the 1990s, the Family Economic Advancement Programme (FEAP) of 1992, National Commission for Mass Literacy (NCML) in 1997, Universal Basic Education (UBE) Programme in 2000, Immunization Programmes from 1970 to date, Roll Back Malaria (RBM) in 2001, amongst others. Over four decades now, the Government in Nigeria has set health targets like affordable and cost-effective basic health services for 90% of the population, and 100% routine and special immunization coverage. The education target was Education for All (EFA). Social services rendered by the government were education, health care, and housing for the benefit of the community. Adolph Wagner, a renowned German economist, developed a model for the determination of public expenditure in 1883. He posits that an increase in the size of public sector expenditure is a natural consequence of economic growth. However, Wagner's law advocates that the share of public expenditure in GDP will increase with intensified economic growth. Krishna(2004) posits that economic growth depends on the social, administrative and welfare issues that increase with need and complexity. Keynes (1936)believes thatgovernmentshould embark on public expenditure to reverse economic recession by borrowing money from the private sector and plough it back to them through various service delivery approaches. It is important to note that the Nigerian Government is currently faced withabuse of public expenditure. However, as argued by Wagner and Keynes, the extent to which the spending has enhanced economic growth in Nigeria has yet to be extensively explored and realized. Hence, this study intends to investigate the above puzzle observed in the relationship between social services expenditure and economic growth.

Themain objective of this study is to determine the effect of social services expenditures on economic growth in Nigeria, while specific objective is to ascertain the effect of education and health care expenditures on Real Gross Domestic Product (RGDP) in Nigeria. The research question is raised in line with the above-stated objective, and thehypothesis was postulated in null form as follows:
Ho: Education and health care expenditures have no significant effect on Nigeria's Real Gross Domestic Product(RGDP).

CONCEPTUAL REVIEW

Concept of Public Expenditure

Ene (2022) defines public expenditure as expenses made by the government of a country on collective needs and wants such as pension provisions, infrastructure etc. Public expenditure is also seen as giving spaceexpenditure by government ministries and departments on goods and services. The total in cashof federal, state and local government spending plus financial transfers to the parastatals at the levels of government are classified as Government expenditure.The instrument of government policy for evaluating financial management by the actors in the system is termed public expenditure management.Edmund *et al.*(2017) posit that essential social services in the areas of education and health care services in emerging sub-Saharan African countries were provided by public spending.It is believed that the welfare and productivity of both the rich and the poor strata of society are improved by public spending. On average, developed nations spend 26 percent of their GDP on goods and services. This has moved up to 8 percent points over the last fifteen years (World Bank, 1992). In view of this development, many researchers became

interested in the study on the relationship between the size of public expenditure and economic growth in developing economy.
The debate on whether public expenditure causes economic growth or whether the reverse is the case remains unresolved.It is in public domain and some scholars have argued that increase in public spending may not necessarily drive economic growth and that stupendous+spending may reduce the overall performance of the economy. It was observed that increased spending will push the government to either increase the tax rates or to engage in borrowing. An increase in tax rates and borrowing may have an adverse effect on productivity anddiscourage the workforce. Furthermore, Mbire and Atingi (1997), posit that borrowing may also put the country into debt burdenwhich will in turn push cost of debt servicing higher. When the private sector is overcrowded, borrowing becomes imperative, adversely affecting the economy.

Social services (Social work) expenditures
Social service is a welfare or social work undertaken to assist disadvantaged indigents, women and children. Government render social services for the benefit of the community,including education, health care, housing and other welfare services.Welfare services are rendered to support and aid particular groups, like the disabled and poorest of the poor in the society. Social services as welfare services may be rendered by different strata in the community, such as individuals, private and independent organizations, or undertaken State initiatives.Government promotion of social services enjoys the support of some initiatives from universal human rights; democratic principles; as well as religious and cultural values. These values give legitimacytothepromotion of welfare services by government.Welfare services abound, but they differ from society to society and within communities and are targeted at the vulnerable, such as families, children, youths, elders, women, the sick and the disadvantaged in the community.In the word of Baldacci *et al,* (2004) public education, welfare, infrastructure, mail, libraries, social work, food banks, universal health care, police, fire services, public transportation and public housing are all forms of social services.

