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# REASSESSING THE LINK BETWEEN GOVERNMENT SPENDING ON EDUCATION AND NATIONAL DEVELOPMENT IN NIGERIA

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**ABSTRACT:** *The study examined the relationship between government spending on education and national development in Nigeria using secondary data from the period 2001 to 2017. The study adopted gross domestic product as proxy for national development and the dependent variable; while government spending on education (representing Federal Government annual budgetary provision for the education sector) and inflation were used as the explanatory variables. Time series data for the study period was collected from the Federal Ministry of Finance, Office of the Accountant-General of the Federation and Central Bank of Nigeria (CBN) Official Gazette. The study employed descriptive statistics and multiple regression analysis based on the E-view 10 software as techniques of data analysis. The results provided evidence that government spending of education had significant positive effect on national development (at 5% level), while inflation had an insignificant effect on national development (at 13%). Overall, the study concluded that government spending on education has statistically significant positive effect on national at 5% with a probability of F-statistics value of 0.000000. This means that government spending on education will enhance the availability of high level manpower that will ultimately bring about improvements in productivity leading to increase in national development. Based the findings, the study recommend that government should increase annual budgetary allocation to education sector to 26% of total annual budget in line with the UNESCO requirements; that the responsible organs of government should set targets and goals aimed at minimizing as much as possible (if not completely eradicating) misappropriation of funds.*

**KEYWORDS:** education, government spending, inflation, national development, output, productivity

## INTRODUCTION

Education in Nigeria has been a serious concern to all. It is because of this concern that Government at the local, state and Federal levels have taken it upon themselves to provide basic education for the teeming populace. Government spending on education is the resources government expend by building schools, provision of books, uniforms and other consumables to make teaching and learning more interesting for both teachers and students. Most government schools in the rural areas lack conducive-learning environment and relevant materials for practical demonstrations. The few families that can afford to send their children to school abroad do not hesitate to do so in order to salvage the future of their wards while those who cannot send their children abroad are left with no option than to send their wards to government schools that are ill-equipped. Private schools have become the domineering force in our education system, since they

can provide a better learning environment for early child development. Most governments, especially in emerging economies is devoting considerable amount of resources to provide education services with an underlying objective of improving the level, quality and quantity of its human capital for better economic performance. All this is backed by the fundamental argument of the importance of education in promoting growth especially in developed countries (Annabi, Harvey, & Lan, 2011; Aqil, Aziz, Dilshad & Qadeer, 2014; Yuan & Zhang, 2015). However, a fundamental question is whether increased government spending on education promotes national development (Alshahrani & Alsadiq, 2014)?

There is an extensive debate on whether government spending on education is growth enhancing or growth retarding? Despite the significant increase in net enrolment rate in recent years, due to improved government spending, it is alarming to know that millions of children of school age are still not in school. The increased enrolment have created challenges in ensuring quality education and satisfactory learning achievements as scarce resources is distributed across the growing number of schools and students. It is common sight to behold more than 50 pupils to a teacher and students sitting and learning under trees outside due to lack of classrooms. The situation is being addressed by current efforts of the Nigerian Government with implementation of the Basic Universal Education (UBE) scheme. The compulsory free Universal Basic Education (UBE) Scheme Act was passed into law in 2004 which represents Government strategy to fight illiteracy and extend basic education opportunities to all children in the country. However the number of schools, teachers and facilities available for basic education is inadequate for the eligible number of children and youths. This is more so in urban areas where there is population pressure, under these conditions, teaching and learning cannot be effective, hence the outcome is usually below expectation.

Many children do not attend school because they are forced to either help at home to carry out house chores or to bring additional income to the family by hawking goods on the streets as a result of poverty (Omodero & Azubike, 2016). The key determinants of national development such as modern healthcare, education, employment generation and infrastructural development continue to decline while the gross national output continually show growth. The growth of the education sector in the national development process of any economy cannot be over-emphasized because only a well-educated person can produce optimally and contribute to national output. The importance government attaches to education in Nigeria has led to the increase in public expenditure allocation to the education sector over the years with the intention that this will in turn generate returns that will further enhance the growth and development of the country.