Stupendous expenditure in the public sector in Nigeria is worrisome, and it attracted the attention of researchers. However, the problem has been trivializedbecausefunds areallocated to projects better handled by the private sector.Nigeria's population, as estimated by the Nigeria Population Commission, is about 198 million people. Nigeria is the most populous country in the continent based on the population Commission's estimate. This reveals that Nigeria hasnumerous mouths to feed and welfare services like hospitals, schools, roads, etc., to render to the populace. The Nigerian populace's major problem is infrastructural decay, principally because of a lack of maintenance culture on public facilities and vandalism. All this hamper economic development and adversely affect the community's social well-being. Another negative factor affecting welfare services is fantastic corruption and unimaginable ever expanded governments' administration. This slowed down economic growth and expanded government administration was the reason why Nigeria's budget for 2022 consists of 78 per cent recurrent expenditure, while not more than 22 per cent was left for the capital estimate (Budget estimates, 2022).

Educational sector expenditure and economic growth
Government plays an essential role in any economy. The reason for this is the acceptance of the argument that the market mechanism cannot deal with some critical problems of society, i.e., that the market mechanism does fail in certain circumstances and that government involvement is needed in market failure. To Keynes, government intervention is needed to achieve stability in the economy. In line with the Keynesian idea, public expenditure will contribute positively to economic growth. That is, public expenditure will play a significant role in an economy's functioning at all development levels. Hence, expenditure on education will help the country to achieve adequate or sustainable economic growth (Adeniyi & Bashir, 2011). That is, expenditure in training human beings to acquire skills and knowledge of different types will impact the economy positively because every human being is a resource for society. Strictly speaking, education up-scales hidden abilities which, if properly harnessed, would enable the citizens to contribute more to the economy. Education refers to knowledge at all levels (primary, secondary and tertiary) whether formal or informal. Education is an instrument through which society can be transformed because it equips human resources with knowledge, skills and competencies needed to enhance productivity, foster economic growth, contribute to personal and social development, raise people's creativity, promote entrepreneurship and technological advances and reduce social inequality. This is why both developed and developing countries of the world are interested in the enhancement of educational sector. Education is considered a long-term investment that would yield a high production in the future.Nigeria is no exception in developing and advancing its educational system to be among the first twenty economies in the world by 2020. Strictly speaking, no country can achieve adequate economic growth and development without considerable or significant investment in educational development.

Dauda (2011) submitted that the revolution in the economics of human capital has highlighted the centrality of education. When broadly viewed, educational sector contains cognitive skills, knowledge, technology, socio-political networking skills, health and migration which today underpin economic growth. The world is now evolving a new economy in which knowledge provided by education plays a critical role. Growth in knowledge now accounts for 90% of total assets in industrialized economies (Dauda, 2011). Resource-based growths are showing severe limitations with the explosive progress in science and technology. Without adequate investment in quality education, sustaining growth with employment would be difficult, which is essential for poverty reduction. In addition, education of the right quality and quantity is expected to catalyze skill sets, technology and innovation in the development service and reduce poverty. But it has failed to do so in Nigeria because of constraints facing the educational sector. For instance, the attention given to educational sector by the governments (federal, state and local) is relatively low in terms of investment in educational sector. Nigeria has one of the lowest expenditure commitments to education in Africa and the world. The country spent under 1% of its GDP on education in the 1980s and most of 1990, while its educational expenditure-budget ratio averaged about 9.5% between 1997 and 2006. Compare this to Ghana's 4% of GDP and 24% of the budget or Malaysia's 5% of GDP and 20% of the budget (Dauda, 2011). Adewara and Oloni (2012) supported this claim by submitting that Nigeria spent an insignificant proportion ofitsfinancial resources on education. Education budget as a percentage of total national budgets were 8.43% in 2012 and 8.67% in 2013 which is below United Nations Educational, Scientific and Cultural Organization (UNESCO) recommendation of 26 per cent of the country's annual budget to be allocated to educational sector. While those of other developing countries like South Africa, Ghana, Cote d'Ivoire, Kenya and Morocco had 25.8%, 31%, 30%, 23% and 17.7%, respectively, for their annual budget for education (Ojewumi and Oladimeji 2016). Another constraint facing the educational sector as identified by Dauda (2011) is the explosive enrolment growth. With an enrolment of about 35 million students (in 2003), Nigeria has the highest concentration of students in the school enrolment in Africa. This is made up of about 26 million at the primary level, 7 million at the secondary level and about 1.5 million at tertiary level. The educational sector also faces an increasing deficit (i.e., there is a funding gap in the educational sector) when compared with the country's population, demographic structure and the increasing number of schools. Hence, government approach or policy aimed at empowering the public with quality skills and knowledge needed to produce goods and services have not received sufficient or enough attention. Although the quantification of the quality aspect of educational attainment is tricky, some proxies can shed valid light on this problem. These proxies include overcrowding in classrooms from primary to universities. The student-teacher ratio remains very high at the primary and secondary schools (far above 40:1) and in the universities (far above the United Nations Educational, Scientific and Cultural Organization's 8:1) and available academic staff, especially in the university subsector, is grossly inadequate. The consequences of inadequate educational sector funding cannot be overemphasized (World Bank Report, 2009).

The inadequate funding of the education sector is the bane of the decay of infrastructural facilities, irregular teachers' remuneration, inadequate staffing, poor salaries to teachers, etcetera. This hasresulted to intermittent strikes by some unions including the Academic Staff Union of Universities (ASUU), Academic Staff Union of Polytechnics (ASUP) and Non- Academic Staff Union of Universities. This scenario can increase the rate of illiteracy in the country, reduce the marginal productivity of the workers and lead to low real income, low savings, low investment and, as a result low rate of capital formation. This is in tandem with the vicious circle theory which attempt to explain underdevelopment of the LDCs, by the existence of a particular system of mutual relationship of some limiting factors, which do not just exist but are related in such a way that breaking away is difficult, if not impossible. Therefore, to break out of the vicious circle government must take investment in the educational sector seriously. Also, investing in education produces exceptionally high social and economic returns.

Furthermore, a lot of empirical studies have been carried out on the relationship between government education expenditure and economic growth in Nigeria. But the results are conflicting. For instance, while the studies of Chude and Chude (2013) indicated that expenditure on education has a positive relationship with economic growth in Nigeria, the study of Abu and Abdullahi (2010) revealed that government expenditure on education has negative effect on economic growth. Therefore, differences in opinion and empirical findings on the relationship between education expenditure and economic growth in Nigeria are of serious concern. The above state of affairs raised a pertinent question: What is the relationship between government education expenditure and economic growth in Nigeria?

Health sector expenditure and economic development

The nexus between healthcare expenditure and economic growth hasattracted the attention of researchers in the past decade. Health expenditures are expected to stimulate economic growth, as observed byBaldacci (2004). In hisStudy, a panel dataset was used, and the period spanned from 1975 to 2000 (25 years); he found a positive relationship between spending on health andeconomicgrowth, while low health spending appears to have no effect on economicgrowth. Olaniyi and Adams (2000)posit that an adequate and good mix of public expenditure and health necessitated economic growth. However, in their study, they observed that health expenditure had faced lesser cuts than external debt services and defense, whileallocations to education and health sectors are inadequate when compared withwhat is obtainable in other countries, especially in a developed economy.Chete and Adeoye (2002)carried out work on human capitaldevelopmentand economic growth in Nigeria. They employed Auto regression analysis and ordinary least square statistical tools for analysis and testing of the hypothesis, and their findings revealed the positive impact of human capital on economic growth. Different regimes of Nigerian governments since independence have accepted that there is need for expansion of educational facilities across the country. Other studies such as Niloy, Emranu and Denise, (2007) carried out for other countries observed that health expenditure has positive significant impact on economic growth.

In Nigeria, healthcare delivery is centralized and classified into three (3): Primary, Secondary and Tertiary hierarchy. The tertiary and overall policy are exclusive responsibility of the Federal Government; while State and Local Government are in-charge of secondary and primary category respectively (FMOH, 2011). Provision of health services in Nigeria are the responsibility of both the public and private sectors.Available statistics as at 2005, show thatabout 23,640 health facilities are on ground and close to 85% are for primary health care, while 14 and 0.2% are for secondary and tertiary health care respectively. It is important to note that over 38% of these health facilities are owned and managed by the private sector and are majorly situated in urban cities (FMOH, 2005a). In UNICEF (2012a), most Public health challenges in developing economies like Nigeria is malnutrition.As shown in the report (UNICEF report), about 165 million children under five years of age are stunted, and more than 90% of these children reside in Africa and Asia. The report revealed that 101 million are underweight and 52 million are wasted. The report noted that one-third of deaths among children under five years were as a result of malnutrition (UNICEF, 2009). It was further reported that malnutrition iscategorized into under-nutrition, over-nutrition and micronutrient. Smith and Haddad, 1999); Olusanya, (2008) and UNICEF, (2010),provide evidence that under-nutrition is the most common form of malnutrition in Nigeria.