Given the importance of government spending on education in Nigeria, the question of whether government spending on education affects growth of the economy may have an important implication. In the first place, the impact of government spending on education and in particular its composition on national development has so far yielded mixed results, most economists think that the level and type of spending undertaken by government to achieve economic performance do matter. Secondly, available data has shown that most developing countries especially emerging economies have been devoting considerable amount of resources to the education sector, meanwhile government spending on education in Nigeria has been dwindling rather than

maintaining an upward trend. It is disappointing to note that government spending on education has been declining over the years in Nigeria (Olaniyi & Adam, 2002; Obi & Obi, 2014). Budgetary allocation to education on an annual basis has been less than 26% of total government budget in Nigeria from 2001 to 2017. This development is below the United Nations Educational Scientific and Cultural Organization (UNESCO) minimum of 26% recommended provision for the education sector (Ige, 2016). Urhie (2014) observed that on an annual basis, total government spending on education as a ratio of total government spending is between 0.5 and 10.8 percent, resulting in an average of 5.7% over the years.

Several empirical studies done in the past on the relationship between government spending on education and national growth point at different directions, that is, have produced inconsistent and controversial results (Kabuga & Hussaini, 2015; Pritchett, 2001). Many studies demonstrated the existence of long run relationship between government spending on education and national economic growth. Musila and Balassi (2004) using annual data for the period of 1965-1999 in Uganda showed education expenditure per worker had positive and significant impact on economic growth in the long run and short run. Babatunde and Adefabi (2005) using Johansen co-integration approach, examined the long run relationship between education spending and economic growth in Nigeria. The results of their study suggested that there was long run relationship between enrolments in primary and tertiary levels of education and the average years of schooling with output per week. Afzal, Farook, Ahmed, Begum, and Quddus (2010) used an autoregressive distributed lag (ARDL) model in Pakistan to confirm the existence of direct relationship between school education and economic growth both in the long run and short-run. Tamang, (2011) applied Johansen co-integration test to support the presence of long-run relationship between government spending on education and economic growth in India. While Hussin, Muhammad, Hussin and Razak (2012) on the other hand used vector autoregressive regression (VAR) to show evidence of a positive relationship between economic growth proxy by GDP and fixed capital formation, labor force and government expenditure on education in Malaysia.

A second group of studies found the relationship between government expenditure on education and economic growth as either a one way process or a two way process. Chandra (2010) applied both linear and non-linear Granger causality test on annual time series data that range between 1951-2009 to examine the causality link between investment in education and economic growth in India. The study established bidirectional casualty link between investment in education and economic growth. The result of that study was in contrast to an earlier study conducted by Pradhan (2009) that investigated the causality link between public education spending and economic growth in India from 1951-2001. The latter study revealed that there was a unidirectional causality link between education spending and economic growth in India. The direction of causality is from economic growth to education spending and not vice versa. Omojimite (2010) conducted both co-integration and Granger causality test to investigate whether there was a strong relationship between public expenditure on education economic growth in Nigeria using time series data for the period 1980 to 2005. The results revealed public expenditure on education Granger caused economic growth but the reverse is not the case. The causality test discovered that there is a bi-directional causality link between public recurrent expenditures on education and economic

growth. That study also reported that no causal relationship was established between capital expenditure on education and economic growth as well as between primary school enrollment and economic growth.

From the reviews of the empirical literature, it is quite obvious that the relationship between government spending on education and economic growth is debatable. Some say it has positive effect while others say it has a negative effect. It can be opined that the differences in the findings of previous studies could arise as a result of the different types of methodology used, lack of harmonized data, the types of variable used, type of econometric specification used and other factors. The lack of consensus in the results of previous studies calls for further investigation. Thus this study was intended to contribute to the existing knowledge on the relationship between government spending on education and national development in Nigeria by an empirical evaluation using data from 2001 to 2017. The study adopted gross domestic product (GDP) as proxy for national development (the dependent variable). Government spending on education indicating government's annual budgetary allocation to education for the period covered; and in recognition of the effect of changes in general price index on national output and budget figures, inflation was introduced as an intervening variable. Government spending on education (GSE) and inflation were therefore adopted as the independent variables.