Malnutrition reduces child immunity to infection among children; it escalates illnesses and results in death caused by diarrhoea and respiratory tract infection. Healthcare policies in Nigeria include National Policy on Food and Nutrition (2001) targeted toaddressmaternal and child nutrition in Nigeria.It is worrisome thatmalnutrition in Nigeria is still abatingandnot significantly improved compared with other countries in sub-Sahara Africa like Ghana, Senegal and Tanzania.Study by Black *et al.,* (2008).revealed that about 25-30% of children in developing economies have a history ofgrowth faltering as a result of infection without adequate food intake.It is worthy to note that disease like measles, respiratory infection, HIV/AIDS, intestinal parasites are affected by nutritional status. During the COVID-19 era, adequate resources were provided by the government and private individuals to the health sector. Critical infrastructure for health services should be put in place to reduce the number of people seeking medication outside our country to minimize resource drain.Onodi (2021) observed that the first ever documented pandemic was the "Athenian Plague", which occurred in the year 430 B. C. Since then, a total of Fifteen (15) cases of pandemics before COVID-19 have been recorded. Each occurrence took people by surprise partly because of poor record of events and lack of resource management skills, on the part of leaders and operators of economic agents (Government, firm and household). The security challenges in Nigeria affected education, health, food security, and youth development, especially the girl child, negatively during the COVID-19 pandemic.

Theoretical background

This study is anchored on increasing activities of State theory and classical economic theory. The increasing activities of State theory was propounded by Adolph Wagner (1835-1917) in 1880's when he noted that there are inherent tendencies for the government to continually increase its activitiesover time.Wagnercallsfor an increase in government spending to enhance industrial output. He suggested that improved allowance for social consideration is necessary for industry conduct in anticipation of public sector expansion. Various forms of public expenditures, such as spending on law and order, education, health and welfare services, recreation and culture, and information, among others, assist in the development of the economy.Wagner (1883) noted that variations in public spending are related to the income elasticity of demand. Wagner and

Musgrave have shown that these services respond to income elasticity. They noted that public expenditure propels changes in the income elasticity of demand for public goods in the ranges of per capita income. In other words, when the level of per capita income is low, demand for public services tends to be very low. This is because when per capita income starts to rise, the demand for services supplied by the public sector such as education, health, and transport will tend to increase. Increasing the demand for services will force the governmentto increase its expenditure. But when the level of per capita income is high, the rate of public sector expenditure tends to fall because the more basic needs are already satisfied.

The classical economic theory refers to a body of work on market theories and economic growth which was invented and used from 18th century in Britain. Classical economics theory was popularized by Keynes (1936), and he advocated that public expenditure is a fundamental determinant of economic growth. Keynes observed that fiscal policy instrument such as public expenditure is an important tool for achieving short-term stability and superior long run growth rate. He reasoned that economic instabilityrequiresgovernment interventions through economic policy, specifically fiscal policy. In line withsomeclassical economists' schools of thought, public expenditure will contribute positively to economic growth. The government needs to intervene in the economy because it could alter economic recession by borrowing money from the private sector and then moving the funds to the private sector through various spending avenues. In Nigeria, Government provides capital and recurrent expenditures through Tertiary Education Trust Fund and Universal Basic Education FUND for the building of quality class rooms, laboratories, purchase of teaching and learning aids including computers and payment of salary which will have multiplier effect on the economy. Expenditure on education will enhance productivity and accelerate development by raising the quality of the labour force. Increased public expenditure will also help in creatingjob opportunities for youths and a body of educated leaders in both the private and public sectors of the economy will be assured.

Given the above discourse, this study is anchored on both theories discussed; hence, the two theories agree that social services expenditure stimulates economic growth in the short run.One can understand from the above theories that public expenditure should be controlled through fiscal policy, especially in developing economies where the government is the major provider of social goods and services that stimulate economic growth.

Empirical review

In the study conducted by Onifade, Çevik, Erdoğan, Asongu and Bekun (2020) on public expenditures and economic growth, they appliedPesaran's ARDL approach to analyse time-series data from 1981 to 2017. Their findings revealed the existence of aninsignificant positiverelationship between public spending indicators and economic growth in Nigeria. Recurrent expenditures of government were found to affects economic growth in a negative way, while public capital expenditures do not significant affect economic growth over the period under review.

Kutasi and Marton (2020) conducted a study on public expenditures and GDP growth in some countries of the EU. They usedtime series data and sample size was 25 EU economies from 1996–2017and Econometric models were employed for analysis. The three models for analysis employed were first differences General Method of Moment (GMM), fixed effects panel and ordinary least squares (OLS). The findings showed that social protection expenditure has a negative but statistically significant impact on GDP growth, while spending on public order also has a significant coefficient in relation with GDP growth.

In the study conducted byOmodero (2019) on government general spending on human development in Nigeria using time series data for a period of 14 years spanning from 2003 to 2017, he employed multiple linear regression models and Ordinary Least Square method for data analysis. The findings revealedthat capital expenditure and inflation have insignificant negative influence on human development index(HDI), while corruption does not have any impact on HDI, but recurrent expenditure has strong and significant positive impact on HDI. He recommends that resources on recurrent expenses should be reduced while more money should be invested in capital projects.