The rest of the paper is organized as follows: The review of related literature is dealt with in section two. The study methodology is covered in section three, while the data presentation, results of analysis and discussion of findings are covered in section four. The summary, conclusion and recommendations of the study are presented in section five.

## REVIEW OF RELATED LITERATURE

### Conceptual Clarifications

Government Spending on Education

This is the totality of all the resources government spends on the education sector of the economy. Government spending on education can be capital expenditure or recurrent expenditure. Government capital expenditure on education is the resources spent in acquiring fixed assets whose useful life extends beyond the accounting or fiscal year as well as incurring expenditure to upgrade, renovate machinery and equipment, roads, intangible assets, etc. Government recurrent expenditure on the other hand is the resources spent or incurred yearly to implement various functions of government, which include general administrative expenses, payment of wages and salaries, recurrent grants and subsides, classified as transfer payments; these expenditures last only in the year they are incurred.

### The Concept of education

Education is a way of impacting or processing general knowledge, developing the powers of reasoning and judgment and to prepare oneself or others intellectually, socially, and psychologically for a mature and responsible life style (Omodero & Azubike, 2016). According to Dewey (1994) education is the process that facilitates learning or the acquisition of knowledge, skills, values, habits and beliefs. Educational methods include discussions, teaching, training,

storytelling and directed research. Education mostly takes place under the guidance of educators, but learners educate themselves. Generally speaking, education is the process or act of receiving and giving systematic instruction, especially at a place of study, which is a school. It can also be seen as an enlightening experience or encounter which gives an insight into a subject matter. Education is very important for developing and sustaining the people of a country. With education, people are able to acquire, endure and mature in experience, wisdom and capability to fend for themselves as well as serve their communities and nation. Education is an instrument of stability and of change. Stability in the sense that good traditions are documented, taught, imbibed and practiced. Change, because it equips people to meet new challenges. In the same vein, education is a tool for inculcating moral values in the citizen. Education statistics like other indicators which are used to monitor trends in the quality of life and in making regional and international comparisons.

**The Concept of National Development**

The concept of national development is very vast and comprehensive. It involves all facets of the life of an individual and the whole nation. National development has been defined as the process by which a nation improves the economic, political and social well-being of its citizens (O'Sullivan & Sheffrin, 2003). The term has been frequently used by economists, politicians and others in the 20$^{th}$ century. The concept however, has been in existence in the west for centuries. Modernization, westernization and especially industrialization are other terms people have used while discussing national development. National development has a direct relationship with the environment and environmental issues. National development is a policy intervention with focus on social well-being of the people, while national growth is a phenomenon of market productivity and rise in GDP.

**Government Spending on Education and National Development**

The measure and potency of government spending on education to achieve national development will depend inter alia on the transparency and accountability of the government institutions, appropriate combination of fiscal strategy and suitable mix of monetary policy, political stability, socio - political inclination of the society, state of the nature of the economy and response of the market forces. The practicality of government spending on education through variations of its instrument or expenditure nature to impact on national growth will depend on the state of the nature if the economy at a particular period in time as the management and adaptability of the instruments during each of the state of the nature will vary from one period to another.

Investing in education has long been well thought out as a key factor in enhancing national growth. The study by Mankiw, Romer and Weil (1992) as cited in Amaghionyeodiwe (2019) further stressed the indispensable role of education as the most important production factor in increasing human capital as a determinant of national growth. Education, through schooling, helps individuals to acquire knowledge that can be transformed into higher wages and higher national growth. Investment in education and skilled workforce will bring out efficient use of labor and capital resources for greater productivity. This was corroborated by Nelson and Phelps (1966) as well as Benhabib and Spiegel (1994) who emphasized that education can facilitate the sharing and transmission of knowledge needed for developing new technologies.