Udeorah *et al.* (2018) studied Nigeria's health care expenditure and economic growth using time series data from 1980 to 2016 (36 years). The data used were sourced from Central Bank of Nigeria (CBN) statistical bulletin. Statistical tools employed for data analysis were descriptive statistics and the Generalized Method of Moments (GMM) test. Finding revealed that RGDP has an average of N31292.50billion; health care expenditure has an average of N10322.47billion while education expenditure has an average of N45895.95billion during the period under review. The result further indicated that the coefficient of health

care expenditure is positive but not statistically significant at the 5% level,while education expenditure is positive and statistically significant at the 5% level.

In the study conducted by Osuji *et al* .(2017) on government expenditure and economic growth in Nigeria using time series data for 1990–2012 (twenty-two years). The dataset were sourced from the CBN statistical bulletin and the statistical tool employed was Ordinary Least Square (OLS) multiple regression technique. Findings revealed that the Federal Government Expenditure on Education, Health, General Administration, and Road Construction for the period has a positive and significant impact on the economic growth and development of Nigeria. In addition, the result further revealed that government expenditure on Agriculture for the period had been undulating. This necessitated an inverse relationship with Gross Domestic Product (GDP).

Aigbedion *et al.* (2017) carried out research on education sector expenditure and economic growth in Nigeria. The study made use of time series data and employed ordinary least square (OLS) as tool for analysis. Findings revealed that Government Expenditure on Education is negatively related to Real Gross Domestic Product in Nigeria. This was statistically significant at 5 percent level of significance.

In the study conducted by Miftahu and Roshi (2017) on public spending and economic growth in Nigeria, an ARDL model was used for analysis. The findings revealed the existence of positive and significant relationship between public spending and economic growth in Nigeria. They conclude that government spendingis essential in creating opportunities and widening the economy's productive base. They conclude that the government, as an institution that provides welfare, has a significant role in deciding where priority spending should be allocated to enhance sustainable economic growth.

METHODOLOGY

The research design adopted is an ex-post-facto research design. It is a non-experimental research technique in which pre-existing data are compared on some variables (Akpa & Angahar, 1999). The ex-post-facto research design involves ascertaining the impact of past events on the present happening or event using already existing data that cannot be manipulated. Time series data that covers a period of 40 years from 1981 to 2020 and defined sample technique used is 40. The data for this study were obtained from secondary sources extracted from the website of the Central Bank of Nigeria.The dependent variable is the Real Gross Domestic Product, andindependent variables include:

i). Education sector expenditure: This can be measured by ascertaining the amount of capital and recurrent expenditures allocated to Nigeria's educational sector.

ii). Health Sector Expenditure: This refers to all public expenditures incurred in the health care sector in a given year and can be measured by ascertaining the amount of both capital and recurrent expenditures in Nigeria's health sector.

Model specification

This study adapted the model used in the works of Nworji *et al.* (2012) as follows:

GDP= f (economic services + transfers + social and community services) 1

Nworji*et al.* (2012) focused on gross domestic product as a measure of economic growth while varying other government expenditure components. The findings of Nworji*et al.* (2012) were mixed and contradictory due to the inclusive classification of a single expenditure item into either recurrent or capital expenditure, which creates ambiguity in their results.

RGDP = ∫(EEXP, HEXP) 2

RGDP = Real Gross Domestic Product
EEXP = Education expenditure
HEXP = Health Expenditure

Equation 2 represents the functional relationship of the model while their econometric representation is presented in equation (3) viz:

RGDP = $\delta 0 + \psi 1 + \psi 2 + \mu t$ 3

Decision Rule for Hypothesis Testing
The result of the Vector Error Correction Model was tested based on:
Ho = β1 = β2 = 0
Hi = β1 = β2 ≠ 0

Reject Ho if the calculated absolute value of the t-statistic is ≥ 1.96. Otherwise, do not reject Ho.

a priori expectation
The study expects increased education and healthcare expenditure to significantly increase the gross domestic product.

RESULTS AND DISCUSSION

Descriptive Analysis of Study Variables

Table 4.1 presents the results of descriptive statistics of all the variables used in the analyses such as the mean values, median, maximum, minimum, Standard Deviation, Skewness, Kurtosis, Jarque-Bera and its probability, Sum and Sum Sq. deviation are recorded. The number of observations for the study is 40.