## THEORETICAL FRAMEWORK

Endogenous Growth Theory

The endogenous growth model developed by Romer (1986) and Lucas (1988) focused on the role of human capital as a main source of increasing returns and divergence in growth rates between developed and developing countries. According to Barro and Sala-i-Martin (1995) the endogenous growth theory which advocates the stimulation of level of growth rate of per capita output through the model using fiscal policy instrument of government spending. The traditional neoclassical growth model assumes that output is a function of capital and labor while technology is given as:

$$Y = A\, f\,(K, L) \quad (1)$$

Where

Y = Output, A = Technology, being exogenous, K = capital and L = labor which is the endogenous factors.

In the new growth model (Endogenous Growth Theory) technology is viewed as endogenously determined as:

$$Y = f\,(K, L, A) \quad (2)$$

Where:

Y= output, (A) = Technology which refers to technology investment, (K) is the investment in capital stock and (L) is the human capital.

This model envisages greater role of government improving the efficiency of resource allocation and promoting investment to raise the rate of national growth in the developing countries (Ahuja, 2009). The government can directly make adequate investment in economic infrastructures such as power, communication, roads and highways and in human capital which promotes private investment and generate increasing returns to scale. Though in many respects, endogenous growth is a mere extension of the neoclassical theory of growth. It however makes a departure from the neoclassical policy of free market and passive role of government. More specially, models of the growth effects of fiscal policy are usually built on the basis of Barro and Sala-i-Martin (1995) framework.

### Human Capital Theory

Prior to 1958, human capital was little more than a suggestive phrase in economics and played no role in discussions of education policy (Holden & Biddle 2016). Holden and Biddle (2016) reviewed human capital theory propounded by Walter Heller in the 1960s. They discovered the reason why education is given a central role in the Federal economic policy in the USA. According to their study, before J. F. Kennedy's assassination in 1963, he met with Heller to look into the poverty situation of the United States. When eventually President Lyndon B. Johnson took over, Heller shared with him, Kennedy's plan to eradicate poverty and promote economic growth through education and human capital. Johnson keyed into the plan. Human capital formation through expenditure on education was practically linked to future growth. Educations also became a powerful tool for fighting poverty, since there was obvious impact on the general income of the nation. According to them, the poor Americans were poor because they failed to work towards educational attainment. The proponents of this theory therefore believe that education of human

capital has the capacity and capability to eradicate poverty and bring about national and economic development.

**Empirical Review**

Liao, Du, Wang and Yu (2019) examined the impact of education investment on sustainable economic growth in Guangdong, China using time series data from 2000 to 2016. Data collected from official government database were subjected to panel data fixed effect test based on Cobb-Douglas production function. Their findings showed the existence of mutual causality link between education and economic growth; that investment in education plays a positive significant role in promoting sustainable growth in Guangdong region. Also, Amaghionyeodiwe (2019) investigated link between government spending on education and economic growth in West Africa using data covering the period 1990 to 2016 from 15 ECOWAS countries. Data for the study was collected from World Bank and OECD databases and UNESCO Institute of Statistics. The results provided evidence that public expenditure on education and economic growth in West Africa are positively and significantly related.

Muhammad Al and Kameyama (2019) investigated the relationship between education and economic growth in the South Asian countries such as Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka using time series data covering the period 2000 to 2015. Data for the study was collected from World Bank and official sources of the seven countries involved. They employed ADF unit root test, Pedroni residual co-integration test and regression analysis technique to evaluated data. The results revealed that expenditure in education stimulated economic growth in South Asian countries. Kouton (2018) examined the impact of government education expenditure on economic growth in Cote d'Ivoire using data covering the period 1970 to 2015. Data for the study was obtained from World Development indicators. The study employed descriptive statistics, unit root test, co-integration test as well as ARDL and variance decomposition analysis for the analysis of data. The results of the study indicated that government spending on education does not stimulate economic growth in Cote d'Ivoire. Similarly, Sunde (2017) investigated the link between education expenditure and economic growth in Mauritius using time series data from 1976 to 2010. Data for the study was collected from World Bank Development indicators. Data was evaluated using unit root, co-integration and Granger causality tests. The findings showed that the existence of a long-run relationship between education expenditure and economic growth. The study therefore concluded that investment in education stimulates economic growth in Mauritius.