Table 1: Descriptive Statistics of the Series

	RGDP	EEXP	HELP
Mean	33603.62	10.28384	9.942608
Median	7515.812	10.70139	10.30536
Maximum	152324.0	11.77330	11.58924
Minimum	144.8312	8.204120	7.602060
Std. Dev.	45402.01	1.223221	1.305119
Skewness	1.269267	-0.515915	-0.377134
Kurtosis	3.354035	1.840772	1.685356
Jarque-Bera	10.94916	4.014140	3.828681
Probability	0.004192	0.134382	0.147439
Sum	1344145.	411.3537	397.7043
Sum Sq. Dev.	8.04E+10	58.35455	66.43008
Observations	40	40	40

Source: Extracted from E-view software analysis, 2022

As shown in Table 1, EEXP and HEXP all have JB probability values greater than 0.05 and are accordingly shown to be normally distributed. However, the kurtosis, skewness, and probability of the JB indicate that RGDP is not normally distributed; hence, the RGDP had to be transformed to meet the assumption of normality. To standardize all the variables, the natural logarithm of all the series was computed, and the results shown in Table 2 indicate that all the variables met the assumption of normality.

Table 2: Descriptive Statistics of Transformed and normally distributed data

	LNRGDP	LNHEXP	LNEEXP
Mean	8.702997	2.288024	2.323300
Median	8.921369	2.332630	2.370357
Maximum	11.93377	2.450077	2.465834
Minimum	4.975569	2.028419	2.104636
Std. Dev.	2.394300	0.136005	0.123798
Skewness	-0.234832	-0.487179	-0.619689
Kurtosis	1.618031	1.787969	1.944599
Jarque-Bera	3.550702	4.030653	4.416550
Probability	0.169424	0.133277	0.109890
Sum	348.1199	91.52096	92.93201
Sum Sq. Dev.	223.5742	0.721392	0.597711
Observations	40	40	40

Source: Extracted from E-view software analysis, 2022

As shown in Table 2, EEXP and HEXP all have the JB probability values greater than 0.05 and are accordingly shown to be normally distributed. The Kurtosis, Skewness and probability of the JB indicate that RGDP is now normally distributed, hence the transformation met the assumption of normality.

Table 3: Correlation Analysis of the Study Variables

	LNRGDP	LNEEXP	LNHEXP
LNRGDP	1.000000	0.970265	0.979876
LNEEXP	0.970265	1.000000	0.992941
LNHEXP	0.979876	0.992941	1.000000

Source: Extracted from E-view software analysis, 2022

Table 3 shows the result of correlation analysis of LNRGDP, LNEEXP and LNHEXP. The results show that LNEEXP and LNHEXP are positively correlated which indicates strong linear relationship among the variables in the study. This implies that one variable increases with the other.

Unit Root Test

The stationarity of the series was checked through a unit root test using Augmented Dickey-Fuller (ADF-Fisher Chi-square). At 5% level of significant, the null hypothesis will be rejected if p-value is less than 0.05 and conclude that the series is stationary.

Table 4: Unit root tests using Augmented Dickey-Fuller Criterion

Variables	Levels	Prob. Value	First difference	Prob. Value	Critical value	Order of Integration
LnRDGP	-1.291226	0.6240	-3.116540	0.0337	-2.938987	*I*(1)
LnEEXP	-2.282315	0.1830	-7.879459	0.0000	-2.948404	*I*(1)
LnHEXP	-1.647562	0.4483	-10.23236	0.0000	-2.948404	*I*(1)

Source: Extracted from E-view software analysis, 2022

The unit root result in Table 4.4 indicates that none of the variables (InRGDP,lnEEXP and lnHEXP) is stationary at level. However, they became stationary upon first differencing as their ADF values (3.116540, 7.879459, 10.23236) became greater than the values of the 5% critical value (2.938987, 2.948404 and 2.948404). Since they all became stationary at the first differencing, we conducted a co-integration test and short-run speed of adjustment from long-run disequilibrium.

Table 5: Johansen unrestricted Rank (Trace and Eigen Maximum) Co-Integration test

No. of co-integrations	Trace stat.	Critical value	Prob. Value	Max. Eigenvalue	Critical value	Prob. value
None *	166.6660	125.6154	0.0000	54.14334	46.23142	0.0059
At most 1 *	112.5226	95.75366	0.0021	40.50975	40.07757	0.0447
At most 2 *	72.01290	69.81889	0.0331	33.15884	33.87687	0.0607
At most 3	38.85405	47.85613	0.2661	17.36242	27.58434	0.5490

Source: Extracted from E-view software analysis, 2022

The table above revealed that there are three co-integrating equations using trace statistics and two co-integrating equations Using the Maximum Eigenvalue. This result confirms using the Vector Error Correction Model (VECM). This is explained by the fact that the variables are co-integrated even though they have a unit root process.