Kabuga and Hussaini (2015) examined the link between government spending on education and economic growth in Nigeria using annual data for the period covering 1981 to 2013. Data for their study was collected from World Bank Development indicators and CBN Statistical Bulletin. The study employed unit root test, co-integration test, Granger causality and error correction model for the analysis of data. The test results showed that government spending on education positively influenced economic growth. Similarly, Mallick, Das and Pradhan (2016) examined the relationship between government expenditure on education and economic growth in 14 Asian countries using panel data from 1973 to 2012. Data for the study was collected from World Development indicators. The study employed fully modified least squares method among others

to analyze data. The findings revealed that expenditure on education had positive impact on economic growth in all the 14 major Asian countries.

Obi and Obi (2014) studied the impact of education expenditure on national growth as a means of achieving the desired socio-economic changes needed in Nigeria with time series data from 1981 – 2012, using the Johansen's co-integration analysis and ordinary least square (OLS) econometric techniques where the statistical tool was applied to analyze the relationship between gross domestic product (GDP) and recurrent education expenditure. The result showed a positive relationship does not exist over the period under study. The study revealed that this puzzle is attributable to labor market distortions, redundancy of the workforce, industrial dispute and job discontinuations as well as leakages in the Nigerian society such as brain drain among others. Invariably, the study concluded that the educational sector in Nigeria has not performed as expected with the attendant increase of half-baked graduates, increase in the rate of school drop outs etc. Therefore the study suggested the total review and overhauling of the educational system through efficient use of public resources accountability, good governance and transparency.

Odior (2014) investigated the likely impact of government expenditure policy on education and poverty reduction in Nigeria by using integrated sequential dynamic computable general equilibrium (CGE) model to stimulate the potential impact of increase in government expenditure on education in Nigeria. The result revealed that it will be extremely difficult for Nigeria to achieve the Millennium Development Goals (MDGs) target in terms of education and poverty reduction by the year 2015, because as the policy was measured in the analysis, it could not meet the goals. The study concluded that increase in education investment portfolio will help the country to meet MDG target and reduce poverty level in the near future if funds are used effectively and efficiently Ige (2016) reviewed the trends of financial allocation to the education sector, from pre-independence to 2016, the review showed low allocation. The trend did not meet the 26% of total annual budget as recommended by UNESCO (United Nations Educational, Scientific and Cultural Organization). Political influences and poor accountability were also identified as the major problems of allocations to education.

Mehmet and Sezer (2014), found that a positive relationship exist between education expenditures and national growth in the Turkish economy during the period of 1972 -2012. In all a great allocation of resources to education investment could make the economy more dynamic. Anthonia (2012) examined the impact of education on national growth using primary and secondary annual data from 1985-2007. The result revealed that only recurrent expenditure has significant effects on national growth as the academic qualifications of teachers also have significant impact on students' academic performance. The study recommended among others, that government should increase its expenditure on education especially, the capital expenditure while a good salary scheme with other incentives should be given to teachers to motivate them to give their best. Ganegodage and Rambaldi (2011) evaluated the contribution of investment in education to Sri Lanka's national growth during the period of 1959 -2008, showing that the impact of education is assessed through quality adjusted human capital stock measure and the returns to investment in education are positive but significantly lower than those found in other developing economies.

Al-Yousif (2008) in a paper examined the nature and direction of the relationship between education expenditure as a proxy for human capital and national growth in the six (6) GCC economics using time series data for the period 1977 – 2004. The analysis used Granger causality test within an error–correction framework. His findings were mixed and vary across both countries and measures of human capital. Based on this, he submitted that to deepen our understanding of the complex relationship between education and national growth additional studies need to be conducted on the issues at hand with a special focus on countries that are similar in their policy and institutional environment using time series data. The empirical result in this area can be more insightful if researchers could develop more accurate measures of human capital than the existing ones.