Table 6: Lag Order Selection Criteria

Lag	Login	LR	FPE	AIC	SC	HQ
0	-26.11435	NA	1.41e-08	1.789965	2.094733	1.897410
1	188.3472	336.1830	1.94e-12	-7.153905	-4.715759*	-6.294344
2	229.5052	48.94465	3.98e-12	-6.730013	-2.158489	-5.118337
3	316.2283	70.31596*	1.30e-12*	-8.769095*	-2.064194	-6.405303*

Source: Extracted from E-view software analysis, 2022

Table 6 indicates that the appropriate lag length for a long-run analysis is three, as indicated by the Schwarz information criteria, producing the minimum values among the competing lag length criteria. Given a short-

run analysis, however, this study adopts a two-period lag approach as suggested by the E-views software. This is due to the loss of values resulting from the differencing of the variables.

The study tested for the possible existence of serial correlation using the VECM Residual serial correlation LM test, and the results are shown in Table 7.

Table 7: The VECM Residual Serial Correlation LM Test

Lag	LRE* stat	Df	Prob.	Rao F-stat	Df	Prob.
1	49.87051	49	0.4385	0.983642	(49, 45.0)	0.5240
2	51.21291	49	0.3869	1.021278	(49, 45.0)	0.4730
3	63.00196	49	0.0862	1.385471	(49, 45.0)	0.1353

Source: Extracted from E-view software analysis, 2022

The result shows that there is no serial correlation among the residuals of the model. This is revealed using the probability values of the two criteria (LRE*stat and Rao F-stat), which are all higher than 0.05 in the three lags.

Table 8.: The vector error correction mechanism with Real GDP as the dependent variable

Variables	**Coefficients**	**Std. Error**	**T-Statistics**
D(LNRGDP(-1)	0.235899	0.25203	0.93598
D(LNRGDP(-2)	-0.167802	0.22250	-0.75417
D(LNEEXP(-1)	0.216381	0.21110)	1.02502
D(LNEEXP(-2)	0.266628	0.14351	1.85786
D(LNHEXP(-1)	0.004323	0.13338)	0.03241
D(LNHEXP(-2)	-0.130647	0.11860	-1.10155
ECT	-0.088622	0.03600	-2.46195
C	0.174205	0.07053	2.46994
R^2	0.721479		
F-Stat	3.626		

Source: Extracted from E-view software analysis, 2022

Table 9: VEC Granger Causality/Block Exogeneity Wald Tests

Null hypotheses	*Chi-square value*	*Df*	*Prob.*	*Remark*
EEXP→RGDP	3.639014	2	0.1621	Reject
RGDP→EEXP	2.606685	2	0.2716	Reject
HEXP→RGDP	1.559754	2	0.4585	Reject
RGDP→HEXP	0.972002	2	0.6151	Reject

Source: Extracted from Author's Computation

The VEC Granger Causality/Block Exogeneity Wald Tests show independent causality among the model's pairs of all the variables. The null hypothesis is to accept Ho if the probability of chi-square is less than the chosen significance level and conclude that Granger causality exists between the pair of variables; otherwise, reject.

From Table 9, the p-values of the chi-square statistic are higher than the chosen level of 0.05, meaning that there is no causality. This means that RGDP does not contain sufficient information to predict change in all the variables studied and vice versa. The low chi-square value and high probability values confirm this. This result supports the insignificance of the variables explaining changes in RGDP in the short run.

Test of Hypotheses

Ho = β1 = β2 = 0

H_1 = β1 = β2 ≠ 0

The decision rule is: Reject Ho if the calculatedabsolute value of the t-statistic is ≥ 1.96. Otherwise, do not reject Ho.

Ho: Social services (education and healthcare) expenditures do not significantly affect Nigeria's gross domestic product.

From Table 9, the VECM t-statistic for D(LNEEXP(-1) and D(LNHEXP(-1)) revealed calculated values of 1.02502 and 0.03241 against D(LNRGDP(-1)), respectively. These calculated figures are less than the accepted t-value of 1.96. Thus, the study fails to reject Ho and concludes that social services (education and healthcare) expenditures have no significant effect on real gross domestic product in Nigeria.