Tamang (2011) examine the relationship between expenditure on education and economic growth in India using secondary data from 1980 to 2009. Data for the study variables were collected from Economic Survey 2010-11 and the websites of Higher Education Department of India as well as International Labour Organization. The study employed error correction model to analyze data, and the results showed that a long-run relationship existed between education expenditure and economic growth. However he found that physical capital had more impact on economic growth than human capital. Pradhan (2009) supported this finding and proved that education has high economic value and must be considered as a national capital. He advised that this capital must be invested in his country, India. He said India must capitalize this human capital development besides the physical capital that contributes to a country's national growth.

Hussin, Muhammad, Hussin and Razak (2012) examined the link between government expenditure on education and economic growth in Malaysia using time series data from 1970 to 2010. They adopted real gross domestic product representing economic growth as the dependent variable, while government spending on education, fixed capital formation and labour force participation were used as the independent variables. The study employed ADF and PP unit root test, Johansen co-integration test and Vector Auto Regression (VAR) statistical tools for the analysis of data. Based on their findings they concluded that there is no significant relationship between education and short term national growth but the educational development has impact on the country's long term national growth. These findings demonstrated that government expenditure on education does not only have a positive impact on a country's national growth in the short run but also in the long run as well.

## METHODOLOGY

This chapter presents and defines the methods and procedures used in this study. The subtitles covered in this section include, research design, source of data, techniques of data analysis and model specification.

### Research Design

This study adopted the ex-post facto research design. This design is used because the study was carried out after the events had occurred, In essence, the study has no control over the variables used and therefore cannot manipulate them because the situation to be studied already existed or the situation has taken place already.

### Source of Data

This research study made use of secondary data collected from the Federal Ministry of Finance, Office of the Accountant-General of the Federation and Central Bank of Nigeria (CBN) for the period 2001-2017.

### Techniques of Data Analysis

The data obtain from the Federal Ministry of Finance, office of the Account-General of the federation and Central Bank of Nigeria (CBN) official Gazettes covering seventeen (17) years were evaluated using descriptive statistics multiple regression analysis based on E-views 10.

### Model Specification

The study adopted an econometric model which has been widely used by previous researchers such as Amaghionyeodiwe (2019) for analyzing panel data. The model is specified as follows:

$GDP = f\ (GSE, INF)$

$GDP = \alpha_0 + \alpha_1 GSE + \alpha_2 INF + \mu$ Equation 1

Where:

GDP = Gross domestic product

GSE = Government spending on education

INF = Inflation

$\alpha_1$ and $\alpha_2$ are the coefficients of the independent variables to be determined

$\alpha_1$ and $\alpha_2 \neq 0$

$\mu$ = the error term of the regression equation

## Data Presentation and Results of Data Analysis

Annual data obtained for the study, the results of data analysis and the discussion of the findings including the test of hypotheses are presented in this section.

Table 1: Annual Values, and Percentages of the Study Variables

| | **Dependent Variable** | **Independent Variables** | |
|---|---|---|---|
| **Year** | **GDP (Nb)** | **GSE (Nb)** | **INF (%)** |
| 2001 | 6,895.20 | 39.88 | 16.50 |
| 2002 | 7,795.76 | 80.53 | 12.20 |
| 2003 | 9,913.52 | 64.78 | 23.80 |
| 2004 | 11,411.07 | 76.53 | 10.00 |
| 2005 | 14,610.88 | 82.80 | 11.60 |
| 2006 | 18,564.59 | 119.02 | 8.50 |
| 2007 | 20,657.32 | 150.78 | 6.60 |
| 2008 | 24,296.33 | 163.98 | 15.10 |
| 2009 | 24,794.24 | 137.12 | 13.90 |
| 2010 | 54,612.26 | 170.80 | 11.80 |
| 2011 | 62,980.40 | 335.80 | 10.30 |
| 2012 | 71,713.94 | 348.40 | 12.00 |
| 2013 | 80,092.56 | 390.42 | 7.96 |
| 2014 | 89,043.62 | 343.75 | 7.98 |
| 2015 | 94,144.96 | 325.19 | 9.55 |
| 2016 | 92,544.50 | 341.88 | 15.70 |
| 2017 | 94,487.93 | 394.90 | 16.50 |

Source: Compiled from FMOF, OAGF, and CBN Official Gazette

Data Presentation

The annual data collected for study variables from 2001 to 2017 are presented in Table 1. Gross domestic product (GDP) and government spending on education (GSE) are indicated in billions of Nigerian (Naira) currency, while inflation (INF) is stated in percentage points.

**Descriptive statistics**

The descriptive statistics of the study variables, generated from the E-views 9.0 computer software are presented in Table 2. The mean figures of GDP, GSE and INF are 45797.59, 209.79 and 12.32 respectively. In the order the variables are presented, the minimum figures are 6895.20, 39.88 and 6.60 respectively, while the maximum figures are 94487.93, 394.90 and 23.80, with standard deviation of 35055.15, 130.33 and 4.26 respectively.

Table 2: Descriptive Statistics

| | GDP | GSE | INF |
|---|---|---|---|
| Mean | 45797.59 | 209.7976 | 12.32882 |
| Median | 24794.24 | 163.9800 | 11.80000 |
| Maximum | 94487.93 | 394.9000 | 23.80000 |
| Minimum | 6895.200 | 39.88000 | 6.600000 |
| Std. Dev. | 35055.15 | 130.3374 | 4.260842 |
| Skewness | 0.282251 | 0.207120 | 1.051889 |
| Kurtosis | 1.364132 | 1.359554 | 4.076133 |
| Probability | 0.346237 | 0.362816 | 0.138395 |
| Sum | 778559.1 | 3566.560 | 209.5900 |
| Observations | 17 | 17 | 17 |

Source: E-views 10.0 output

**Regression results/Discussion of findings**

The regression results based on the E-views computer software are presented in Table 3. From the multiple regression results in Table 3, the regression equation could be stated as:

GDP = -13996.57 + 260.59GSE + 415.38INF + 10812.42

This indicates that the constant or intercept is -13996.57, meaning that if all the independent variables (government spending on education and inflation) are held constant, the dependent variable, GDP (proxy for national development would decrease by 13996.57 units in an annual basis. This implies that in the absence of government spending on education and inflation the economy of Nigeria would be growing at a declining rate. GSE and INF have positive coefficients of 260.59 and 415.38 with probability values of 0.0000 and 0.1292 respectively. This means GSE has positive significant (at 5% level) relationship with GDP, while INF is positive but not significant (13% level).

The coefficient of determination $R^2$ value at 0.92 shows that 92% of changes in the response variable are explained by the combined effect of changes in the explanatory variables; and the value of the Adjusted $R^2$ shows at 90% confidence level that the regression model adopted as the basis of the analysis is a proper and good fit.

Table 3: Multiple Regression Results
Dependent Variable: GDP
Method: Least Squares
Date: 09/23/19 Time: 00:35
Sample: 1 17
Included observations: 17

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -13996.57 | 10519.79 | -1.330499 | 0.0546 |
| GSE | 260.5987 | 21.42798 | 12.16161 | 0.0000 |
| INF | 415.3816 | 655.4734 | 0.633712 | 0.1292 |

| | | | |
|---|---|---|---|
| R-squared | 0.916757 | Mean dependent var | 45797.59 |
| Adjusted R-squared | 0.904865 | S.D. dependent var | 35055.15 |
| S.E. of regression | 10812.42 | Akaike info criterion | 21.72060 |
| F-statistic | 77.09074 | Schwarz criterion | 21.58818 |
| Prob(F-statistic) | 0.000000 | Durbin-Watson stat | 1.596380 |

Source: E-views 10.0 Output

Also, the Durbin-Watson statistics value of 1.60, which is approximately equal to the 2.0 benchmark, indicates that there was no autocorrelation among the explanatory variables. Therefore, with the coefficient of determination, $R^2$ value at 0.92 and the probability of the F-statistic value of 0.000000 it was established in this study that government spending on education and inflation exerted a strong influence on national development in Nigeria (though, GSE is significantly positive at 5% level and INF is positive but insignificant at 13% level).