Discussion of Results

The hypothesis tested revealed that educational expenditure has a positive insignificant effect on Nigeria's real gross domestic product. It shows that public expenditure on education is not enough to drive home the needed improvements in the educational sector that will spur human capital development. This consequently contributes to growth in real gross domestic product. We observed that this finding contradicts that of Udeorah*et al.* (2018), who used education expenditure as a control to enhance the explanatory power of healthcare expenditure and real gross domestic product. Their study also revealed that the coefficient of education expenditure is statistically significant at a 5% level. This present study focused on the independent relationship between education expenditure and real gross domestic product. Thus, if government fails to scale up education expenditure, there is possibility that education in Nigeria will fail to produce the right man power that can enhance real gross domestic product in the wake of an economy driven by intellectual capital.

On the other hand, the hypothesis test result showed that healthcare expenditure has a positive insignificant effect on real gross domestic product in Nigeria. The expectation is that healthcare expenditure should significantly affect Nigeria's real gross domestic product, given constant funding, but this is not the case in the present study. This study contradicts that of Udeorah *et al.* (2018), who found that the coefficient of healthcare expenditure has a positive sign, which is not statistically significant at a 5% level. While Udeorah *et al.* (2018) used education expenditure as a control variable, the present study focused on the independent relationship between health care expenditure and real gross domestic product. Udeorah *et al.* (2018) point to the fact that if health care expenditure is not enhanced in Nigeria, there are possibilities of deteriorating the health system in Nigeria in the long run, which will continuously hamper economic growth in Nigeria.

Our findings revealed that educational and healthcare expenditures have a positive but insignificant effect on real gross domestic product in Nigeria. This finding is in agreement with previous researchers like Osuji *et al.* (2017) and Udeorah *et al.* (2018), while Aigbedion*et al.* (2017) and Onifade *et al*. (2020) disagreed with this study's findings. This shows that the debate is inconclusive regarding the relationship between social services expenditure and economic growth.

CONCLUSION AND RECOMMENDATIONS

In line with the findings of this study, which was based on thetest of the research hypothesis earlier formulated in the study, we, therefore, conclude that educational expenditure has a positive insignificant effect on Nigeria's real gross domestic product. More so, healthcare expenditures have a negative insignificant effect on real gross domestic product of Nigeria. Since the study did not produce the desired results, it becomes a true reflection of Nigerian perspective especially in an era where public schools and healthcare were neglected over the years.Given the above finding and conclusion, the following are recommended:

i. Both health sector and educational expenditures have proved to be vital aspects of social services expenditures that have a positive relationship with real gross domestic product in Nigeria. More social expenditures should be allocated to improve health facilities and the educational sector generally, as an educated and healthy mind will be a productive asset to boost the gross domestic product of Nigeria.
ii. A productive human capacity is requisite for economic growth and a nation's development. The fact is that through education, human capacity is developed, which can drive the nation's economy. Thus, the government should prioritise education expenditure to achieve the desired economic growth. Suppose the government can maintain a policy of constant increase in the budgetary allocation to the health sector. In that case, it will consequently translate to a healthy nation and the populace, which in turn will spur the individual productive capacity of citizens.

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Appendix

Raw Data

YEAR	EDU N'000m	HEALTH N'000m	RGDP
1981	0.17	0.08	144.83
1982	0.19	0.1	154.98
1983	0.16	0.08	163.00
1984	0.2	0.1	170.38
1985	0.26	0.13	192.27
1986	0.26	0.13	202.44
1987	0.23	0.04	249.44
1988	1.46	0.42	320.33
1989	3.01	0.58	419.20
1990	2.4	0.5	499.68
1991	1.26	0.62	596.04
1992	0.29	0.15	909.80
1993	8.88	3.87	1,259.07
1994	7.38	2.09	1,762.81
1995	9.75	3.32	2,895.20
1996	11.5	3.02	3,779.13
1997	14.85	3.89	4,111.64
1998	13.59	4.74	4,588.99
1999	43.61	16.64	5,307.36
2000	57.97	15.22	6,897.48
2001	39.88	24.52	8,134.14
2002	80.53	40.62	11,332.25
2003	64.78	33.27	13,301.56
2004	76.53	34.2	17,321.30
2005	82.8	55.66	22,269.98
2006	119.02	62.25	28,662.47
2007	150.78	81.91	32,995.38
2008	163.98	98.22	39,157.88
2009	137.12	90.2	44,285.56
2010	170.8	99.1	54,612.26
2011	335.8	231.8	62,980.40
2012	348.4	197.9	71,713.94
2013	390.42	179.99	80,092.56
2014	343.75	195.98	89,043.62
2015	325.19	257.7	94,144.96
2016	339.28	200.82	101,489.49
2017	403.96	245.19	113,711.63
2018	465.3	296.44	127,736.83
2019	593.33	388.37	144,210.49
2020	554	387	152,324.01

Source: CBN Statistical Bulletin (various issue)