**Testing of hypotheses**

GDP and EXR

Hypothesis: Government spending on education (GSE) has no significant influence on gross domestic product (GDP) proxy for national development. The results in Table 3 show that the coefficient of GSE is 260.60 at 5% significant level (with a prob. of 0.0000). This means that the null hypothesis is rejected as the results show that GSE has significant positive link with GDP. A unit change in GSE will result to 260.60 units increase in GDP. The economic implication being that government spending on education moves in the same direction with gross domestic product.

GDP and INF

Hypothesis: Inflation (INF) has no significant impact on gross domestic product (GDP), proxy for national development. The coefficient of INF in Table 3 is 415.38 at 13% significant level (with a prob. of 0.1292). The null hypothesis therefore was also accepted as INF has an insignificant positive link with GDP. Again, a unit change in INF would bring about 415.38 units increase in GDP, implying that changes in inflation rate is also moving in the same direction as gross domestic product. That inflation has no slow-down effect on national development if the national budgets are well implemented.

The overall implication of these findings is for the regulatory authorities to ensure that there is a general stability in inflation and exchange rates, while strong efforts should be made to diversify the country's export base to sustain the positive trade balance even in the face of depleting natural resources in order to maintain growth.

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

### Summary

This study examined the link between government spending on education and national development in Nigeria using data from 2001 to 2017. The study used gross domestic product (proxy for national development) as the response variable, while government spending on education and inflation (an intervening factor) were adopted as the explanatory variables. Based the results of the analysis of data the findings of the study are summarized as follows:

- Government spending on education (GSE) has a significantly positive link with gross domestic product (GDP), proxy for national development; and
- Inflation (INF) an intervening factor has an insignificantly positive link to gross domestic product (GDP), proxy for national development.

Overall, government spending on education has statistically significant positive relationship with national development in Nigeria. This implies that government investment on education will enhance the production of more skilled manpower which will lead to improvements in productivity and national output.

### Conclusion

The study examined the relationship between government spending on education and national development in Nigeria using secondary data from the period 2001 to 2017. The study adopted gross domestic product as proxy for national development and the dependent variable; while government spending on education (representing federal annual budgetary provision for the education sector) and inflation were used as the explanatory variables. Time series data for the study period was collected from the Federal Ministry of Finance, Office of the Accountant-General of the Federation and Central Bank of Nigeria (CBN) Official Gazette. The study employed descriptive statistics and multiple regression analysis based on the E-view 10 software as techniques of data analysis. The findings provided evidence that government spending of education had significant positive effect on national development (at 5% level), while inflation had an insignificant effect on national development (at 13%). Overall, the study concluded that government spending on education has statistically significant positive effect on national at 5% a probability of F-statistics value of 0.000000. This means that government spending on education will enhance the availability of high level manpower that will ultimately bring about improvements in productivity leading to increase in national development.

### Recommendations

Based the findings, the study recommend that government should increase annual budgetary allocation to education sector to 26% of total annual budget in line with the UNESCO requirements. As this will help in no small measure to refocus and re-direct government spending

on education to constructing more schools, equipping such schools with modern facilities, teaching aids, improving teachers' welfare, making teaching and learning more fun and fulfilling for teachers and students alike. This can be achieved by setting specific goals and targets for the three tiers of government (federal, state and local). Government attention should be focused on the education sector, the targets and goals should be aimed at minimizing as much as possible if not completely eradicating misappropriation of funds. These set goals/targets will compel the local, state and federal government to utilize their resources for the achievement of set goals within a specified time frame. The factors to be considered in setting these goals/targets should include the level of human and economic resources available, allocations from the Federation account. The time limits set for the realization of these goals should encourage commitment, accountability, transparency and probity of those entrusted with managing public funds.

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